IMPORTANT NOTICE

THIS DOCUMENT IS NOT FOR DISTRIBUTION TO ANY PERSON OTHER THAN TO INVESTORS WHO ARE EITHER (1) QIBS (AS DEFINED BELOW) UNDER RULE 144A (AS DEFINED BELOW) OR (2) PERSONS OTHER THAN U.S. PERSONS (AS DEFINED IN REGULATION S UNDER THE SECURITIES ACT ("REGULATIONS")) WITH ADDRESSES OUTSIDE OF THE UNITED STATES.

IMPORTANT: You must read the following notice before continuing. The following notice applies to the attached offering circular following this page, whether received by email, accessed from an internet page or otherwise received as a result of electronic communication and you are therefore advised to read this notice carefully before reading, accessing or making any other use of this offering circular. In reading, accessing or making any other use of this offering circular, you agree to be bound by the following terms and conditions and each of the restrictions set out in this offering circular, including any modifications made to them from time to time, each time you receive any information from us as a result of such access.

NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER TO SELL OR A SOLICITATION OF AN OFFER TO BUY THE SECURITIES DESCRIBED IN THIS OFFERING CIRCULAR IN ANY JURISDICTION WHERE IT IS UNLAWFUL TO DO SO. THE SECURITIES HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR THE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES OR OTHER JURISDICTION AND THE SECURITIES MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS (AS DEFINED IN REGULATION S), EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE OR LOCAL SECURITIES LAWS.

THE SECURITIES ARE BEING OFFERED AND SOLD ONLY: (1) WITHIN THE UNITED STATES OR TO A U.S. PERSON IN RELIANCE ON RULE 144A UNDER THE SECURITIES ACT ("RULE 144A") ONLY TO PERSONS THAT ARE "QUALIFIED INSTITUTIONAL BUYERS" ("QIBS") (AS DEFINED IN RULE 144A), ACTING FOR THEIR OWN ACCOUNT OR FOR THE ACCOUNT OF ANOTHER QIB, AND (2) OUTSIDE THE UNITED STATES TO PERSONS OTHER THAN U.S. PERSONS ("U.S. PERSONS") (AS DEFINED IN REGULATION S) IN OFFSHORE TRANSACTIONS IN ACCORDANCE WITH RULE 903 OR RULE 904 OF REGULATION S. WITHIN THE UNITED KINGDOM, THIS OFFERING CIRCULAR IS DIRECTED ONLY AT PERSONS WHO (A) HAVE PROFESSIONAL EXPERIENCE IN MATTERS RELATING TO INVESTMENTS FALLING WITHIN ARTICLE 19(5) OF THE FINANCIAL SERVICES AND MARKETS ACT 2000 (FINANCIAL PROMOTION) ORDER 2005 (THE "FPO"); (B) ARE PERSONS FALLING WITHIN ARTICLE 49(2)(a) TO (d) OF THE FPO; OR (C) ARE OTHER PERSONS TO WHOM THIS OFFERING CIRCULAR MAY BE LAWFULLY COMMUNICATED (ALL SUCH PERSONS TOGETHER BEING REFERRED TO AS RELEVANT PERSONS). OUTSIDE OF THE UNITED KINGDOM, THIS OFFERING CIRCULAR IS BEING DIRECTED ONLY AT PERSONS WHO MAY LAWFULLY RECEIVE IT. FOR A MORE COMPLETE DESCRIPTION OF RESTRICTIONS ON OFFERS AND SALES, SEE "SUBSCRIPTION AND SALE AND TRANSFER AND SELLING RESTRICTIONS" IN THIS OFFERING CIRCULAR.

THIS OFFERING CIRCULAR MAY NOT BE FORWARDED OR DISTRIBUTED TO ANY OTHER PERSON AND MAY NOT BE REPRODUCED IN ANY MANNER WHATSOEVER. ANY FORWARDING, DISTRIBUTION OR REPRODUCTION OF THIS OFFERING CIRCULAR IN WHOLE OR IN PART IS UNAUTHORISED. FAILURE TO COMPLY WITH THIS DIRECTIVE MAY RESULT IN A VIOLATION OF THE SECURITIES ACT OR THE APPLICABLE SECURITIES LAWS OF OTHER JURISDICTIONS. IF YOU HAVE GAINED ACCESS TO THIS TRANSMISSION CONTRARY TO ANY OF THE FOREGOING RESTRICTIONS, YOU ARE NOT AUTHORISED AND WILL NOT BE ABLE TO PURCHASE ANY OF THE SECURITIES DESCRIBED IN THE ATTACHED DOCUMENT. THIS DOCUMENT IS NOT INTENDED FOR DISTRIBUTION TO AND MUST NOT BE PASSED ON TO ANY RETAIL CLIENT.

THE SECURITIES HAVE NOT BEEN AND WILL NOT BE REGISTERED WITH THE FINANCIAL SERVICES COMMISSION OF KOREA UNDER THE FINANCIAL INVESTMENT SERVICES AND CAPITAL MARKETS ACT OF KOREA. ACCORDINGLY, THE SECURITIES MAY NOT BE OFFERED, SOLD OR DELIVERED, DIRECTLY OR INDIRECTLY, IN KOREA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY RESIDENT OF KOREA (AS SUCH TERM IS DEFINED UNDER THE FOREIGN EXCHANGE TRANSACTION ACT OF KOREA AND THE RULES AND REGULATIONS PROMULGATED THEREUNDER) OR TO OTHERS FOR RE-OFFERING OR RESALE, DIRECTLY OR INDIRECTLY, IN KOREA OR TO ANY RESIDENT OF KOREA, EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS. IN ADDITION, DURING THE FIRST YEAR AFTER THE ISSUANCE OF THE SECURITIES, THE SECURITIES MAY NOT BE TRANSFERRED TO ANY RESIDENT OF KOREA (I) (IN THE CASE WHERE THE SECURITIES ARE ISSUED IN RELIANCE ON THE EXEMPTION AS SET OUT IN ARTICLE 2-2-2, PARAGRAPH 2, ITEM 3 OF THE SECURITIES ISSUANCE AND DISCLOSURE REGULATION OF KOREA) OTHER THAN A KOREAN QUALIFIED INSTITUTIONAL BUYER (A "KOREAN QIB", AS DEFINED IN THE ABOVE REGULATION) WHO IS REGISTERED WITH THE KOREA FINANCIAL INVESTMENT ASSOCIATION AS A KOREAN QIB, PROVIDED THAT THE AMOUNT OF THE SECURITIES ACQUIRED BY THE KOREAN QIBS IN THE PRIMARY MARKET IS LIMITED TO NOT MORE THAN 20% OF THE AGGREGATE PRINCIPAL AMOUNT OF THE SECURITIES OR (II) EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS.

Confirmation of Your Representation: In order to be eligible to view the offering circular or make an investment decision with respect to the securities described herein, investors must be either (1) QIBs (within the meaning of Rule 144A under the Securities Act) or (2) a non-U.S. person (within the meaning of Regulation S under the Securities Act). The offering circular is being sent at your request and by accepting the e-mail and accessing the offering circular, you shall be deemed to have represented to the Dealers (as described in this offering circular) that (1) you and any customers you represent are either (a) QIBs or (b) non-U.S. persons (as defined in Regulation S under the Securities Act) and that the electronic mail address that you gave us and to which this e-mail has been delivered is not located in the United States, its territories or possessions and (2) you consent to delivery of such offering circular by electronic transmission.

You are reminded that this offering circular has been delivered to you on the basis that you are a person into whose possession this offering circular may be lawfully delivered in accordance with the laws of the jurisdiction in which you are located and you may not, nor are you authorised to, deliver or disclose the contents of this offering circular to any other person. Failure to comply with this directive may result in a violation of the Securities Act or the applicable laws of other jurisdictions.

The materials relating to the offering do not constitute, and may not be used in connection with, an offer or solicitation in any place where such offers or solicitations are not permitted by law. If a jurisdiction requires that the offering be made by a licenced broker or dealer and the Dealers or any affiliate of the Dealers is a licenced broker or dealer in that jurisdiction, the offering shall be deemed to be made by the Dealers or such affiliate on behalf of the Issuer (as defined in this offering circular) in such jurisdiction.

The offering circular may be distributed only to, and is directed at (1) persons who have professional experience in matters relating to investments falling within article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005 (the "**Order**") or (2) high net worth entities falling within article 49(2)(a) to (d) of the Order, and other persons to whom it may be lawfully communicated (all such persons together being referred to as "**relevant persons**"). The offering circular and its contents are confidential and should not be distributed, published or reproduced (in whole or in part) or disclosed by recipients to any other persons in the United Kingdom. Any investment or investment activity to which the offering circular relates will be available only to relevant persons and will be engaged in only with relevant persons. Any person who is not a relevant person should not act or rely on the offering circular or any of its contents.

This offering circular has been sent to you in an electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of electronic transmission and consequently, none of the Dealers, the Issuer or any person who controls any of them or is a director, officer, employee or agent of any of them nor any affiliate of any such person accepts any liability or responsibility whatsoever to the fullest extent permitted by law in respect of any difference between this offering circular distributed to you in electronic format and the hard copy version available to you on request from the Dealers. You are responsible for protecting against viruses and other destructive items. Your use of this e-mail is at your own risk and it is your responsibility to take precautions to ensure that it is free from viruses and other items of a destructive nature.

The distribution of this offering circular in certain jurisdictions may be restricted by law. Persons into whose possession this offering circular comes are required by the Dealers and the Issuer to inform themselves about, and to observe, any such restrictions..

(incorporated with limited liability under the laws of the Republic of Korea)

US$5,000,000,000
Global Covered Bond Programme

Under the US$5,000,000,000 Global Covered Bond Programme (the "**Programme**"), Shinhan Bank (the "**Issuer**," the "**Bank**" or "**Shinhan Bank**") may from time to time issue covered bonds in accordance with the Korean Covered Bond Laws (as defined in "*Summary of the Programme*") ("**Covered Bonds**") denominated in any currency agreed among the Issuer, the Arranger and the relevant Dealer (as defined below). The maximum aggregate nominal amount of all Covered Bonds from time to time outstanding under the Programme will not exceed US$5,000,000,000 (or its equivalent in other currencies calculated as described in the Dealer Agreement described herein), subject to increase as described herein.

The Covered Bonds have not been, and will not be, registered under the U.S. Securities Act of 1933, as amended (the "**Securities Act**"), or any state securities laws and, subject to certain exceptions, may not be offered or sold directly or indirectly within the United States or to or for the account or benefit of U.S. persons, as defined in Regulation S under the Securities Act ("**Regulation S**"). The Covered Bonds may be offered for sale only (i) in the United States, to qualified institutional buyers ("**QIBs**") within the meaning of, and in reliance on, Rule 144A under the Securities Act ("**Rule 144A**") or another available exemption from, or in a transaction not subject to, the registration requirements of the Securities Act ("**Restricted Covered Bonds**"); or (ii) outside the United States to non-U.S. persons in reliance on, and in accordance with, Regulation S ("**Unrestricted Covered Bonds**"), in each case, in compliance with applicable laws, regulations and directives. Prospective purchasers are hereby notified that sellers of the Covered Bonds may be relying on the exemption from the provisions of Section 5 of the Securities Act provided by Rule 144A. See "*Subscription and Sale and Transfer and Selling Restrictions.*"

The Covered Bonds may be issued on a continuing basis to one or more Dealers specified under "*Summary of the Programme*" below and any additional Dealer appointed under the Programme from time to time, which appointment may be for a specific issue (each, a "**Dealer**" and together, the "**Dealers**"). References in this offering circular (this "**offering circular**") to the "relevant Dealer" shall, in the case of an issue of Covered Bonds being (or intended to be) subscribed by more than one Dealer, be to all Dealers agreeing to subscribe such Covered Bonds.

Approval in-principle has been received from the Singapore Exchange Securities Trading Limited (the "**SGX-ST**") in connection with the Programme and application will be made for the listing and quotation of any Covered Bonds that may be issued pursuant to the Programme and which are agreed, at or prior to the time of issue thereof, to be so listed and quoted on the SGX-ST. Such permission will be granted when such Covered Bonds have been admitted for listing and quotation on the SGX-ST. The SGX-ST assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained herein. Approval in-principle from, admission to the Official List of, and listing and quotation of any of the Covered Bonds on, the SGX-ST are not to be taken as an indication of the merits of the Issuer, the Programme or the Covered Bonds.

Notice of the aggregate nominal amount of Covered Bonds, interest (if any) payable in respect of Covered Bonds, the issue price of Covered Bonds and any other terms and conditions not contained herein which are applicable to each Tranche of Covered Bonds will be set out in the pricing supplement (the "**Pricing Supplement**").

The Programme provides that Covered Bonds may be listed or admitted to trading, as the case may be, on such other or further stock exchanges or markets as may be agreed among the Issuer, the Arranger and the relevant Dealer. The Issuer may also issue unlisted Covered Bonds and/or Covered Bonds not admitted to trading on any market.

Covered Bonds issued under the Programme are expected on issue to be assigned a rating of "Aaa" by Moody's Investors Service ("**Moody's**") and a rating of "AAA" by Fitch Ratings Limited ("**Fitch**"). A credit rating is not a recommendation to buy, sell or hold securities and may be subject to suspension, change or withdrawal at any time by the assigning rating organisation.

The Issuer may agree with the Arranger and any Dealer that Covered Bonds may be issued in a form not contemplated by the Terms and Conditions of the Covered Bonds herein, in which event an offering circular supplement, if appropriate, will be made available which will describe the effect of the agreement reached in relation to such Covered Bonds.

THE "*RISK FACTORS*" SECTION CONTAINS DETAILS OF CERTAIN RISKS AND OTHER FACTORS THAT SHOULD BE GIVEN PARTICULAR CONSIDERATION BEFORE INVESTING IN THE COVERED BONDS. PROSPECTIVE INVESTORS SHOULD BE AWARE OF THE ISSUES SUMMARISED IN THAT SECTION.

Arranger and Dealer

BNP PARIBAS

The date of this offering circular is October 20, 2023.

The Issuer, having made all reasonable enquiries, accepts responsibility for this offering circular, and confirms that this offering circular contains all information which is material in the context of the Programme, that the information contained in this offering circular is true and accurate in all material respects and is not misleading, that the opinions and intentions expressed in this offering circular are honestly held and that there are no other facts the omission of which would make any of such information or the expression of any such opinions or intentions misleading.

This offering circular is to be read in conjunction with all documents which are deemed to be incorporated herein by reference (see "*Documents Incorporated by Reference*" below). This offering circular shall be read and construed on the basis that such documents are incorporated and form part of this offering circular.

No representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by the Dealers, the Trustee or the Agents (each as defined in the Master Definitions Agreement) or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates as to the authenticity, origin, validity, accuracy or completeness of the information contained or incorporated by reference in this offering circular or any supplement hereto or any other information provided by or purported to be provided by the Arranger, the Dealers or the Issuer in connection with the Programme, the Issuer or issue and offering of the Covered Bonds. No Dealer, the Trustee or the Agents or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates accepts any liability in relation to the information contained or incorporated by reference in this offering circular or any other information provided by the Arranger, the Dealers or the Issuer in connection with the Programme, the Issuer or issue and offering of the Covered Bonds. Each Dealer, the Trustee or the Agents or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates accordingly disclaim all and any liability whether arising in tort or contract or otherwise which it might otherwise have in respect of this offering circular or any such information.

No person is or has been authorised by the Issuer to give any information or to make any representation not contained in or not consistent with this offering circular or any other information supplied in connection with the Programme or the Covered Bonds and, if given or made, such information or representation must not be relied upon as having been authorised by the Issuer, any of the Dealers, the Trustee or the Agents or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates.

Neither this offering circular nor any other information supplied in connection with the Programme or any Covered Bonds (i) is intended to provide the basis of any credit or other evaluation or (ii) should be considered as a recommendation or constituting an invitation or offer by the Issuer or any of the Dealers that any recipient of this offering circular or any other information supplied in connection with the Programme or any Covered Bonds should purchase any Covered Bonds. Each investor contemplating purchasing any Covered Bonds should make its own independent investigation of the financial condition and affairs, and its own appraisal of the creditworthiness, of the Issuer. Neither this offering circular nor any other information supplied in connection with the Programme or any Covered Bonds constitutes an offer or invitation by or on behalf of the Issuer, any of the Dealers, the Trustee or the Agents or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates to any person to subscribe for or to purchase any Covered Bonds.

Neither the delivery of this offering circular nor the offering, sale or delivery of any Covered Bonds shall in any circumstances imply that the information contained herein concerning the Issuer is correct at any time subsequent to the date hereof or that any other information supplied in connection with the Programme is correct as of any time subsequent to the date indicated in the document containing the same. The Dealers, the Trustee or the Agents or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates expressly do not undertake to review the financial condition or affairs of the Issuer during the life of the

Programme or to advise any investor in the Covered Bonds of any information coming to their attention. Investors should review, *inter alia*, the most recently published financial statements of the Issuer when deciding whether or not to purchase any Covered Bonds.

The Covered Bonds in bearer form are subject to U.S. tax law requirements and may not be offered, sold or delivered within the United States or its possessions or to U.S. persons, except in certain transactions permitted by U.S. tax regulations. Terms used in this paragraph have the meanings given to them by the U.S. Internal Revenue Code of 1986, as amended, and the regulations promulgated thereunder.

This offering circular does not constitute an offer to sell or the solicitation of an offer to buy any Covered Bonds in any jurisdiction to any person to whom it is unlawful to make the offer or solicitation in such jurisdiction. The distribution of this offering circular and the offer or sale of Covered Bonds may be restricted by law in certain jurisdictions. The Issuer and the Dealers do not represent that this document may be lawfully distributed, or that any Covered Bonds may be lawfully offered, in compliance with any applicable registration or other requirements in any such jurisdiction, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. In particular, no action has been taken by the Issuer or the Dealers which would permit a public offering of any Covered Bonds or distribution of this document in any jurisdiction where action for that purpose is required. Accordingly, no Covered Bonds may be offered or sold, directly or indirectly, and neither this offering circular nor any advertisement or other offering material may be distributed or published in any jurisdiction, except under circumstances that will result in compliance with any applicable laws and regulations and the Dealers have represented that all offers and sales by them will be made on the same terms. Persons into whose possession this offering circular or any Covered Bonds come must inform themselves about, and observe, any such restrictions on the distribution of this offering circular and the offering and sale of Covered Bonds. In particular, there are restrictions on the distribution of this offering circular and the offer or sale of Covered Bonds in the United States, the European Economic Area and the United Kingdom, Japan, Singapore, Hong Kong, Korea, Australia and Canada. For a description of these and certain further restrictions on offers and sales of the Covered Bonds and distribution of this offering circular, see "*Subscription and Sale and Transfer and Selling Restrictions*" below.

In making an investment decision, investors must rely on their own examination of the Issuer and the terms of the Covered Bonds being offered, including the merits and risks involved. The Covered Bonds have not been approved or disapproved by the U.S. Securities and Exchange Commission or any other securities commission or other regulatory authority in the United States, nor have the foregoing authorities approved this offering circular or confirmed the accuracy or determined the adequacy of the information contained in this offering circular. Any representation to the contrary is unlawful.

None of the Dealers, the Issuer, the Trustee or the Agents or any of their respective directors, officers, employees, agents, representatives, advisers or affiliates makes any representation to any investor in the Covered Bonds regarding the legality of its investment under any applicable laws. Any investor in the Covered Bonds should be able to bear the economic risk of an investment in the Covered Bonds for an indefinite period of time.

U.S. INFORMATION

The Covered Bonds have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except in certain transactions exempt from the registration requirements of the Securities Act. See *"Subscription and Sale and Transfer and Selling Restrictions"* below.

This offering circular may be submitted on a confidential basis in the United States to a limited number of QIBs for informational use solely in connection with the consideration of the purchase of the Covered Bonds being offered hereby. Its use for any other purpose in the United States is not authorized. It may not be copied or reproduced in whole or in part nor may it be distributed or any of its contents disclosed to anyone other than the prospective investors to whom it is originally submitted.

Registered Covered Bonds may be offered or sold within the United States only to QIBs in transactions exempt from registration under the Securities Act. Each U.S. purchaser of Registered Covered Bonds is hereby notified that the offer and sale of any Registered Covered Bonds to it may be being made in reliance upon the exemption from the registration requirements of the Securities Act provided by Rule 144A.

MIFID II PRODUCT GOVERNANCE / TARGET MARKET

The applicable Pricing Supplement in respect of any Covered Bonds may include a legend entitled "MiFID II Product Governance" which will outline the target market assessment in respect of the Covered Bonds and which channels for distribution of the Covered Bonds are appropriate. Any person subsequently offering, selling or recommending the Covered Bonds (a "**distributor**") should take into consideration the target market assessment; however, a distributor subject to Directive 2014/65/EU (as amended, "**MiFID II**") is responsible for undertaking its own target market assessment in respect of the Covered Bonds (by either adopting or refining the target market assessment) and determining appropriate distribution channels.

A determination will be made in relation to each issue about whether, for the purpose of the MiFID Product Governance rules under EU Delegated Directive 2017/593 (the "**MiFID Product Governance Rules**"), any Dealer subscribing for any Covered Bonds is a manufacturer in respect of such Covered Bonds, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of the MiFID Product Governance Rules.

UK MIFIR PRODUCT GOVERNANCE / TARGET MARKET

The applicable Pricing Supplement in respect of any Covered Bonds may include a legend entitled "UK MiFIR Product Governance" which will outline the target market assessment in respect of the Covered Bonds and which channels for distribution of the Covered Bonds are appropriate. Any person subsequently offering, selling or recommending the Covered Bonds (a "**distributor**") should take into consideration the target market assessment; however, a distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "**UK MiFIR Product Governance Rules**") is responsible for undertaking its own target market assessment in respect of the Covered Bonds (by either adopting or refining the target market assessment) and determining appropriate distribution channels.

A determination will be made in relation to each issue about whether, for the purpose of the UK MiFIR Product Governance Rules, any Dealer subscribing for any Covered Bonds is a manufacturer in respect of such Covered Bonds, but otherwise neither the Arranger nor the Dealers nor any of their respective affiliates will be a manufacturer for the purpose of the UK MiFIR Product Governance Rules.

NOTICE TO EEA RETAIL INVESTORS

If the applicable Pricing Supplement in respect of any Covered Bonds includes a legend entitled "Prohibition of Sales to EEA Retail Investors" or otherwise specifies "Prohibition of Sales to EEA Retail Investors" as "Applicable", such Covered Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("**EEA**").

For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; or (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "**Insurance Distribution Directive**"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the "**Prospectus Regulation**"). Consequently no key information document required by Regulation (EU) No. 1286/2014 (as amended, the "**PRIIPs Regulation**") for offering or selling the Covered Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Covered Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

NOTICE TO UK RETAIL INVESTORS

If the applicable Pricing Supplement in respect of any Covered Bonds includes a legend entitled "Prohibition of Sales to UK Retail Investors" or otherwise specifies "Prohibition of Sales to UK Retail Investors" as "Applicable", such Covered Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the "**UK**"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No. 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("**EUWA**"); (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 ("**FSMA**") and any rules or regulations made under the FSMA to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No. 600/2014 as it forms part of domestic law by virtue of the EUWA or (iii) not a "qualified investor" as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of the domestic law of the UK by virtue of the EUWA (the "**UK Prospectus Regulation**"). Consequently, no key information document required by Regulation (EU) No. 1286/2014 as it forms part of domestic law by virtue of the EUWA (the "**UK PRIIPs Regulation**") for offering or selling the Covered Bonds or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Covered Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

NOTICE TO PERSONS IN THE UNITED KINGDOM

This offering circular is for distribution only to persons who (i) are outside the United Kingdom; (ii) have professional experience in matters relating to investments and who qualify as investment professionals within the meaning of Article 19(5) of the Financial Services and Markets Act 2000 (Financial Promotion) Order 2005, as amended (the "**Financial Promotion Order**")); (iii) fall within Article 49(2)(a) to (d) (high net worth companies, unincorporated associations, etc.) of the Financial Promotion Order; or (iv) are persons to whom an invitation or inducement to engage in investment activity (within the meaning of section 21 of the FSMA) in connection with the issue or sale of any Securities may otherwise lawfully be communicated or caused to be communicated (all such persons together being referred to as "**Relevant Persons**"). This offering circular is directed only at Relevant Persons and must not be acted or relied upon by persons who are not Relevant Persons. Any investment or investment activity to which this offering circular relates is available only to Relevant Persons and will be engaged in only with Relevant Persons.

SINGAPORE INFORMATION

Notification under Section 309B(1)(c) of the Securities and Futures Act 2001 of Singapore (the "SFA") — Unless otherwise stated in the Pricing Supplement in respect of any Covered Bonds, the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Covered Bonds to be issued under the Programme shall be capital markets products other than prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and Specified Investment Products (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).

AVAILABLE INFORMATION

To permit compliance with Rule 144A in connection with any resales or other transfers of Covered Bonds that are "restricted securities" within the meaning of the Securities Act, the Issuer has undertaken in the Trust Deed (as defined herein) to furnish, upon the request of a holder of such Covered Bonds or any beneficial interest therein, to such holder or to a prospective purchaser designated by him, the information required to be delivered under Rule 144A(d)(4) under the Securities Act if, at the time of the request, the Issuer is neither a reporting company under Section 13 or 15(d) of the U.S. Securities Exchange Act of 1934, as amended, (the "Exchange Act") nor exempt from reporting pursuant to Rule 12g3-2(b) thereunder.

KOREAN SELLING RESTRICTIONS

The Covered Bonds have not been and will not be registered with the Financial Services Commission of Korea under the Financial investment Services and Capital Markets Act of Korea. Accordingly, the Covered Bonds may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as such term is defined under the Foreign Exchange Transaction Act of Korea and the regulations thereunder) or to others for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea, except as otherwise permitted under applicable Korean laws and regulations. In addition, during the first year after the issuance of the Covered Bonds, the Covered Bonds may not be transferred to any resident of Korea (i) (in the case where the Covered Bonds are issued in reliance on the exemption as set out in Article 2-2-2, Paragraph 2, Item 3 of the Regulation on Issuance of Securities and Public Disclosure of Korea) other than a Korean qualified institutional buyer (a "Korean QIB", as defined in the above regulation) who is registered with the Korea Financial Investment Association as a Korean QIB, provided that (1) the Covered Bonds are denominated, and the principal and interest payments thereunder are made, in a currency other than Korean won, (2) the amount of the Covered Bonds acquired by the Korean QIBs in the primary market is limited to not more than 20% of the aggregate principal amount of the Covered Bonds, (3) the Covered Bonds are listed on one of the major overseas securities markets designated by the Financial Supervisory Service of Korea, or certain procedures, such as registration or report with a foreign financial investment regulator of the country in which any major overseas securities market is established, have been completed for offering of the Covered Bonds, (4) the one-year restriction on transfer of the Covered Bonds to any resident of Korea other than the Korean QIBs is expressly stated in the Covered Bonds, the relevant purchase agreement and offering circular and (5) the Issuer and the Dealers shall individually or collectively keep the evidence of fulfilment of conditions (1) through (4) above after having taken necessary actions therefor or (ii) except as otherwise permitted under applicable Korean laws and regulations.

SERVICE OF PROCESS AND ENFORCEMENT OF CIVIL LIABILITIES

The Issuer is a corporation organised under the laws of Korea. All of the officers and directors named herein reside outside the United States and all or a substantial portion of the assets of the Issuer and of such officers and directors are located outside the United States. As a result, it may not be possible for investors to effect service of process within the U.S. upon the Issuer or such persons, or to enforce judgements against them obtained in courts in the U.S. predicated upon civil liabilities of the Issuer or such directors and officers under laws other than Korean law, including any judgement predicated upon U.S. federal securities laws. There is doubt as to the enforceability in Korea in original actions or in actions for enforcement of judgements of U.S. courts of civil liabilities predicated solely upon the federal securities laws of the United States.

FORWARD-LOOKING STATEMENTS

Certain statements in this offering circular constitute "forward-looking statements," including statements regarding the Issuer's expectations and projections for future operating performance and business prospects. The words "believe," "expect," "anticipate," "estimate," "project," "will," "aim," "will likely result," "will continue," "intend," "plan," "contemplate," "seek to," "future," "objective," "goal," "should," "will pursue" and similar expressions or variations of these expressions identify forward-looking statements. In addition, all statements other than statements of historical facts included in this offering circular, including, without limitation, those regarding the Issuer's financial position and results, business strategy, plans and objectives of management for future operations, including development plans and objectives relating to the Issuer's products and services, are forward-looking statements. Such forward-looking statements and any other projections contained in this offering circular (whether made by the Issuer or any third party) involve known and unknown risks, uncertainties and other factors which may cause the actual results, performance or achievements to be materially different from the future results, performance or achievements expressed or implied by forward-looking statements. Such forward-looking statements are based on current beliefs, assumptions, expectations, estimates and projections regarding the Issuer's present and future business strategies and the environment in which the Issuer will operate in the future. Important factors that could cause some or all of those assumptions not to occur or cause the Issuer's actual results, performance or achievements to differ materially from those in the forward-looking statements include, among other things:

- the condition of and changes in the Korean, Asian or global economies, including changes in consumer confidence and spending;
- changes in interest rates;
- future levels of non-performing loans;
- changes in government regulations and licensing that affects the Issuer's businesses in Korea and in other jurisdictions where the Issuer may operate;
- the Issuer's ability to successfully implement its business strategy; and
- competition in the financial services industry.

Additional factors that could cause the Issuer's actual results, performance or achievements to differ materially include, but are not limited to, those discussed under "*Risk Factors*." Any forward-looking statements contained in this offering circular speak only as of the date of this offering circular. Each of the Issuer and the Dealers expressly disclaims any obligation or undertaking to release, publicly or otherwise, any updates or revisions to any forward-looking statement contained herein to reflect any change in the Issuer's expectations with regard thereto or any change in events, conditions, assumptions or circumstances on which any such statement was based.

CERTAIN DEFINED TERMS AND CONVENTIONS

Unless otherwise specified or the context otherwise requires, in this offering circular:

- all references to "**we**", "**us**", "**our**", the "**Issuer**" and the "**Bank**" shall mean Shinhan Bank; and

- all references to "**our holding company**", "**SFG**" and "**Shinhan Financial Group**" shall mean Shinhan Financial Group Co., Ltd., of which the Issuer is a wholly-owned subsidiary.

All references to "**Korea**" and the "**Republic**" contained in this offering circular shall mean The Republic of Korea. All references to the "**Government**" shall mean the government of The Republic of Korea. The "**Financial Services Commission**" or the "**FSC**" shall mean the Financial Services Commission of Korea, and the "**Financial Supervisory Service**" or the "**FSS**" shall mean the Financial Supervisory Service of Korea, the executive body of the FSC.

All references in this offering circular to "**U.S. dollars**", "**dollars**", "**US$**" and "**$**" refer to the lawful currency of the United States of America; all references in this offering circular to "**Won**" and "**₩**" refer to the lawful currency of Korea; all references in this offering circular to "**€**", "**Euro**" and "**euro**" refer to the lawful currency introduced at the start of the third stage of European economic and monetary union pursuant to the Treaty establishing the European Community, as amended; all references in this offering circular to "**Chinese Yuan**", "**CNY**", "**Renminbi**" and "**RMB**" are to the lawful currency of the People's Republic of China (the "**PRC**"); all references in this offering circular to "**Yen**" and "**¥**" refer to the lawful currency of Japan; all references in this offering circular to "**S$**" refer to the lawful currency of Singapore; and all references in this offering circular to "**Sterling**" and "**£**" are to the currency of the United Kingdom. The Issuer maintains its accounts in Won. For convenience only, certain Won amounts have been translated into U.S. dollars. Unless otherwise specified, all such conversions were made at the market average exchange rate announced by Seoul Money Brokerage Services, Ltd. in Seoul for U.S. dollars against Won (the "**Market Average Exchange Rate**"). Unless otherwise stated, the translations of Won into U.S. dollars as of June 30, 2023 were made at the Market Average Exchange Rate in effect on such date, which was ₩1,312.8 = US$1.00. The Market Average Exchange Rate has been highly volatile recently and the U.S. dollar amounts referred to in this offering circular should not be relied upon as an accurate reflection of the Issuer's results of operations. The Issuer expects this volatility to continue in the near future. No representation is made that the Won or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all. The Market Average Exchange Rate on October 17, 2023 was ₩1,353.8 = US$1.00.

Except where the context otherwise requires, capitalised terms used and not otherwise defined in this offering circular shall bear the meanings given to them in the master definitions schedule made between, inter alios, the Issuer, the Trustee, the Issuing and Paying Agent and the Registrars (as amended and/or supplemented and/or restated from time to time, the "**Master Definitions Agreement**") as set forth in the Glossary.

Any discrepancies in any table between totals and the sums of the amounts listed are due to rounding. References to billions are to thousands of millions.

PRESENTATION OF FINANCIAL AND OTHER INFORMATION

The Issuer maintains its financial books and records and prepares its financial statements in Won in accordance with the Korean equivalent of International Financial Reporting Standards ("**K-IFRS**"), which differ in certain significant respects from generally accepted accounting principles in other countries, including generally accepted accounting principles in the United States ("**U.S. GAAP**"). The Issuer has made no attempt to identify or quantify the impact of differences between K-IFRS and U.S. GAAP.

Unless otherwise stated, all financial information contained in this offering circular is presented on a consolidated basis in accordance with K-IFRS together with, where applicable, accounting and reporting guidelines under Korean accounting standards applicable to the banking industry. Financial and other information contained in this offering circular regarding individual borrowers, groups or categories of borrowers or classifications by industry, geography, size or other factors, including information as to loans, credits, total exposures, allowances, collateral values, nonperforming loans and other items, has been derived solely from the Issuer's internal management information systems.

Unless otherwise stated, the financial data of the Issuer as of and for the years ended December 31, 2020, 2021 and 2022 contained in this offering circular have been derived from the audited consolidated financial statements of the Issuer included herein, which have been prepared in accordance with K-IFRS. The financial data of the Issuer as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 contained in this offering circular have been derived from the Issuer's unaudited interim consolidated financial statements included herein, which have been prepared in accordance with K-IFRS 1034 Interim Financial Reporting.

All references in this document to "**balance sheet**" are to the statement of financial position.

Under the Korean Banking Act (the "**Banking Act**"), assets accepted in trust by a bank in Korea must be segregated from its other assets in the accounts of that bank. Accordingly, banks, including the Issuer, engaged in the banking and trust businesses must maintain two separate accounts, the bank account and the trust account, and two separate sets of records, which provide details of their respective banking and trust businesses. All financial information contained in this offering circular relating to the Issuer is presented with respect to the Issuer's bank account only, unless stated otherwise.

Unless otherwise specified, all conversions of Won into U.S. dollars were made at the base rate under the market average exchange system, provided by Seoul Money Brokerage Services, Ltd. in Seoul for U.S. dollars against Won (the "**Market Average Exchange Rate**"). No representation is made that the Won or the U.S. dollar amounts referred to in this offering circular could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all.

ENFORCEABILITY OF CIVIL LIABILITIES

The Issuer is a corporation organized under the laws of Korea. All or substantially all of the Issuer's directors and officers and certain other persons named in this offering circular reside in Korea, and all or a substantial portion of the assets of the directors and officers and certain other persons named in this offering circular and substantially all of the Issuer's assets are located in Korea. As a result, it may not be possible for you to effect service of process within the United States upon such persons or to enforce against them or against the Issuer in U.S. courts judgments predicated upon the civil liability provisions of the federal securities laws of the United States. There is doubt as to the enforceability in Korea, either in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities predicated on the U.S. federal securities laws.

TABLE OF CONTENTS

	Page
DOCUMENTS INCORPORATED BY REFERENCE	xi
GENERAL DESCRIPTION OF THE PROGRAMME	xi
SUMMARY OF THE PROGRAMME	1
FORM OF THE COVERED BONDS	9
TERMS AND CONDITIONS OF THE COVERED BONDS	31
USE OF PROCEEDS	76
EXCHANGE RATES	77
RISK FACTORS	78
CAPITALIZATION AND INDEBTEDNESS	137
SELECTED FINANCIAL INFORMATION	138
MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS	144
SHINHAN BANK	190
DESCRIPTION OF ASSETS AND LIABILITIES	220
RISK MANAGEMENT	263
MANAGEMENT AND EMPLOYEES	286
CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS	294
SHINHAN FINANCIAL GROUP	295
SUMMARY OF THE PRINCIPAL DOCUMENTS	301
CERTAIN INFORMATION REGARDING THE COVER POOL	338
SUMMARY OF KOREAN LEGISLATION REGARDING COVERED BONDS	344
THE KOREAN BANKING INDUSTRY	349
THE KOREAN RESIDENTIAL MORTGAGE INDUSTRY	350
SUPERVISION AND REGULATION	353
KOREAN LEGAL CONSIDERATIONS	376
TAXATION	391
CERTAIN ERISA CONSIDERATIONS	404
BOOK-ENTRY CLEARANCE SYSTEMS	406
SUBSCRIPTION AND SALE AND TRANSFER AND SELLING RESTRICTIONS	410
GENERAL INFORMATION	421
GLOSSARY	424
INDEX TO FINANCIAL STATEMENTS	F-1

In connection with the issue of any Tranche of Covered Bonds, the Dealer or Dealers (if any) named as the Stabilisation Manager(s) (or persons acting on behalf of any Stabilisation Manager(s)) in the applicable Pricing Supplement may over-allot Covered Bonds or effect transactions with a view to supporting the market price of the Covered Bonds at a level higher than that which might otherwise prevail. However, there is no assurance that the Stabilisation Manager(s) (or persons acting on behalf of a Stabilisation Manager) will undertake stabilisation action. Any stabilisation action may begin on or after the date on which adequate public disclosure of the terms of the offer of the relevant Tranche of Covered Bonds is made and, if begun, may be ended at any time, but it must end no later than the earlier of 30 days after the

issue date of the relevant Tranche of Covered Bonds and 60 days after the date of the allotment of the relevant Tranche of Covered Bonds. Any stabilisation action or over-allotment must be conducted by the relevant Stabilisation Manager(s) (or person(s) acting on behalf of Stabilisation Manager(s)) in accordance with all applicable laws and rules.

DOCUMENTS INCORPORATED BY REFERENCE

The following documents shall be deemed to be incorporated in, and to form part of, this offering circular:

(a) the publicly available audited consolidated and audited separate financial statements and the publicly available unaudited consolidated and unaudited separate interim financial statements (if any) of the Issuer for the most recent financial period; see "*General Information*" for a description of the financial statements currently published by the Issuer; and

(b) all supplements or amendments to this offering circular circulated by the Issuer from time to time,

save that any statement contained herein or in a document which is deemed to be incorporated by reference herein shall be deemed to be modified or superseded for the purpose of this offering circular to the extent that a statement contained in any such subsequent document which is deemed to be incorporated by reference herein modifies or supersedes such earlier statement (whether expressly, by implication or otherwise). Any statement so modified or superseded shall not be deemed, except as so modified or superseded, to constitute a part of this offering circular.

The Issuer will provide, without charge, to each person to whom a copy of this offering circular has been delivered, upon the written request of such person, a copy of any or all of the documents deemed to be incorporated herein by reference unless such documents have been modified or superseded as specified above. Written requests for such documents should be directed to the Issuer at its registered office set out at the end of this offering circular. In addition, such documents will be available for inspection, free of charge at the specified office of the Issuing and Paying Agent.

The Issuer will, in connection with the listing and quotation of the Covered Bonds on the SGX-ST, so long as the rules of the SGX-ST so require, in the event of any material change in the information contained in this offering circular, prepare a supplement to this offering circular or publish a new offering circular for use in connection with any subsequent issue of the Covered Bonds to be listed and quoted on the SGX-ST.

If the terms of the Programme are modified or amended in a manner which would make this offering circular, as so modified or amended, materially inaccurate or misleading, a new offering circular will be prepared.

GENERAL DESCRIPTION OF THE PROGRAMME

Under the Programme, the Issuer may from time to time issue Covered Bonds denominated in any currency and with any maturity, subject as set out herein. A summary of the terms and conditions of the Programme and the Covered Bonds appears below. The applicable terms of any Covered Bonds will be agreed among the Issuer, the Arranger and the relevant Dealer prior to the issue of the Covered Bonds and will be set out in the Terms and Conditions of the Covered Bonds endorsed on, or incorporated by reference into, the Covered Bonds, as modified and supplemented by the applicable Pricing Supplement attached to, or endorsed on, such Covered Bonds, as more fully described under "*Form of the Covered Bonds*" below.

This offering circular and any supplement will only be valid for the offering of Covered Bonds in an aggregate nominal amount of Covered Bonds which, when added to the aggregate nominal amount then outstanding of all Covered Bonds previously or simultaneously issued under the Programme, does not exceed US$5,000,000,000 or its equivalent in other currencies. For the purpose of calculating the U.S. dollar equivalent of the aggregate nominal amount of Covered Bonds issued under the Programme from time to time, the U.S. dollar equivalent of Covered Bonds denominated in another Specified Currency (as specified in the applicable Pricing Supplement in relation to the Covered Bonds, described under "Form of the Covered Bonds" below) shall be determined, at the discretion of the Issuer, either as of the date on which agreement is reached for the issue of Covered Bonds or on the preceding day on which commercial banks and foreign exchange markets are open for business in London, in each case on the basis of the spot rate for the sale of the U.S. dollar against the purchase of such Specified Currency in the London foreign exchange market quoted by any leading international bank selected by the Issuer on the relevant day of calculation.

SUMMARY OF THE PROGRAMME

The following summary does not purport to be complete and is taken from, and is qualified in its entirety by, the remainder of this offering circular and, in relation to the terms and conditions of any particular Tranche of Covered Bonds, the applicable Pricing Supplement. Words and expressions defined in "Form of the Covered Bonds" and "Terms and Conditions of the Covered Bonds" below shall have the same meanings in this summary.

Issuer	Shinhan Bank acting through its principal office in Korea (Legal Entity Identifier: 5493003P813VL21KG928).
Description	US$5,000,000,000 Global Covered Bond Programme.
Arranger	BNP Paribas.
Dealers	BNP Paribas and other Dealers as may be appointed by the Issuer.
Trustee	Citicorp International Limited.
Issuing and Paying Agent, Paying Agent, Calculation Agent and Transfer Agent	Citibank, N.A., London Branch.
Registrar	Citibank, N.A., London Branch.
Asset Monitor	Korea Housing Finance Corporation.
Swap Providers	As appointed under a Swap Agreement by the Issuer for a specific Series of Covered Bonds.
Transaction Account Bank and Reserve Account Bank (in respect of the Reserve Cash Account)	The Issuer, acting through its principal office in Korea.
Reserve Account Bank (in respect of the Swap Cash Collateral Accounts)	Citibank, N.A., Hong Kong Branch.
Custodian Bank	Citibank, N.A., Hong Kong Branch.
Programme Size	The aggregate principal amount of Covered Bonds outstanding at any time will not exceed US$5,000,000,000 (or its equivalent in another currency calculated as described herein). The Programme size may be increased from time to time without the consent of the holders of Covered Bonds, provided that the outstanding principal amount of the Covered Bonds under the Korean Covered Bond Laws will, at all times, be subject to the limitations on the outstanding principal amount of the Covered Bonds under the Korean Covered Bond Laws.

Currencies	Any currency agreed among the Issuer, the Arranger and the relevant Dealer(s), subject to any applicable legal or regulatory restrictions (a "**Specified Currency**").
Status	The Covered Bonds and the Coupons constitute direct, unconditional and unsubordinated obligations of the Issuer issued in accordance with the Act on Issuance of Covered Bonds (the "**Korean Covered Bond Act**") and the enforcement decree for the Korean Covered Bond Act (the "**Enforcement Decree**") and supervision regulation on issuance of covered bonds issued by the FSC under the authority conferred on it by the Korean Covered Bond Act related thereto as the same may be supplemented, amended, modified or varied from time to time (together, the "**Korean Covered Bond Laws**") and shall at all times rank *pari passu* and without any preference among themselves and with all other obligations of the Issuer that have been given prioritised claim over the Cover Pool pursuant to the Korean Covered Bond Laws and given the same priority as the Covered Bonds pursuant to the Establishment Deed. To the extent that claims of the Covered Bondholders are not met out of the Cover Pool in accordance with the Korean Covered Bond Laws and the Establishment Deed, the residual claims will at all times rank *pari passu* at least equally with all other unsecured and unsubordinated obligations of the Issuer. See also "*Summary of Korean Legislation Regarding Covered Bonds*."
Maturities	Such maturities as may be agreed among the Issuer, the Arranger and the relevant Dealer(s), subject to such minimum or maximum maturity as may be allowed or required from time to time by the relevant central bank (or equivalent body) or any laws or regulations applicable to the Issuer or the relevant Specified Currency.
Issue Price	The Covered Bonds may be issued at par, or at a discount to, or at a premium over, par as specified in the relevant Pricing Supplement. The price and amount of the Covered Bonds to be issued will be determined by the Issuer, the Arranger and the relevant Dealer(s) at the time of issue in accordance with prevailing market conditions.
Form of Covered Bonds	The Covered Bonds may be issued in bearer (the "**Bearer Covered Bonds**") or registered form (the "**Registered Covered Bonds**"). Registered Covered Bonds will not be exchangeable for Bearer Covered Bonds and vice versa. Unless otherwise specified in the applicable Pricing Supplement, the Covered Bonds offered in the United States to QIBs in reliance on Rule 144A will be represented by one or more Restricted Global Certificates and the Covered Bonds offered outside the United States in reliance on Regulation S will be represented by one or more Unrestricted Global Certificates (if in registered form) or Global Covered Bonds (if in bearer form). Copies of the Restricted Global Certificates, Unrestricted Global Certificates and Global Covered

	Bonds will be available for inspection at the specified office of the Issuing and Paying Agent. Restricted Global Certificates representing the Covered Bonds will be held by or on behalf of the Depositary Trust Company ("**DTC**") for the benefit of participants in DTC. Unrestricted Global Certificates representing the Covered Bonds will either (i) be held by or on behalf of DTC for the benefit of participants in DTC or (ii) be registered in the name of a nominee for, and deposited with, the Common Depositary. Global Covered Bonds representing the Covered Bonds will be deposited with the Common Depositary, each as specified in the relevant Pricing Supplement. After the Programme Date, the Issuer may (without the consent of the existing Covered Bondholders) modify Transaction Documents to provide for the issuance of Series or Tranches of Covered Bonds in the form of *Namensschuldverschreibungen* ("**N Bonds**"). The terms and conditions of the N Bonds would be governed by German law, except that Condition 3 (*Status*) will be governed by, and construed in accordance with, Korean law. The N Bonds would not be listed or traded on any stock exchange, but would be issued in registered form and placed privately with certain eligible investors. The N Bonds would constitute "Covered Bonds" issued under the Programme, ranking *pari passu* with all other Covered Bonds issued from time to time. See further "*Risk Factors — Risks Relating to the Covered Bonds — The Trustee may agree to modifications to the Transaction Documents or waive breaches without the Covered Bondholders' prior consent.*"
Denomination of Covered Bonds	The Covered Bonds will be issued in such denominations as may be specified in the relevant Pricing Supplement, subject to: (i) a minimum denomination of US$200,000 (or, in the case of Covered Bonds not denominated in U.S. dollars, the equivalent thereof in such foreign currency, rounded down to the nearest 1,000 units of such foreign currency, but so that in no event will the minimum denomination be lower than €100,000 or its equivalent at the date of issue of the relevant Covered Bonds) and integral multiples of US$1,000 (or, in the case of Covered Bonds not denominated in U.S. dollars, 1,000 units of such foreign currency) in excess thereof; and (ii) compliance with all applicable legal and/or regulatory and/or central bank requirements.
Interest	The Covered Bonds may be issued as fixed rate or floating rate, as provided in the relevant Pricing Supplement.
Yield to Maturity Date (Fixed Rate Covered Bonds only)......................	The yield is calculated at the Issue Date on the basis of the Issue Price. It is not an indication of future yield.

Interest Payments	Interest may be paid monthly, quarterly, semi-annually, annually or at such other intervals as are described in the applicable Pricing Supplement.
Redemption	The applicable Pricing Supplement will indicate the scheduled maturity date of the Covered Bonds (the "**Maturity Date**"). The Covered Bonds are redeemable at par. Early redemption of the Covered Bonds will be permitted for taxation reasons. Early redemption at the option of the Issuer or at the option of the holder of the Covered Bond will otherwise be permitted only to the extent specified in the relevant Pricing Supplement. Covered Bonds denominated in Sterling may not be redeemed prior to one year and one day from the date of issue unless the redemption value of each such Covered Bond is not less than £100,000.
Extended Maturity Date	The applicable Pricing Supplement may provide that an Extended Maturity Date will apply to the relevant Series of Covered Bonds. In regard to redemption of Covered Bonds to which an Extended Maturity Date so applies, if the Issuer fails to redeem all of the relevant Series of Covered Bonds in full on the Maturity Date or within 10 days thereafter, the maturity of the Covered Bonds and the date on which such Covered Bonds will be due and payable for the purposes of the Conditions will be automatically extended up to but no later than the Extended Maturity Date, subject as otherwise provided for in the applicable Pricing Supplement. The Issuer (or, if an Issuer EOD Notice has been served on the Issuer, the Asset Monitor on behalf of the Issuer) shall give notice to the holders of Covered Bonds and to the Trustee, the Paying Agents and the Rating Agencies in writing at least five Business Days prior to the Maturity Date of the Series of Covered Bonds confirming whether or not it intends to redeem all or any of the principal amount outstanding in respect of such Series of Covered Bonds on the Maturity Date or within 10 days thereafter. In that event, the Issuer may redeem all or any part of the principal amount outstanding of the Covered Bonds on any Interest Payment Date falling after the Maturity Date up to and including the Extended Maturity Date or as otherwise provided for in the applicable Pricing Supplement. In the event of the extension of the maturity as described above, the Covered Bonds will bear interest on the principal amount outstanding of the Covered Bonds from (and including) the Maturity Date to (but excluding) the earlier of the Interest Payment Date after the Maturity Date on which the Covered Bonds are redeemed in full or the Extended Maturity Date and will be payable in respect of the interest period ending immediately prior to the relevant Interest Payment Date in arrear or as otherwise provided for in the applicable Pricing Supplement on each Interest Payment Date after the Maturity Date at

	the rate provided for in the applicable Pricing Supplement. The final Interest Payment Date shall fall no later than the Extended Maturity Date. In the case of a Series of Covered Bonds to which an Extended Maturity Date applies, those Covered Bonds may be issued as fixed rate or floating rate in respect of the period from (and including) the Issue Date to (but excluding) the Maturity Date; and will be issued as floating rate in respect of the period from (and including) the Maturity Date to (but excluding) the Extended Maturity Date as set out in the applicable Pricing Supplement.
Taxation	All payments in respect of the Covered Bonds will be made free and clear of, and without withholding or deduction for or on account of Korean withholding taxes unless required by law. If such withholdings are required by Korean law, the Issuer will in certain circumstances pay certain additional amounts as described in, and subject to exceptions set out in, Condition 7.
Further Issues	Subject as provided in Conditions 10(c) and 15 and the satisfaction of other relevant requirements under the Korean Covered Bond Laws and the Transaction Documents, the Issuer may from time to time, without the consent of the Covered Bondholders of Covered Bonds of any Series, create and issue further securities having the same terms and conditions as any Series of Covered Bonds in all respects (or in all respects except for the amount of the first payment of interest, if any, on them), which will be consolidated and form a single Series with the outstanding Covered Bonds of such Series.
Issuer Events of Default	As set out in Condition 10(a) (*Issuer Events of Default*).
Covered Bond Events of Default	As set out in Condition 10(b) (*Covered Bond Events of Default*).
Cross Default and Other Events of Default	None of the Covered Bonds will accelerate on an Issuer Event of Default, nor will they accelerate automatically on a Covered Bond Event of Default. If an Issuer Event of Default occurs and the Trustee serves an Issuer EOD Notice to the Issuer, then the Issuer shall not issue any further Covered Bonds and the Asset Monitor shall, among other things, (i) if the Issuer fails to do so within 15 Korean Business Days following an Issuer EOD Notice, notify Obligors of the registration of the Mortgage Loans as part of the Cover Pool and of the Asset Monitor's rights to dispose of the Cover Pool, (ii) manage, maintain and/or dispose of the Cover Pool (including manage amounts receivable and payable in respect of the Cover Pool or the Priority Payment Rights) and, (iii) (if the Issuer is a Transaction Account Bank and/or Reserve Account Bank) replace the Issuer as Account Bank of the relevant Cover Pool Cash Accounts.

	All Covered Bonds issued under the Programme will accelerate following a Covered Bond Event of Default (subject to applicable grace periods) if (i) the Trustee exercises its discretion to accelerate, (ii) the Trustee accelerates following a request in writing by the holders of at least 25% of the aggregate principal amount of the Covered Bonds of all Series then outstanding, as if they were a single Series, or (iii) the Trustee accelerates following an Extraordinary Resolution of the Covered Bondholders of all Series then outstanding. Acceleration by the Trustee as described in (ii) or (iii) above is subject in each case to the Trustee being indemnified and/or secured and/or pre-funded to its satisfaction.
Negative Pledge	None.
Listing and Admission to Trading	Approval in-principle has been received from the SGX-ST in connection with the Programme and application will be made for the listing and quotation of any Covered Bonds that may be issued pursuant to the Programme and which are agreed, at or prior to the time of issue thereof, to be so listed and quoted on the SGX-ST. Such permission will be granted when such Covered Bonds have been admitted for listing and quotation on the SGX-ST. The Covered Bonds may also be listed on such other or further stock exchange(s) as may be agreed among the Issuer, the Arranger and the relevant Dealer in relation to each Series. For so long as any Covered Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, such Covered Bonds, if traded on the SGX-ST, will be traded in a minimum board lot size of S$200,000 (or its equivalent in foreign currencies). Covered Bonds may also be issued under the Programme on an unlisted basis or be admitted to listing, trading and/or quotation by other stock exchanges, listing authorities and/or quotation by other stock exchanges, listing authorities and/or quotation systems, and the Pricing Supplement applicable to a Series will specify whether or not the Covered Bonds of such Series will be admitted for listing and quotation on the SGX-ST, or admitted to listing, trading and/or quotation by any other stock exchange, listing authority and/or quotation system.
Governing Law	The Covered Bonds will be governed by, and construed in accordance with, English law, except that (i) Condition 3 (*Status*) will be governed by, and construed in accordance with, Korean law and (ii) the N Bonds will be governed by, and construed in accordance with, German law. The Korean Account Bank Agreement and the Asset Monitor Agreement will be governed by, and construed in accordance with, Korean law. The Custodian Bank Agreement and the Hong Kong Account Bank Agreement will be governed by, and

	construed in accordance with, Hong Kong law. All other Transaction Documents will be governed by, and construed in accordance with, English law.
Selling Restrictions	The Covered Bonds have not been and will not be registered under the Securities Act or any state securities laws and may not be offered or sold directly or indirectly within the United States or to or for the benefit of U.S. persons, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. In addition, there are certain restrictions on the offer, sale and transfer of the Covered Bonds in the European Economic Area and the United Kingdom, and such other restrictions as may be required in connection with the offer and sale of a particular Series of Covered Bonds. See "*Subscription and Sale and Transfer and Selling Restrictions.*"
Ratings	As of the date of this offering circular, the Covered Bonds issued under the Programme are expected to be assigned an "Aaa" rating by Moody's and an "AAA" rating by Fitch. The Issuer may also obtain a rating of the Covered Bonds issued under the Programme from one or more other credit rating agencies. Details of the ratings and whether or not the Covered Bonds of any certain Series are rated specifically will be specified in the applicable Pricing Supplement. The Issuer cannot assure investors that any such ratings will not change in the future. A rating reflects only the views of the relevant rating agency and is not a recommendation to buy, sell or hold the Covered Bonds and may be subject to suspension, reduction or withdrawal at any time by the assigning rating agency. A rating of a certain Series of Covered Bonds to be issued under the Programme, if obtained, will be specified in the applicable Pricing Supplement. The Issuer has no obligation to maintain a particular rating of the Covered Bonds.
Terms and Conditions	The terms and conditions applicable to each Series will be as agreed among the Issuer, the Arranger and the relevant Dealer(s) at or prior to the time of issuance of such Series, and will be specified in the relevant Pricing Supplement. The terms and conditions applicable to each Series will therefore be those set out in the Conditions in this offering circular, as supplemented, modified or replaced by the relevant Pricing Supplement in relation to each Series.
Risk Factors	There are certain factors that may affect the Issuer's ability to fulfil its obligations under the Covered Bonds. These are set out under the heading "*Risk Factors.*" Investors should carefully consider these investment considerations and all of the information in this offering circular before deciding to buy the Covered Bonds.

ISDA Determination / ISDA Definitions	Notwithstanding anything included in the ISDA Definitions and/or ISDA Determinations to the contrary, the Issuer agrees that the Citibank, N.A., London Branch in its capacity as Calculation Agent will have no obligation to exercise any discretion (including, but not limited to, determinations of alternative or substitute benchmarks, successor reference rates, screen pages, interest adjustment factors/fractions or spreads, market disruptions, benchmark amendment conforming changes or selection and polling of reference banks), and to the extent the ISDA Definitions and/or ISDA Determinations require, for a particular Series of Covered Bonds, the Calculation Agent to exercise any such discretions and/or make such determinations and/or take such actions, such references shall be construed as the Issuer (or its financial adviser or alternate agent appointed by the Issuer) exercising such discretions and/or determinations and/or taking such actions and not the Calculation Agent.

FORM OF THE COVERED BONDS

Initial Issue of the Covered Bonds

Global Covered Bonds and Global Certificates may be delivered on or prior to the original Issue Date of the Tranche to the Common Depositary.

Upon the initial deposit of a Global Covered Bonds with the Common Depositary or registration of Registered Covered Bonds in the name of any nominee of the Common Depositary for Euroclear Bank SA/NV ("**Euroclear**") and Clearstream Banking S.A. ("**Clearstream**") and delivery of the relevant Global Certificate to the Common Depositary, Euroclear or Clearstream will credit each subscriber with a nominal amount of Covered Bonds equal to the nominal amount thereof for which it has subscribed and paid.

Upon the initial deposit of a Global Certificate in respect of, and registration of, Registered Covered Bonds in the name of a nominee for the DTC and delivery of the relevant Global Certificate to the custodian for DTC, DTC will credit each participant with a nominal amount of Covered Bonds equal to the nominal amount thereof for which it has subscribed and paid.

Covered Bonds that are initially deposited with the Common Depositary may also be credited to the accounts of subscribers with (if indicated in the relevant Pricing Supplement) other clearing systems through direct or indirect accounts with Euroclear and Clearstream held by such other clearing systems. Conversely, Covered Bonds that are initially deposited with any other clearing system may similarly be credited to the accounts of subscribers with Euroclear, Clearstream or other clearing systems.

Relationship of Accountholders with Clearing Systems

Each of the persons shown in the records of Euroclear, Clearstream, DTC or any alternative clearing system ("**Alternative Clearing System**") as the holder of a Covered Bond represented by a Global Covered Bond or a Global Certificate must look solely to Euroclear, Clearstream, DTC or any such Alternative Clearing System (as the case may be) for his share of each payment made by the Issuer to the bearer of such Global Covered Bond or the holder of the underlying Registered Covered Bond, as the case may be, and in relation to all other rights arising under the Global Covered Bonds or Global Certificates, subject to and in accordance with the respective rules and procedures of Euroclear, Clearstream, DTC or such Alternative Clearing System (as the case may be). Such persons shall have no claim directly against the Issuer in respect of payments due on the Covered Bonds for so long as the Covered Bonds are represented by such Global Covered Bond or Global Certificate and such obligations of the Issuer will be discharged by payment to the bearer of such Global Covered Bond or the holder of the underlying Registered Covered Bonds, as the case may be, in respect of each amount so paid.

Exchange

(a) Temporary Global Covered Bonds

Each temporary bearer Global Covered Bond (the "**Temporary Global Covered Bond**") will be exchangeable, free of charge to the holder, on or after its Exchange Date:

(i) if the relevant Pricing Supplement indicates that such Global Covered Bond is issued in compliance with U.S. Treas. Reg. §1.163-5(c)(2)(i)(C) (or any successor rules in substantially the same form that is applicable for purposes of Section 4701 of the Code) or in a transaction to which United States Tax Equity and Fiscal Responsibility Act of 1982 is not applicable, in whole, but not in part, for the Definitive Covered Bond defined and described below; and

(ii) otherwise, in whole or in part upon certification as to non-U.S. beneficial ownership in the form set out in the Agency Agreement for interests in a Permanent Global Covered Bond or, if so provided in the relevant Pricing Supplement, for Definitive Covered Bonds.

(b) Permanent Global Covered Bond

Each permanent bearer Global Covered Bond (the "**Permanent Global Covered Bond**") will be exchangeable, free of charge to the holder, on or after its Exchange Date in whole but not, except as provided under "— Delivery of Covered Bonds" below, in part for Definitive Covered Bonds if the Permanent Global Covered Bond is held on behalf of Euroclear, Clearstream or an Alternative Clearing System and any such clearing system is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or in fact does so by such holder giving notice to the Issuing and Paying Agent.

Global Certificates

(a) Unrestricted Global Certificates

If the Pricing Supplement states that the Covered Bonds are to be represented by an Unrestricted Global Certificate on issue, the following will apply in respect of transfers of Covered Bonds held in Euroclear, Clearstream or an Alternative Clearing System. These provisions will not prevent the trading of interests in the Covered Bonds within a clearing system whilst they are held on behalf of such clearing system, but will limit the circumstances in which the Covered Bonds may be withdrawn from the relevant clearing system.

Transfers of the holding of Covered Bonds represented by any Global Certificate pursuant to Condition 2(b) may only be made:

(i) in whole but not in part, if the relevant clearing system is closed for business for a continuous period of 14 days (other than by reason of holidays, statutory or otherwise) or announces an intention permanently to cease business or does in fact do so; or

(ii) in whole or in part, with the consent of the Issuer, provided that, in the case of the first transfer of part of a holding pursuant to sub-paragraph (i) or (ii) above, the Registered Holder has given the Registrar not less than 30 days' notice at its specified office of the Registered Holder's intention to effect such transfer.

(b) Restricted Global Certificates

If the Pricing Supplement states that the Restricted Covered Bonds are to be represented by a Restricted Global Certificate on issue, the following will apply in respect of transfers of Covered Bonds held in DTC. These provisions will not prevent the trading of interests in the Covered Bonds within a clearing system whilst they are held on behalf of DTC, but will limit the circumstances in which the Covered Bonds may be withdrawn from

DTC. Transfers of the holding of Covered Bonds represented by that Restricted Global Certificate pursuant to Condition 2(b) may only be made:

(i) in whole but not in part, if such Covered Bonds are held on behalf of a custodian for DTC and if DTC notifies the Issuer that it is no longer willing or able to discharge properly its responsibilities as depositary with respect to that Restricted Global Certificate or DTC ceases to be a "clearing agency" registered under the Exchange Act or is at any time no longer eligible to act as such, and this Issuer is unable to locate a qualified successor within 90 days of receiving notice of such ineligibility on the part of DTC; or

(ii) in whole or in part, with the Issuer's consent, provided that, in the case of any transfer pursuant to (i) above, the relevant Registered Covered Bondholder has given the relevant Registrar not less than 30 days' notice at its specified office of the Registered Covered Bondholder's intention to effect such transfer. Individual Certificates issued in exchange for a beneficial interest in a Restricted Global Certificate shall bear the legend applicable to such Covered Bonds as set out in "Subscription and Sale and Transfer and Selling Restrictions."

Delivery of Covered Bonds

On or after any due date for exchange, the holder of a Global Covered Bond may surrender such Global Covered Bond or, in the case of a partial exchange, present it for endorsement to or to the order of the Issuing and Paying Agent. In exchange for any Global Covered Bond, or the part thereof to be exchanged, the Issuer will (i) in the case of a Temporary Global Covered Bond exchangeable for a Permanent Global Covered Bond, deliver, or procure the delivery of, a Permanent Global Covered Bond in an aggregate nominal amount equal to that of the whole or that part of a Temporary Global Covered Bond that is being exchanged or, in the case of a subsequent exchange, endorse, or procure the endorsement of, a Permanent Global Covered Bond to reflect such exchange or (ii) in the case of a Global Covered Bond exchangeable for Definitive Covered Bonds, deliver, or procure the delivery of, an equal aggregate nominal amount of duly executed and authenticated Definitive Covered Bonds.

Definitive Covered Bonds will be security printed in accordance with any applicable legal and stock exchange requirements in or substantially in the form set out in the Schedules to the Trust Deed. On exchange in full of each Permanent Global Covered Bond, the Issuer will, if the holder so requests, procure that it is cancelled and returned to the holder together with the relevant Definitive Covered Bonds.

Exchange Date

"Exchange Date" means, in relation to a Temporary Global Covered Bond, the day falling after the expiry of 40 days after its Issue Date and, in relation to a Permanent Global Covered Bond, a day falling not less than 60 days after that on which the notice requiring exchange is given and on which banks are open for business in the city in which the specified office of the Issuing and Paying Agent is located and in the city in which the relevant clearing system is located.

Amendment to Conditions

The Temporary Global Covered Bonds, Permanent Global Covered Bonds and Global Certificates contain provisions that apply to the Covered Bonds that they represent, some of which modify the effect of the terms and conditions of the Covered Bonds set out in this offering circular. The following is a summary of certain of those provisions:

Payments

No payment falling due after the Exchange Date will be made on any Global Covered Bond unless exchange for an interest in a Permanent Global Covered Bond or for Definitive Covered Bonds is improperly withheld or refused. Payments on any Temporary Global Covered Bond issued in compliance with U.S. Treas. Reg. §1.163-5(c)(2)(i)(D) (or any successor rules in substantially the same form that are applicable for purposes of Section 4701 of the Code) before the Exchange Date will only be made against presentation of certification as to non-U.S. beneficial ownership in the form set out in the Agency Agreement. All payments in respect of Covered Bonds represented by a Global Covered Bond will be made against presentation for endorsement and, if no further payment falls to be made in respect of the Covered Bonds, surrender of that Global Covered Bond to or to the order of the Issuing and Paying Agent or such other Paying Agent as shall have been notified to the Covered Bondholders for such purpose. A record of each payment so made will be endorsed on each Global Covered Bond, which endorsement will be *prima facie* evidence that such payment has been made in respect of the Covered Bonds. Conditions 6(f) and 6(g) will apply to the Definitive Covered Bonds only. For the purpose of any payments made in respect of a Global Covered Bond, the relevant place of presentation shall be disregarded in the definition of "business day" set out in Condition 6(h) (*Non-Business Days*).

All payments in respect of Covered Bonds represented by a Global Certificate will be made to, or to the order of, the person whose name is entered on the Register at the close of business on the record date which shall be on the Clearing System Business Day immediately prior to the date for payment, where "Clearing System Business Day" means Monday to Friday inclusive except December 25 and January 1.

Prescription

Claims against the Issuer in respect of Covered Bonds that are represented by a Permanent Global Covered Bond or by a Global Certificate will become void unless it is presented for payment within a period of 10 years (in the case of principal) and five years (in the case of interest) from the appropriate Relevant Date (as defined in Condition 7).

Meetings

The holder of the Covered Bonds represented by a Permanent Global Covered Bond or by a Global Certificate shall (unless such Permanent Global Covered Bond or Global Certificate represents only one Covered Bond) be treated as being two persons for the purposes of any quorum requirements of a meeting of Covered Bondholders and, at any such meeting, and the holder of a Permanent Global Covered Bond shall be treated as having one vote in respect of each integral currency unit of the Specified Currency of the Covered Bonds.

Cancellation

Cancellation of any Covered Bond represented by a Permanent Global Covered Bond or by a Global Certificate that is required by the Conditions to be cancelled (other than upon its redemption) will be effected by reduction in the nominal amount of the relevant Permanent Global Covered Bond or the relevant Global Certificate, as the case may be, or its presentation to or to the order of the Issuing and Paying Agent for endorsement in the relevant schedule of such Permanent Global Covered Bond or such Global Certificate, whereupon the principal amount thereof shall be reduced for all purposes by the amount so cancelled and endorsed.

Purchase

Covered Bonds represented by a Permanent Global Covered Bond or by a Global Certificate may only be purchased by the Issuer or any of its subsidiaries if they are purchased together with the rights to receive all future payments of interest thereon.

Issuer's Option

Any option of the Issuer provided for in the Conditions of any Covered Bonds while such Covered Bonds are represented by a Permanent Global Covered Bond or by a Global Certificate shall be exercised by the Issuer giving notice to the Covered Bondholders within the time limits set out in and containing the information required by the Conditions, except that the notice shall not be required to contain the serial numbers of Covered Bonds drawn in the case of a partial exercise of an option and accordingly no drawing of Covered Bonds shall be required.

Covered Bondholders' Options

Any option of the Covered Bondholders provided for in the Conditions of any Covered Bonds while such Covered Bonds are represented by a Permanent Global Covered Bond or by a Global Certificate may be exercised by such holder giving notice to the Issuing and Paying Agent within the time limits relating to the deposit of Covered Bonds with a Paying Agent set out in the Conditions substantially in the form of the notice available from any Paying Agent, except that the notice shall not be required to contain the serial numbers of the Covered Bonds in respect of which the option has been exercised, and stating the nominal amount of Covered Bonds in respect of which the option is exercised and at the same time presenting the Permanent Global Covered Bond to the Issuing and Paying Agent, or to a Paying Agent acting on behalf of the Issuing and Paying Agent, for notation.

Trustee's Powers

In considering the interests of Covered Bondholders while any Global Covered Bond is held on behalf of, or Registered Covered Bonds are registered in the name of any nominee for, a clearing system, the Trustee may have regard to any information provided to it by such clearing system or its operator as to the identity (either individually or by category) of its accountholders with entitlements to such Global Covered Bond or Registered Covered Bonds and may consider such interests as if such accountholders were the holders of the Covered Bonds represented by such Global Covered Bond or Global Certificate.

Notices

So long as any Covered Bonds are represented by a Global Covered Bond or a Global Certificate and such Global Covered Bond or Global Certificate is held on behalf of a clearing system, notices to the holders of Covered Bonds of that Series may be given by delivery of the relevant notice to that clearing system for communication by it to entitled accountholders in substitution for publication as required by the Conditions or by delivery of the relevant notice to the holder of the Global Covered Bond.

Electronic Consent and Written Resolution

While any Global Covered Bond is held on behalf of, or any Global Certificate is registered in the name of any nominee for, a clearing system, then:

(a) where the terms of the resolution proposed by the Issuer or the Trustee (as the case may be) have been notified to the Covered Bondholders through the relevant clearing system(s) as provided in subparagraphs (i) and/or (ii) below, each of the Issuer and the Trustee shall be entitled to rely upon approval of such resolution proposed by the Issuer or the Trustee (as the case may be) given by way of electronic consents communicated through the electronic communications systems of the relevant clearing system(s) to the Issuing and Paying Agent or another specified agent and/or the Trustee in accordance with their operating rules and procedures by or on behalf of the holders of not less than 75% in nominal amount of the Covered Bonds outstanding (or, in the case of a Substitution Resolution, at least the percentage in nominal amount of the Covered Bonds outstanding as is required by the Korean Covered Bond Laws (the "**Required Proportion**")) ("**Electronic Consent**") by close of business on the Electronic Consent Relevant Date. Any resolution passed in such manner shall be binding on all Covered Bondholders and Couponholders, even if the relevant consent or instruction proves to be defective. None of the Issuer or the Trustee shall be liable or responsible to anyone for such reliance:

i. When a proposal for a resolution to be passed as an Electronic Consent has been made, at least 10 days' notice (exclusive of the day on which the notice is given and of the day on which affirmative consents will be counted) shall be given to the Covered Bondholders through the relevant clearing system(s). The notice shall specify, in sufficient detail to enable Covered Bondholders to give their consents in relation to the proposed resolution, the method by which their consents may be given (including, where applicable, blocking of their accounts in the relevant clearing system(s)) and the time and date (the "**Electronic Consent Relevant Date**") by which they must be received in order for such consents to be validly given, in each case subject to and in accordance with the operating rules and procedures of the relevant clearing system(s).

ii. If, on the Electronic Consent Relevant Date on which the consents in respect of an Electronic Consent are first counted, such consents do not represent the Required Proportion, the resolution shall, if the party proposing such resolution (the "**Proposer**") so determines, be deemed to be defeated. Such determination shall be notified in writing to the Covered Bondholders and the other party or parties to the Trust Deed. Alternatively, the Proposer may give a further notice to Covered Bondholders that the resolution will be proposed again on such date and for such period as shall be agreed with the Trustee (unless the Trustee is the Proposer). Such notice must inform Covered Bondholders that insufficient consents were received in relation to the original resolution and the information specified in sub-paragraph (i) above. For the purpose of such further notice, references to "Electronic Consent Relevant Date" shall be construed accordingly.

For the avoidance of doubt, an Electronic Consent may only be used in relation to a resolution proposed by the Issuer or the Trustee which is not then the subject of a meeting that has been validly convened in accordance with the Trust Deed, unless that meeting is or shall be cancelled or dissolved; and where Electronic Consent is not being sought, for the purpose of determining whether a Written Resolution (as defined in the Trust Deed) has been validly passed, the Issuer and the Trustee shall be entitled to rely on consent or instructions given in writing directly to the Issuer and/or the Trustee, as the case may be, (a) by accountholders in the clearing system(s) with entitlements to such Global Covered Bond or Global Certificate and/or (b), where the accountholders hold any such entitlement on behalf of another person, on written consent from or written instruction by the person identified by that accountholder as the person for whom such entitlement is held. For the purposes or establishing the entitlement to give any such consent or instruction, the Issuer and the Trustee shall be entitled to rely on any certificate or other document issued by, in the case of (a) above, Euroclear, Clearstream, DTC or any other relevant Alternative Clearing System (the "**relevant clearing system**") and, in the case of (b) above, the relevant clearing and the accountholder identified by the relevant clearing system for the purposes of (b) above. Any resolution passed in such manner shall be binding on all Covered Bondholders and Couponholders, even if the relevant consent or instruction proves to be defective. Any such certificate or other document may comprise any form of statement or print out of electronic records provided by the relevant clearing system (including Euroclear's EUCLID or Clearstream's CreationOnline system) in accordance with its usual procedures and in which the accountholder of a particular principal or nominal amount of the Covered Bonds is clearly identified together with the amount of such holding. Neither the Issuer nor the Trustee shall be liable to any person by reason of having accepted as valid or not having rejected any certificate or other document to such effect purporting to be issued by any such person and subsequently found to be forged or not authentic.

General

For so long as any Covered Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that any Global Covered Bond or Global Certificate is exchanged for Definitive Covered Bonds, the Issuer shall appoint and maintain a paying agent in Singapore, where such Definitive Covered Bonds may be presented or surrendered for payment or redemption. In addition, in the event that a Global Covered Bond or Global Certificate is exchanged for Definitive Covered Bonds, an announcement of such exchange will be made by or on behalf of the Issuer through the SGX-ST, and such announcement will include all material information with respect to the delivery of the Definitive Covered Bonds, including details of the paying agent in Singapore.

Form of Pricing Supplement

Set out below is the form of Pricing Supplement which will be completed for each Tranche of Covered Bonds issued under the Programme.

[MIFID II PRODUCT GOVERNANCE – Solely for the purposes of [the/each] manufacturer's product approval process, the target market assessment in respect of the Covered Bonds has led to the conclusion that: (i) the target market for the Covered Bonds is eligible counterparties and professional clients only, each as defined in Directive 2014/65/EU (as amended, "MiFID II"); and (ii) all channels for distribution of the Covered Bonds to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Covered Bonds (a "distributor") should take into consideration the manufacturer['s/s'] target market assessment; however, a distributor subject to MiFID II is responsible for undertaking its own target market assessment in respect of the Covered Bonds (by either adopting or refining the manufacturer['s/s'] target market assessment) and determining the appropriate distribution channels.]

[UK MIFIR PRODUCT GOVERNANCE – Solely for the purposes of [the/each] manufacturer's product approval process, the target market assessment in respect of the Covered Bonds has led to the conclusion that: (i) the target market for the Covered Bonds is only eligible counterparties, as defined in the FCA Handbook Conduct of Business Sourcebook, and professional clients, as defined in Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018; and (ii) all channels for distribution of the Covered Bonds to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Covered Bonds (a "distributor") should take into consideration the manufacturer['s/s'] target market assessment; however, a distributor subject to the FCA Handbook Product Intervention and Product Governance Sourcebook (the "UK MiFIR Product Governance Rules") is responsible for undertaking its own target market assessment in respect of the Covered Bonds (by either adopting or refining the manufacturer['s/s'] target market assessment) and determining the appropriate distribution channels.]

[PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Covered Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the European Economic Area ("EEA"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (11) of Article 4(1) of Directive 2014/65/EU (as amended, "MiFID II"); (ii) a customer within the meaning of Directive (EU) 2016/97 (as amended, the "Insurance Distribution Directive"), where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or (iii) not a qualified investor as defined in Regulation (EU) 2017/1129 (as amended, the "Prospectus Regulation"). Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Covered Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Covered Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPS Regulation.][1]

[UK PRIIPs REGULATION – PROHIBITION OF SALES TO UK RETAIL INVESTORS – The Covered Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom ("UK"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No

[1] Legend to be included on front of the pricing supplement if the Covered Bonds potentially constitute "packaged" products or the issuer wishes to prohibit offers to EEA retail investors for any other reason, in which case the selling restriction should be specified to be "Applicable".

2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 ("EUWA"); (ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the Financial Services and Markets Act 2000 ("FSMA") to implement Directive (EU) 2016/97, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or [(iii) not a qualified investor as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of domestic law by virtue of the EUWA. Consequently no key information document required by Regulation (EU) No 1286/2014 as it forms part of domestic law by virtue of the EUWA (the "UK PRIIPs Regulation") for offering or selling the Covered Bonds or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Covered Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.]

[Notice to capital market intermediaries and prospective investors pursuant to paragraph 21 of the Hong Kong SFC Code of Conduct

Important Notice to Prospective Investors: Prospective investors should be aware that certain intermediaries in the context of this offering of the Covered Bonds, certain of the Joint Lead Managers (as defined below) and other intermediaries are "capital market intermediaries" (together, the "CMIs") subject to Paragraph 21 of the SFC Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission (the "SFC Code"). This notice to prospective investors is a summary of certain obligations the SFC Code imposes on such CMIs, which require the attention and cooperation of prospective investors. Certain CMIs may also be acting as "overall coordinators" ("OCs") for this offering and are subject to additional requirements under the SFC Code.

Prospective investors who are the directors, employees or major shareholders of Shinhan Financial Group Co., Ltd. (the "Issuer"), a CMI or any of its group companies will be considered under the SFC Code as having an association (an "Association") with the Issuer, the relevant CMI or the relevant group company. Prospective investors associated with the Issuer or a CMI (including any of its group companies) should specifically disclose whether they have any such Association to a CMI, a Joint Bookrunner or a Joint Lead Manager (and such CMI, Joint Bookrunner or Joint Lead Manager may be required to pass such information to the Issuer and certain other CMIs) when placing an order for the Covered Bonds and should disclose, at the same time, if such orders may negatively impact the price discovery process in relation to this offering. Prospective investors who do not disclose their Associations are hereby deemed not to be so associated. Where prospective investors disclose such Associations but do not disclose that such order may negatively impact the price discovery process in relation to this offering, such order is hereby deemed not to negatively impact the price discovery process in relation to this offering. Prospective investors should ensure, and by placing an order prospective investors are deemed to confirm, that orders placed are bona fide, are not inflated and do not constitute duplicated orders (i.e. two or more corresponding or identical orders placed via two or more CMIs). If a prospective investor is an asset management arm affiliated with a CMI, such prospective investor should indicate when placing an order if it is for a fund or portfolio where such CMI or its group company has more than 50% interest, in which case it will be classified as a "proprietary order" and subject to appropriate handling by CMIs in accordance with the SFC Code and should disclose, at the same time, if such "proprietary order" may negatively impact the price discovery process in relation to this offering. Prospective investors who do not indicate this information when placing an order are hereby deemed to confirm that their order is not such a "proprietary order". If a prospective investor is otherwise affiliated with a CMI, such that its order may be considered to be a "proprietary order" (pursuant to the SFC Code), such prospective investor should indicate to the relevant CMI and Joint Lead Managers when placing such order. Prospective investors who do not indicate this information when placing an order are hereby deemed to confirm that their order is not such a "proprietary order". Where prospective investors disclose such information but do not disclose that such "proprietary order" may negatively impact the price discovery process in relation to this offering, such "proprietary order" is hereby deemed not to negatively impact the price discovery process in relation to this offering.

Prospective investors should be aware that certain information may be disclosed by CMIs (including all private banks which act as CMIs in connection with this offering ("Private Banks")) which is personal and/or confidential in nature to the prospective investor. By placing an order, prospective investors are deemed to have understood and consented to the collection, disclosure, use and transfer of such information by the Joint Lead Managers and/or any other third parties as may be required by the SFC Code, including to the Issuer, any OCs, relevant regulators and/or any other third parties as may be required by the SFC Code, it being understood and agreed that such information shall only be used for the purpose of complying with the SFC Code, during the bookbuilding process for this offering. Failure to provide such information may result in that order being rejected.

Important Notice to CMIs (including Private Banks): This notice to CMIs (including Private Banks) is a summary of certain obligations the SFC Code imposes on CMIs, which require the attention and cooperation of other CMIs (including Private Banks). Certain CMIs may also be acting as OCs for this offering and are subject to additional requirements under the SFC Code. Prospective investors who are the directors, employees or major shareholders of the Issuer, a CMI or its group companies would be considered under the SFC Code as having an Association with the Issuer, the CMI or the relevant group company. CMIs should specifically disclose whether their investor clients have any Association when submitting orders for the Covered Bonds. In addition, Private Banks should take all reasonable steps to identify whether their investor clients may have any Associations with the Issuer or any CMI (including its group companies) and inform the Joint Lead Managers accordingly. CMIs are informed that the marketing and investor targeting strategy for this offering includes institutional investors, sovereign wealth funds, pension funds, hedge funds, family offices and high net worth individuals, in each case, subject to the selling restrictions and any MiFID II product governance language set out elsewhere in this offering circular. CMIs should ensure that orders placed are bona fide, are not inflated and do not constitute duplicated orders (i.e. two or more corresponding or identical orders placed via two or more CMIs). CMIs should enquire with their investor clients regarding any orders which appear unusual or irregular. CMIs should disclose the identities of all investors when submitting orders for the Covered Bonds (except for omnibus orders where underlying investor information may need to be provided to any OCs when submitting orders). Failure to provide underlying investor information for omnibus orders, where required to do so, may result in that order being rejected. CMIs should not place "X-orders" into the order book. CMIs should segregate and clearly identify their own proprietary orders (and those of their group companies, including Private Banks as the case may be) in the order book and book messages. CMIs (including Private Banks) should not offer any rebates to prospective investors or pass on any rebates provided by the Issuer. In addition, CMIs (including Private Banks) should not enter into arrangements which may result in prospective investors paying different prices for the Covered Bonds. The SFC Code requires that a CMI disclose complete and accurate information in a timely manner on the status of the order book and other relevant information it receives to targeted investors for them to make an informed decision. In order to do this, those Joint Lead Managers in control of the order book should consider disclosing order book updates to all CMIs. When placing an order for the Covered Bonds, Private Banks should disclose, at the same time, if such order is placed other than on a "principal" basis (whereby it is deploying its own balance sheet for onward selling to investors). Private Banks who do not provide such disclosure are hereby deemed to be placing their order on such a "principal" basis. Otherwise, such order may be considered to be an omnibus order pursuant to the SFC Code. Private Banks should be aware that placing an order on a "principal" basis may require the relevant affiliated Joint Lead Manager(s) (if any) to categorise it as a proprietary order and to apply the "proprietary orders" requirements of the SFC Code to such order.

In relation to omnibus orders, when submitting such orders, CMIs (including Private Banks) that are subject to the SFC Code should disclose underlying investor information in respect of each order constituting the relevant omnibus order (failure to provide such information may result in that order being rejected). Underlying investor information in relation to omnibus orders should consist of:

- The name of each underlying investor;
- A unique identification number for each investor;
- Whether an underlying investor has any "Associations" (as used in the SFC Code);
- Whether any underlying investor order is a "Proprietary Order" (as used in the SFC Code);
- Whether any underlying investor order is a duplicate order.

Underlying investor information in relation to omnibus order should be sent to the Joint Lead Managers named in the relevant Pricing Supplement.

To the extent information being disclosed by CMIs and investors is personal and/or confidential in nature, CMIs (including Private Banks) agree and warrant: (A) to take appropriate steps to safeguard the transmission of such information to the OCs; and (B) that they have obtained the necessary consents from the underlying investors to disclose such information to any OCs. By submitting an order and providing such information to any OCs, each CMI (including Private Banks) further warrants that they and the underlying investors have understood and consented to the collection, disclosure, use and transfer of such information by any OCs and/or any other third parties as may be required by the SFC Code, including to the Issuer, relevant regulators and/or any other third parties as may be required by the SFC Code, for the purpose of complying with the SFC Code, during the bookbuilding process for this offering. CMIs that receive such underlying investor information are reminded that such information should be used only for submitting orders in this offering. The Joint Lead Managers may be asked to demonstrate compliance with their obligations under the SFC Code, and may request other CMIs (including Private Banks) to provide evidence showing compliance with the obligations above (in particular, that the necessary consents have been obtained). In such event, other CMIs (including Private Banks) are required to provide the relevant Joint Lead Managers with such evidence within the timeline requested.]

[Notification under Section 309B(1)(c) of the Securities and Futures Act 2001 of Singapore (the "SFA") — the Issuer has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Covered Bonds are [prescribed capital markets products [OR] capital markets products other than prescribed capital markets products] (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and [Excluded Investment Products [OR] Specified Investment Products] (as defined in MAS Notice SFA 04-N12: Notice on the Sale of Investment Products and MAS Notice FAA-N16: Notice on Recommendations on Investment Products).][2]

[Date]

[2] To be inserted if the Covered Bonds will be offered to investors in Singapore; for any Covered Bonds to be offered to Singapore investors, the Issuer shall determine the classification of the Covered Bonds pursuant to Section 309B of the SFA prior to the launch of the offer.

SHINHAN BANK

Issue of [Aggregate Nominal Amount of Tranche] [Title of Covered Bonds] under the US$5,000,000,000 Global Covered Bond Programme

Part A — Contractual Terms

Terms used herein shall be deemed to be defined as such for the purposes of the Conditions set forth in the Offering Circular dated October 20, 2023 [and the supplement[s] to the Offering Circular dated [date] which [together] constitute[s] the Offering Circular. This document constitutes the Pricing Supplement relating to the issue of the Covered Bonds described herein and contains the final terms of the Covered Bonds and must be read in conjunction with the Offering Circular [as so supplemented].

The following language applies if the Covered Bonds rely on the exemption as set out in Article 2-2-2, Paragraph 2, Item 3 of the Securities Issuance and Disclosure Regulations promulgated by the Financial Services Commission of Korea.

The Covered Bonds have not been and will not be registered with the Financial Services Commission of Korea under the Financial Investment Services and Capital Markets Act of Korea. Accordingly, the Covered Bonds may not be offered, delivered, or sold, directly or indirectly, in the Republic of Korea ("Korea") or to, or for the account or benefit of, any resident of Korea (as defined in the Foreign Exchange Transaction Act of Korea and the rules and regulations promulgated thereunder) or to others for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations. In addition, during the first year after the issuance of the Covered Bonds, the Covered Bonds may not be transferred to any resident of Korea other than a "qualified institutional buyer" (a "Korean QIB" as defined under the Securities Issuance and Disclosure Regulations) who is registered with the Korea Financial Investment Association as a Korean QIB, provided that the amount of the Covered Bonds acquired by the Korean QIBs in the primary market is limited to not more than 20% of the aggregate principal amount of the Covered Bonds.

The following language applies if the Covered Bonds rely on the exemption as set out in Article 2-2-2, Paragraph 2 (other than Item 3) of the Securities Issuance and Disclosure Regulations promulgated by the Financial Services Commission of Korea.

The Covered Bonds have not been and will not be registered with the Financial Services Commission of Korea under the Financial Investment Services and Capital Markets Act of Korea. Accordingly, the Covered Bonds may not be offered, delivered, or sold, directly or indirectly, in the Republic of Korea ("Korea") or to, or for the account or benefit of, any resident of Korea (as defined in the Foreign Exchange Transaction Act of Korea and the rules and regulations promulgated thereunder) or to others for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations. In addition, during the first year after the issuance of the Covered Bonds, the Covered Bonds may not be transferred to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations.

[*Include whichever of the following apply or specify as "Not Applicable" (N/A). Note that the numbering should remain as set out below, even if "Not Applicable" is indicated for individual paragraphs or sub-paragraphs. Italics denote directions for completing the Pricing Supplement.*]

1	(i) Series Number:	[●]
	(ii) Tranche Number:	[●] (*If fungible with an existing Series, series number, tranche number, issue date and the date on which the Covered Bonds become fungible to be specified*)
2	Specified Currency or Currencies:	[●]
3	Aggregate Nominal Amount:	[●]
	(i) Series:	[●]
	(ii) Tranche:	[●]
4	(i) Issue Price:	[●]% of the Aggregate Nominal Amount [plus accrued interest from [*insert date*] (*if applicable*)]
	(ii) Use of Proceeds:	[●]
5	(i) Specified Denominations:	[●] (*No Covered Bonds may be issued which have a minimum denomination of less than US$200,000 (but so that in no event will the minimum denomination be lower than €100,000 or its equivalent at the date of issue of the relevant Covered Bonds) and integral multiples of US$1,000*)
	(ii) Calculation Amount:	[●]
6	(i) Issue Date:	[●]
	(ii) Interest Commencement Date (if different from the Issue Date):	[●]
	(a) Period to Maturity Date:	[●]
	(b) Period from Maturity Date up to Extended Maturity Date:	[Not Applicable] [*specify period*]
7	(i) Maturity Date:	[*Fixed rate—specify date/Floating Rate* — Interest Payment Date falling in or nearest to [*specify month and year*]]
	(ii) Extended Maturity Date:	[Applicable/Not Applicable] [The Extended Maturity Date is [*insert date*]][3] (*If an Extended Maturity Date is specified hereon as applicable and if the Issuer fails to redeem all of the relevant Series of Covered Bonds in full on the Maturity Date or within 10 days thereafter, the maturity of the Covered Bonds and the date on which such Covered Bonds will be due and payable for the purposes of the Conditions will be automatically extended up to but no later than the Extended Maturity Date, subject as otherwise provided hereon. See Conditions 4(i) and 5(b).*)
8	Interest Basis:	
	(i) Period to (and including) Maturity Date:	[[●]% Fixed Rate] [[EURIBOR/SOFR Benchmark] +/- [●]% Floating Rate] (further particulars specified below)

[3] If applicable, the date should be that falling one year after the Maturity Date. If not applicable, insert "Not Applicable."

	(ii) Period from (but excluding) Maturity Date up to (and including) Extended Maturity Date:	[[EURIBOR/SOFR Benchmark] +/- [●]% Floating Rate] (further particulars specified below)
9	Redemption/Payment Basis:	Redemption at par
10	Change of Interest Basis:	[*Specify the date when any fixed to floating rate change occurs or refer to paragraphs 14 and 15 below if details are included there*]
11	Put/Call Options:	[Put Option] [Call Option] (further particulars specified below)
12	Method of distribution:	[Syndicated/Non-syndicated]
13	Prohibition of Sales to EEA Retail Investors:	[Applicable/Not Applicable] [*If the Covered Bonds clearly do not constitute "packaged" products, "Not Applicable" should be specified. If the Covered Bonds may constitute "packaged" products and no KID will be prepared, "Applicable" should be specified*]
14	Prohibition of Sales to UK Retail Investors:	[Applicable/Not Applicable] [*If the Covered Bonds clearly do not constitute "packaged" products, "Not Applicable" should be specified. If the Covered Bonds may constitute "packaged" products and no KID will be prepared, "Applicable" should be specified*]

Provisions Relating to Interest (if any) Payable

15	Fixed Rate Covered Bond Provisions	
	To Maturity Date:	[Applicable/Not Applicable] (*If the above is not applicable, delete the remaining sub-paragraphs of this paragraph*)
	(i) Rate(s) of Interest:	[●]% per annum [payable [annually/ semi-annually/ quarterly] in arrear]
	(ii) Interest Payment Date(s):	[●] in each year up to and including the Maturity Date/[*specify other*] (N.B. This will need to be amended in the case of long or short coupons)
	(iii) Fixed Coupon Amount(s):	[●] per Calculation Amount
	(iv) Broken Amount(s):	[●] per Calculation Amount, payable on the Interest Payment Date falling [in/on] [●]
	(v) Day Count Fraction (subject to paragraph 23):	[Actual/Actual (ICMA) or 30/360 or [specify other]]

(vi)	Determination Date(s):	[●] in each year [*Insert regular interest payment dates, ignoring issue date or maturity date in the case of a long or short first or last coupon* *N.B. This will need to be amended in the case of regular interest payment dates which are not of equal duration* *N.B. Only relevant where Day Count Fraction is Actual/ Actual (ICMA)*]
(vii)	Other terms relating to the method of calculating interest for Fixed Rate Covered Bonds:	[None/*Give details*]

16 Floating Rate Covered Bond Provisions

(i)	To Maturity Date:	[Applicable/Not Applicable]
(ii)	From Maturity Date up to Extended Maturity Date:	[Applicable/Not Applicable] (*If (i) and (ii) above are not applicable, delete the remaining sub-paragraphs of this paragraph*)
(iii)	Interest Period(s)/Specified Interest Payment Dates:	
(a)	To Maturity Date:	[Not Applicable] [●] [in each case subject to adjustment in accordance with the Business Day Convention]
(b)	From Maturity Date up to Extended Maturity Date:	[Not Applicable] [●] [in each case subject to adjustment in accordance with the Business Day Convention]
(iv)	Business Day Convention:	
(a)	To Maturity Date:	[Not Applicable] [Floating Rate Business Day Convention/ Following Business Day Convention/Modified Following Business Day Convention/Preceding Business Day Convention/[*specify other*]]
(a)	From Maturity Date up to Extended Maturity Date:	[Not Applicable] [Floating Rate Business Day Convention/ Following Business Day Convention/Modified Following Business Day Convention/Preceding Business Day Convention/[*specify other*]]
(v)	Additional Business Centre(s):	
(a)	To Maturity Date:	[Not Applicable] [●]
(b)	From Maturity Date up to Extended Maturity Date:	[Not Applicable] [●]
(vi)	Manner in which the Rate of Interest and Interest Amount is to be determined:	
(a)	To Maturity Date:	[Screen Rate Determination/ISDA Determination/[*specify other*]]
(b)	From Maturity Date up to Extended Maturity Date:	[Not Applicable] [Screen Rate Determination/ISDA Determination/[*specify other*]]

(vii)	Party responsible for calculating the Rate of Interest and Interest Amount (if not the Calculation Agent):	
(a)	To Maturity Date:	[Not Applicable] [●]
(b)	From Maturity Date up to Extended Maturity Date:	[Not Applicable] [●]
(viii)	Screen Rate Determination:	
(a)	To Maturity Date:	[Not Applicable] [●]
—	Reference Rate:	[●] month (*Either EURIBOR, SOFR Benchmark or other,—although additional information is required if other—including the fallback provisions in the Conditions*)
—	Interest Determination Date(s):	[●] (*Second day on which T2 is open prior to the start of each Interest Period if EURIBOR*)
—	Relevant Screen Page:	[●] (*In the case of EURIBOR, if not Reuters Page EURIBOR01 (or any successor page), ensure it is a page which shows a composite rate or amend the fallback provisions appropriately*)
—	SOFR Benchmark:	[Not Applicable/Compounded Daily SOFR/SOFR Index] (Only applicable where the Reference Rate is SOFR)
—	Compounded Daily SOFR:	[Not Applicable/SOFR Lag/SOFR Observation Shift] (Only applicable in the case of Compounded Daily SOFR)
—	Lookback Days:	[Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Lag)
—	SOFR Observation Shift Days:	[Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Observation Shift or SOFR Index)
—	SOFR $\text{Index}_{\text{Start}}$:	[Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Index)
—	SOFR $\text{Index}_{\text{End}}$:	[Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Index)
(b)	From Maturity Date up to Extended Maturity Date:	[Not Applicable]
—	Reference Rate:	[●] month (*Either EURIBOR, SOFR Benchmark or other, — although additional information is required if other — including the fallback provisions in the Conditions*)
—	Interest Determination Date(s):	[●] (*Second day on which T2 is open prior to the start of each Interest Period if EURIBOR*)
—	Relevant Screen Page:	[●] (*In the case of EURIBOR, if not Reuters Page EURIBOR01 (or any successor page), ensure it is a page which shows a composite rate or amend the fallback provisions appropriately*)

— SOFR Benchmark: [Not Applicable/Compounded Daily SOFR/SOFR Index] (Only applicable where the Reference Rate is SOFR)

— Compounded Daily SOFR: [Not Applicable/SOFR Lag/SOFR Observation Shift] (Only applicable in the case of Compounded Daily SOFR)

— Lookback Days: [Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Lag)

— SOFR Observation Shift Days: [Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Observation Shift or SOFR Index)

— SOFR $Index_{Start}$: [Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Index)

— SOFR $Index_{End}$: [Not Applicable/[●] U.S. Government Securities Business Day(s)] (Only applicable in the case of SOFR Index)

(ix) ISDA Determination

(a) To Maturity Date: [Not Applicable]

— Floating Rate Option: [●]

— Designated Maturity: [●]

— Reset Date: [●]

(b) From Maturity Date up to Extended Maturity Date:

— Floating Rate Option: [●]

— Designated Maturity: [●]

— Reset Date: [●]

(x) Margin(s):

(a) To Maturity Date: [Not Applicable] [+/-][●]% per annum

(b) From Maturity Date up to Extended Maturity Date: [Not Applicable] [+/-][●]% per annum

(xi) Minimum Rate of Interest:

(a) To Maturity Date: [Not Applicable] [●]% per annum

(b) From Maturity Date up to Extended Maturity Date: [Not Applicable] [●]% per annum

(xii) Maximum Rate of Interest:

(a) To Maturity Date: [Not Applicable] [●]% per annum

(b) From Maturity Date up to Extended Maturity Date: [Not Applicable] [●]% per annum

(xiii) Day Count Fraction:

(a) To Maturity Date: [Not Applicable]

[Actual/365 (Fixed)

Actual/365 (Sterling)

		Actual/360
		30/360
		30E/360
		Other]
	(b) From Maturity Date up to Extended Maturity Date:	[Not Applicable]
		[Actual/365 (Fixed)
		Actual/365 (Sterling)
		Actual/360
		30/360
		30E/360
		Other]
		(*See Condition 4(h) for alternatives*)
	(xiv) Fallback provisions, rounding provisions and any other terms relating to the method of calculating interest on Floating Rate Covered Bonds, if different from those set out in the Conditions:	
	(a) To Maturity Date:	[Not Applicable] [●]
	(b) From Maturity Date up to Extended Maturity Date:	[Not Applicable] [●]
	(xv) Benchmark Replacement (SOFR)	[Applicable/Not Applicable]

Provisions Relating to Redemption

17	Call Option	[Applicable/Not Applicable] (*If not applicable, delete the remaining sub-paragraphs of this paragraph*)
	(i) Optional Redemption Date(s):	[●]
	(ii) Optional Redemption Amount(s) and method, if any, of calculation of such amount(s):	[●] per Calculation Amount
	(iii) If redeemable in part:	
	(iv) Minimum Redemption Amount:	[●] per Calculation Amount
	(v) Maximum Redemption Amount:	[●] per Calculation Amount

	(vi) Notice period (if other than as set out in the Conditions):	[●] (*N.B. If setting notice periods which are different from those provided in the Conditions, the Issuer is advised to consider the practicalities of distribution of information through intermediaries, for example, clearing systems and custodians, as well as any other notice requirements which may apply, for example, as between the Issuer and the Issuing and Paying Agent or the Covered Bondholders*)
18	Put Option:	[Applicable/Not Applicable] (*If not applicable, delete the remaining sub-paragraphs of this paragraph*)
	(i) Optional Redemption Date(s):	[●]
	(ii) Optional Redemption Amount(s) of each Covered Bond and method, if any, of calculation of such amount(s):	[●] per Calculation Amount
	(iii) Notice period (if other than as set out in the Conditions):	[●] (*N.B. If setting notice periods which are different from those provided in the Conditions, the Issuer is advised to consider the practicalities of distribution of information through intermediaries, for example, clearing systems and custodians, as well as any other notice requirements which may apply, for example, as between the Issuer and the Trustee or the Covered Bondholders*)
19	Final Redemption Amount of each Covered Bond:	[●] per Calculation Amount

General Provisions Applicable to the Covered Bonds

20	Form of Covered Bonds:	
	Form:	[Bearer Covered Bonds: Temporary Global Covered Bond exchangeable for a Permanent Global Covered Bond which is exchangeable for Definitive Bearer Covered Bonds in the limited circumstances specified in the Permanent Global Covered Bond] [Permanent Global Covered Bond exchangeable for Definitive Covered Bonds in the limited circumstances specified in the Permanent Global Covered Bond] [Registered Covered Bonds: [Unrestricted Global Certificate registered in the name of a nominee for [DTC/a Common Depositary for Euroclear and Clearstream, Luxembourg] [Restricted Global Certificate registered in the name of a nominee for [DTC/a Common Depositary for Euroclear and Clearstream, Luxembourg]]
21	Additional Financial Centre(s) or other special provisions relating to Payment Dates:	[Not Applicable/*give details*] (*Note that this item relates to the place of payment, and not Interest Period end dates to which item 14(iii) relates*)

22	Talons for future Coupons to be attached to Definitive Covered Bonds (and dates on which such Talons mature):	[Yes/No. *If yes, give details*]
23	U.S. Selling Restrictions:	[Reg. S Compliance Category [1/2]/Rule 144A/ TEFRA D/ TEFRA C/TEFRA not applicable]
24	Additional U.S. federal income tax considerations:	[Not Applicable/*give details*]
25	Calculation Agent:	[●]

[Provisions Relating to Hong Kong SFC Code of Conduct

26	Rebates:	[●]
27	Contact email addresses of the Overall Coordinators where underlying investor information in relation to omnibus orders should be sent:	[●]
28	Marketing and Investor Targeting Strategy:	[●]].

[LISTING APPLICATION

This Pricing Supplement comprises the final terms required to list the issue of Covered Bonds described herein pursuant to the US$5,000,000,000 Global Covered Bond Programme of Shinhan Bank.

The Singapore Exchange Securities Trading Limited (the "SGX-ST") assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained in this Pricing Supplement. Approval in-principle from, admission to the Official List of, and listing and quotation of the Covered Bonds on, the SGX-ST are not to be taken as an indication of the merits of the Issuer, the Programme or the Covered Bonds.]

[Application will be made for the Covered Bonds to be recognized under the SGX Sustainable Fixed Income initiative on SGX-ST. There is no guarantee that such application for recognition under the SGX Sustainable Fixed Income initiative will be approved. Recognition under the SGX Sustainable Fixed Income initiative does not guarantee that the Covered Bonds will satisfy any investor's expectations or requirements on its sustainability-related performance or impact. If approved, SGX-ST may remove the recognition from the Covered Bonds at its discretion. The latest list of fixed income securities that have been granted recognition under the SGX Sustainable Fixed Income initiative is available at the SGX website.][4]

Responsibility

[[●] has been extracted from [●]. The Issuer confirms that such information has been accurately reproduced and that, so far as it is aware and is able to ascertain from information published by [●], no facts have been omitted which would render the reproduced information inaccurate or misleading.]

Signed on behalf of the Issuer:

By: [●]

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[4] For SGX-ST listing –To include this paragraph if the Covered Bonds are green/social/sustainability Covered Bonds and the Issuer intends to apply for recognition under SGX's Sustainable Fixed Income initiative.

Duly authorized

Part B—Other Information

1	Listing and Admission to Trading:	
	(a) Listing and Admission to trading:	[[Application will be made to / Application has been made to / Approval in-principle has been received from] the SGX-ST for the listing and quotation of the Covered Bonds on the SGX-ST.][5] [Not applicable]
	(b) Estimate of total expenses related to admission to trading:	[●]
2	Ratings	
	Ratings:	[The Covered Bonds to be issued [have been]/[are expected to be] assigned the following rating: [Moody's: [●]] [Fitch]: [●]] The Covered Bonds to be issued have not been assigned any rating]
3	Interests of Natural and Legal Persons involved in the Issue	

[Save for any fees payable to the [Arranger/Dealers], so far as the Issuer is aware, no person involved in the issue of the Covered Bonds has an interest material to the offer.] [The [Arranger/ Dealers] and their affiliates have engaged, and may in the future engage, in investment banking and/or commercial banking transactions with, and may perform other services for, the Issuer and its affiliates in the ordinary course of business.] (*Need to include a description of any interest, including conflicting ones, that is material to the issue/offer, detailing the persons involved and the nature of the interest.*)

4	Yield to Maturity Date (Fixed Rate Covered Bonds only)	
	Indication of yield:	[●] [Not applicable]
5	Operational Information	
	(a) ISIN Code:	[●] [The temporary ISIN code is [●]. After the Exchange Date, the ISIN code will be [●]]
	(b) Common Code:	[●] [The temporary Common Code is [●]. After the Exchange Date, the Common Code will be [●].]
	(c) LEI:	549300XXMOJSIW8P4769
	(d) Any clearing system(s) other than Euroclear and Clearstream, Luxembourg and the relevant identification number(s):	[Not Applicable/[●] [*address*]] [(Name and Address)]

5 For SGX-ST listing: For drawdowns based on the October 20, 2023 offering circular, please note that if the issuer's audited financials for FY2023 has since become available, this should be appended in full to the pricing supplement.

(e) Delivery:	Delivery [against/free of] payment
(f) Names and addresses of additional Paying Agent(s) (if any):	[●]

TERMS AND CONDITIONS OF THE COVERED BONDS

The following is the text of the terms and conditions that, subject to completion and amendment and as supplemented or varied in accordance with the provisions of Part A of the relevant Pricing Supplement, shall be applicable to the Covered Bonds in definitive form (if any) issued in exchange for the Global Covered Bond(s) or the Global Certificate(s) representing each Series. Either (i) the full text of these terms and conditions together with the relevant provisions of Part A of the Pricing Supplement or (ii) these terms and conditions as so completed, amended, supplemented or varied (and subject to simplification by the deletion of non-applicable provisions), shall be endorsed on such Bearer Covered Bonds or on the Certificates relating to such Registered Covered Bonds. All capitalised terms that are not defined in these Conditions will have the meanings given to them in Part A of the relevant Pricing Supplement or the Master Definitions Agreement, as the case may be. Those definitions will be endorsed on the definitive Covered Bonds or Certificates, as the case may be. References in these Conditions to "Covered Bonds" are to the Covered Bonds of one Series only, not to all Covered Bonds that may be issued under the Programme, unless otherwise provided.

The Covered Bonds are constituted by a Trust Deed (as amended or supplemented as at the date of issue of the Covered Bonds (the "**Issue Date**") and from time to time thereafter, the "**Trust Deed**") dated October 20, 2023 between the Issuer and Citicorp International Limited (the "**Trustee**", which expression shall include all persons for the time being the trustee or trustees under the Trust Deed) as trustee for the Covered Bondholders (as defined below). These terms and conditions (the "**Conditions**") include summaries of, and are subject to, the detailed provisions of the Trust Deed, which includes the form of the Bearer Covered Bonds, Certificates, Coupons and Talons referred to below. An Agency Agreement (as amended or supplemented as at the Issue Date and from time to time thereafter, the "**Agency Agreement**") dated October 20, 2023 has been entered into in relation to the Covered Bonds between the Issuer, the Trustee, Citibank, N.A., London Branch as issuing and paying agent and the other agents named in it. The issuing and paying agent, the other paying agents, the registrars, the transfer agents and the calculation agent(s) for the time being (if any) are referred to below respectively as the "**Issuing and Paying Agent**", the "**Paying Agents**" (which expression shall include the Issuing and Paying Agent), the "**Registrars**", the "**Transfer Agents**" and the "**Calculation Agent(s).**" Copies of the Trust Deed, the Agency Agreement and each of the other Transaction Documents are available for inspection at all reasonable times during usual business hours (being between 9.00 a.m. (Hong Kong time) and 3.00 p.m. (Hong Kong time)) at the principal office of the Trustee (being at the Issue Date at 20/F, Citi Tower, One Bay East, 83 Hoi Bun Road, Kwun Tong, Kowloon, Hong Kong) and at the specified offices of the Paying Agents. The Covered Bondholders and the holders of the interest coupons (the "**Coupons**") relating to interest bearing Covered Bonds in bearer form and, where applicable in the case of such Covered Bonds, talons for further Coupons (the "**Talons**") (the "**Couponholders**") are entitled to the benefit of, are bound by, and are deemed to have notice of, all the provisions of the Trust Deed and are deemed to have notice of those provisions of the Agency Agreement, the Master Definitions Agreement and each of the other Transaction Documents which are applicable to them.

Except where the context otherwise requires, capitalised terms used and not otherwise defined in these Conditions (including the preceding paragraphs) shall bear the meanings given to them in the master definitions schedule made between, *inter alios*, the Issuer, the Trustee, the Issuing and Paying Agent and the Registrars (as amended and/or supplemented and/or restated from time to time, the "**Master Definitions Agreement**").

The Trust Deed contains provisions for determining the U.S. dollar equivalent of the nominal amount of any Covered Bonds denominated in a currency other than U.S. dollars, where any matter has to be determined by reference to either (i) an Extraordinary Resolution of the holders of the Covered Bonds of all outstanding Series as if they were a single Series or (ii) the holders of a specified percentage in nominal amount of the Covered Bonds of all outstanding Series as if they were a single Series.

1. Form, Denomination and Title

The Covered Bonds are issued in bearer form ("**Bearer Covered Bonds**") or in registered form ("**Registered Covered Bonds**"), in each case in the specified denomination(s) shown in the relevant Pricing Supplement (the "**Specified Denomination**"). References in these Conditions to "**Covered Bonds**" are to Bearer Covered Bonds and Registered Covered Bonds collectively, or to the Bearer Covered Bonds or, as the case may be, the Registered Covered Bonds, as applicable.

This Covered Bond is a Fixed Rate Covered Bond or a Floating Rate Covered Bond or any other kind of Covered Bond, depending upon the Interest and Redemption/Payment Basis shown in the relevant Pricing Supplement.

Bearer Covered Bonds are serially numbered and are issued with Coupons (and, where appropriate, a Talon) attached.

Registered Covered Bonds are represented by registered certificates ("**Certificates**") and, save as provided in Condition 2(c), each Certificate shall represent the entire holding of Registered Covered Bonds by the same holder.

Title to the Bearer Covered Bonds and the Coupons and Talons shall pass by delivery. Title to the Registered Covered Bonds shall pass by registration in the register that the Issuer shall procure to be kept by the relevant Registrar in accordance with the provisions of the Agency Agreement (the "**Register**"). Except as ordered by a court of competent jurisdiction or as required by law, the holder (as defined below) of any Covered Bond, Coupon or Talon shall be deemed to be and may be treated as its absolute owner for all purposes whether or not it is overdue and regardless of any notice of ownership, trust or an interest in it, any writing on it (or on the Certificate representing it) or its theft or loss (or that of the related Certificate) and no person shall be liable for so treating the holder.

In these Conditions, "**Covered Bondholder**" means the bearer of any Bearer Covered Bond or the person in whose name a Registered Covered Bond is registered (as the case may be), "**holder**" (in relation to a Covered Bond, Coupon or Talon) means the bearer of any Bearer Covered Bond, Coupon or Talon or the person in whose name a Registered Covered Bond is registered (as the case may be) and capitalised terms have the meanings given to them hereon, the absence of any such meaning indicating that such term is not applicable to the Covered Bonds.

2. No Exchange of Covered Bonds and Transfers of Registered Covered Bonds

(a) **No Exchange of Covered Bonds:** Registered Covered Bonds may not be exchanged for Bearer Covered Bonds. Bearer Covered Bonds of one Specified Denomination may not be exchanged for Bearer Covered Bonds of another Specified Denomination. Bearer Covered Bonds may not be exchanged for Registered Covered Bonds.

(b) **Transfer of Registered Covered Bonds:** Subject to Condition 2(f), one or more Registered Covered Bonds may be transferred upon the surrender (at the specified office of the relevant Registrar or any Transfer Agent) of the Certificate representing such Registered Covered Bonds to be transferred, together with the form of transfer endorsed on such Certificate, (or another form of transfer substantially in the same form and containing the same representations and certifications (if any), unless otherwise agreed by the Issuer), duly completed and executed and any other evidence as the relevant Registrar or such Transfer Agent may require. In the case of a transfer of part only of a holding of Registered Covered Bonds represented by one Certificate, a new Certificate shall be issued to the transferee in respect of the part transferred and a further new Certificate in respect of the balance of the holding not transferred shall be issued to the transferor. All transfers of Covered Bonds and entries on the Register will be made subject to the detailed regulations concerning transfers of Covered Bonds scheduled to the Agency Agreement. The regulations may be changed by the Issuer, with the prior written approval of the relevant Registrar and the Trustee or, by the relevant Registrar, with the prior written approval of the Trustee. A copy of the current regulations will be made available by the relevant Registrar (at the cost of the Issuer) to any Covered Bondholder following written request and proof of holding and identity to the satisfaction of such relevant Registrar.

(c) **Exercise of Options or Partial Redemption in Respect of Registered Covered Bonds:** In the case of an exercise of an Issuer's or the Covered Bondholders' option in respect of, or a partial redemption of, a holding of Registered Covered Bonds represented by a single Certificate, a new Certificate shall be issued to the holder to reflect the exercise of such option or in respect of the balance of the holding not redeemed. In the case of a partial exercise of an option resulting in Registered Covered Bonds of the same holding having different terms, separate Certificates shall be issued in respect of those Covered Bonds of that holding that have the same terms. New Certificates shall only be issued against surrender of the existing Certificates to the relevant Registrar or Transfer Agent. In the case of a transfer of Registered Covered Bonds to a person who is already a holder of Registered Covered Bonds, a new Certificate representing the enlarged holding shall only be issued against surrender of the Certificate representing the existing holding.

(d) **Delivery of New Certificates:** Each new Certificate to be issued pursuant to Condition 2(b) or Condition 2(c) shall be available for delivery within seven business days of receipt of the form of transfer or Exercise Notice (as defined in Condition 5(e)) and surrender of the Certificate for exchange. Delivery of the new Certificate(s) shall be made at the specified office of the relevant Registrar or of the relevant Transfer Agent (as the case may be) to whom delivery or surrender of such form of transfer, Exercise Notice or Certificate shall have been made or, at the option of the holder making such delivery or surrender as aforesaid and as specified in the relevant form of transfer, Exercise Notice or otherwise in writing, be mailed by uninsured post at the risk of the holder entitled to the new Certificate to such address as may be so specified, unless such holder requests otherwise and pays in advance to the relevant Registrar or the relevant Transfer Agent (as the case may be) the costs of such other method of delivery and/or such insurance as it may specify. In this Condition 2(d), "**business day**" means a day, other than a Saturday, Sunday or public holiday, on which banks are open for business in the place of the specified office of the relevant Registrar or the relevant Transfer Agent (as the case may be).

(e) **Transfers Free of Charge:** Transfers of Covered Bonds and Certificates on registration, transfer, exercise of an option or partial redemption shall be effected without charge by or on behalf of the Issuer, the relevant Registrar or the Transfer Agents, but upon payment by the relevant Covered Bondholder of any tax or other governmental charges that may be imposed in relation to it (or the giving of such indemnity and/or security and/or prefunding as the relevant Registrar or the relevant Transfer Agent may require).

(f) **Closed Periods:** No Covered Bondholder may require the transfer of a Registered Covered Bond to be registered (i) during the period of 15 days ending on the due date for redemption of that Covered Bond, (ii) during the period of 15 days prior to any date on which Covered Bonds may be called for redemption by the Issuer at its option pursuant to Condition 5(d), (iii) after any such Covered Bond has been called for redemption, or (iv) during the period of seven days ending on (and including) any Record Date.

3. Status

The Covered Bonds and the Coupons constitute direct, unconditional and unsubordinated obligations of the Issuer issued in accordance with the Act on Issuance of Covered Bonds and relevant executive decrees and regulations related thereto as the same may be supplemented, amended, modified or varied from time to time (the "**Korean Covered Bond Laws**") and shall at all times rank *pari passu* and without any preference among themselves and with all other obligations of the Issuer that have been provided the same priority as the Covered Bonds under the Cover Pool Priority of Payments. To the extent that claims in relation to the Covered Bonds, the Coupons and the Priority Payment Rights are not met out of the assets of the Issuer that are covered in accordance with the Korean Covered Bond Laws, the residual claims will at all times rank at least equally with all other unsecured and unsubordinated indebtedness and monetary obligations of the Issuer (other than those preferred by law), present and future. By subscribing for a Covered Bond, each Covered Bondholder agrees to be bound by the Cover Pool Priority of Payments.

4. Interest and other Calculations

(a) **Interest on Fixed Rate Covered Bonds:** Each Fixed Rate Covered Bond bears interest on its outstanding nominal amount from and including the Interest Commencement Date at the rate per annum (expressed as a percentage) equal to the Rate of Interest, such interest being payable in arrear on each Interest Payment Date. The amount of interest payable shall be determined in accordance with Condition 4(e).

(b) **Interest on Floating Rate Covered Bonds**:

(i) *Interest Payment Dates:* Each Floating Rate Covered Bond bears interest on its outstanding nominal amount from and including the Interest Commencement Date at the rate per annum (expressed as a percentage) equal to the Rate of Interest, such interest being payable in arrear on each Interest Payment Date. The amount of interest payable shall be determined in accordance with Condition 4(e). Such Interest Payment Date(s) is/are either shown in the relevant Pricing Supplement as Specified Interest Payment Dates or, if no Specified Interest Payment Date(s) is/are shown in the relevant Pricing Supplement, "**Interest Payment Date**" shall mean each date which falls the number of months or other period shown in the relevant Pricing Supplement as the Interest Period after the preceding Interest Payment Date or, in the case of the first Interest Payment Date, after the Interest Commencement Date.

(ii) *Business Day Convention:* If any date referred to in these Conditions that is specified to be subject to adjustment in accordance with a Business Day Convention would otherwise fall on a day that is not a Business Day, then, if the Business Day Convention specified is (A) the Floating Rate Business Day Convention, such date shall be postponed to the next day that is a Business Day unless it would thereby fall into the next calendar month, in which event (x) such date shall be brought forward to the immediately preceding Business Day and (y) each subsequent such date shall be the last Business Day of the month in which such date would have fallen had it not been subject to adjustment, (B) the Following Business Day Convention, such date shall be postponed to the next day that is a Business Day, (C) the Modified Following Business Day Convention, such date shall be postponed to the next day that is a Business Day unless it would thereby fall into the next calendar month, in which event such date shall be brought forward to the immediately preceding Business Day or (D) the Preceding Business Day Convention, such date shall be brought forward to the immediately preceding Business Day.

(iii) *Rate of Interest for Floating Rate Covered Bonds:* The Rate of Interest in respect of Floating Rate Covered Bonds for each Interest Accrual Period shall be determined in the manner specified in the relevant Pricing Supplement and the provisions below relating to either ISDA Determination or Screen Rate Determination shall apply, depending upon which is specified in the relevant Pricing Supplement.

(A) ISDA Determination for Floating Rate Covered Bonds:

Where ISDA Determination is specified in the relevant Pricing Supplement as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Accrual Period shall be determined by the Calculation Agent as a rate equal to the relevant ISDA Rate. For the purposes of this sub-paragraph (A), "**ISDA Rate**" for an Interest Accrual Period means a rate equal to the Floating Rate that would be determined by the Calculation Agent under a Swap Transaction under the terms of an agreement incorporating the ISDA Definitions and under which:

(x) the Floating Rate Option is as specified in the relevant Pricing Supplement;

(y) the Designated Maturity is a period specified in the relevant Pricing Supplement; and

(z) the relevant Reset Date is the first day of that Interest Accrual Period unless otherwise specified in the relevant Pricing Supplement.

For the purposes of this Condition 4(b)(iii), "**Floating Rate**", "**Calculation Agent**", "**Floating Rate Option**", "**Designated Maturity**", "**Reset Date**" and "**Swap Transaction**" have the meanings given to those terms in the ISDA Definitions.

(B) Screen Rate Determination for Floating Rate Covered Bonds:

(x) Where Screen Rate Determination is specified in the relevant Pricing Supplement as the manner in which the Rate of Interest is to be determined, the Rate of Interest for each Interest Accrual Period will, subject as provided below, be either:

(1) the offered quotation; or

(2) the arithmetic mean of the offered quotations,

(expressed as a percentage rate per annum) for the Reference Rate (as defined below) which appears or appear, as the case may be, on the Relevant Screen Page (or any other such page as may replace that page on the relevant service, or such other service as may be nominated by the provider of the relevant service, for the purpose of displaying comparable rates) (the "**Relevant Screen Page Rate**") as at 11.00 a.m. (Brussels time in the case of EURIBOR) on the Interest Determination Date (as defined below) in question as determined by the Calculation Agent. If five or more of such offered quotations are available on the Relevant Screen Page, the highest (or, if there is more than one such highest quotation, one only of such quotations) and the lowest (or, if there is more than one such lowest quotation, one only of such quotations) shall be disregarded by the Calculation Agent for the purpose of determining the arithmetic mean of such offered quotations.

If the Reference Rate from time to time in respect of Floating Rate Covered Bonds is specified in the relevant Pricing Supplement as being other than EURIBOR, the Rate of Interest in respect of such Covered Bonds will be determined as provided in the relevant Pricing Supplement.

(y) If the Relevant Screen Page is not available or if sub-paragraph (x)(1) above applies and no such offered quotation appears on the Relevant Screen Page or if sub-paragraph (x)(2) above applies and fewer than three such offered quotations appear on the Relevant Screen Page, in each case as at the time specified above, then subject as provided below, the Calculation Agent shall notify the Issuer and the Issuer shall request the principal Euro-zone office of each of the Reference Banks, to provide the Issuer with its offered quotation (expressed as a percentage rate per annum) for the Reference Rate at approximately 11.00 a.m. (Brussels time) on the Interest Determination Date in question, and such rate shall be notified to the Calculation Agent. If two or more of the Reference Banks provide the Issuer with such offered quotations, and the Issuer notifies the Calculation Agent of such offered quotations, the Rate of Interest for such Interest Accrual Period shall be the arithmetic mean of such offered quotations as determined by the Calculation Agent.

(z) If sub-paragraph (y) above applies and the Issuer determines that fewer than two Reference Banks are providing offered quotations to the Issuer, subject as provided below, the Rate of Interest shall be the arithmetic mean of the rates per annum (expressed as a percentage) as communicated to the Calculation Agent by the Issuer or any two or more of them, at which such banks were offered at approximately 11.00 a.m. (Brussels time) on the relevant Interest Determination Date, deposits in the Specified Currency (as defined below) for a period equal to that which would have been used for the Reference Rate by leading banks in the Euro-zone inter-bank market, as the case may be, or, if fewer than two of the Reference Banks provide the Issuer with such offered rates, the offered rate for deposits in the Specified Currency for a period equal to that which would have been used for the Reference Rate, or the arithmetic mean of the offered rates for deposits in the Specified Currency for a period equal to that which would have been used for the Reference Rate, at which at approximately 11.00 a.m. (Brussels time), on the relevant Interest Determination Date, any one or more banks (which bank or banks is or are in the opinion of the Issuer suitable for such purpose) informs the Issuer it is quoting to leading banks in the Euro-zone inter-bank market, as the case may be, provided that, if the Rate of Interest cannot be determined in accordance with the foregoing provisions of this paragraph, the Rate of Interest shall be determined as at the last preceding Interest Determination Date (though substituting, where a different Margin or Maximum Rate of Interest or Minimum Rate of Interest is to be applied to the relevant Interest Accrual Period from that which applied to the last preceding Interest Accrual Period, the Margin or Maximum Rate of Interest or Minimum Rate of Interest relating to the relevant Interest Accrual Period, in place of the Margin or Maximum Rate of Interest or Minimum Rate of Interest relating to that last preceding Interest Accrual Period).

(C) Linear Interpolation:

Where Linear Interpolation is specified in the relevant Pricing Supplement as applicable in respect of an Interest Accrual Period, the Rate of Interest for such Interest Accrual Period shall be calculated by the

Calculation Agent by straight line linear interpolation by reference to two rates based on the relevant Reference Rate (where Screen Rate Determination is specified in the relevant Pricing Supplement as applicable) or the relevant Floating Rate Option (where ISDA Determination is specified in the relevant Pricing Supplement as applicable), one of which shall be determined as if the Applicable Maturity were the period of time for which rates are available next shorter than the length of the relevant Interest Accrual Period and the other of which shall be determined as if the Applicable Maturity were the period of time for which rates are available next longer than the length of the relevant Interest Accrual Period provided however that if there is no rate available for the period of time next shorter or, as the case may be, next longer, then the Calculation Agent shall determine such rate at such time and by reference to such sources as it determines appropriate.

"**Applicable Maturity**" means: (a) in relation to Screen Rate Determination, the period of time designated in the Reference Rate, and (b) in relation to ISDA Determination, the Designated Maturity.

(D) Screen Rate Determination for Floating Rate Covered Bonds where the Reference Rate is specified as being SOFR Benchmark

Where Screen Rate Determination is specified in the applicable Pricing Supplement as the manner in which the Rate of Interest is to be determined where the Reference Rate is SOFR Benchmark, the Rate of Interest for each Interest Period will, subject as provided below, be equal to the relevant SOFR Benchmark plus or minus the Margin (if any), all as determined by the Calculation Agent on the relevant Interest Determination Date.

The "SOFR Benchmark" will be determined based on Compounded Daily SOFR or SOFR Index, as follows (subject in each case to Condition 4(g) as further specified hereon):

(1) If Compounded Daily SOFR ("**Compounded Daily SOFR**") is specified in the applicable Pricing Supplement as the manner in which the SOFR Benchmark will be determined, the SOFR Benchmark for each Interest Period shall be equal to the compounded average of daily SOFR reference rates for each day during the relevant Interest Period (where SOFR Lag is specified in the applicable Pricing Supplement to determine Compounded Daily SOFR) or the SOFR Observation Period (where SOFR Observation Shift is specified in the applicable Pricing Supplement to determine Compounded Daily SOFR).

Compounded Daily SOFR shall be calculated by the Calculation Agent in accordance with one of the formulas referenced below depending upon which is specified in the applicable Pricing Supplement:

(A) SOFR Lag:

$$\left(\prod_{i=1}^{d_o}\left(1+\frac{SOFR_{i-xUSBD} \times n_i}{360}\right)-1\right)\times\frac{360}{d}$$

with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005%. being rounded upwards (e.g., 9.876541%. (or 0.09876541) being rounded down to 9.87654%. (or 0.0987654) and 9.876545%. (or 0.09876545) being rounded up to 9.87655%. (or 0.0987655)) and where:

$SOFR_{i\text{-}xUSBD}$" for any U.S. Government Securities Business Day "i" in the relevant Interest Period, is equal to the SOFR reference rate for the U.S. Government Securities Business Day falling the number of Lookback Days prior to that U.S. Government Securities Business Day "i";

"**Lookback Days**" means such number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement;

"**d**" means the number of calendar days in the relevant Interest Period;

"**d_o**" for any Interest Period, means the number of U.S. Government Securities Business Days in the relevant Interest Period;

"**i**" means a series of whole numbers ascending from one to d_o, representing each relevant U.S. Government Securities Business Day from (and including) the first U.S. Government Securities Business Day in the relevant Interest Period (each a "**U.S. Government Securities Business Day "i"**"); and

"**n_i**" for any U.S. Government Securities Business Day "i" means the number of calendar days from (and including) such U.S. Government Securities Business Day "i" up to (but excluding) the following U.S. Government Securities Business Day.

(B) SOFR Observation Shift:

$$\left(\prod_{i=1}^{d_o}\left(1+\frac{SOFR_i \times n_i}{360}\right)-1\right)\times\frac{360}{d}$$

with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005%. being rounded upwards (e.g., 9.876541%. (or 0.09876541) being rounded down to 9.87654%. (or 0.0987654) and 9.876545%. (or 0.09876545) being rounded up to 9.87655%. (or 0.0987655)) and where:

"**$SOFR_i$**" for any U.S. Government Securities Business Day "i" in the relevant SOFR Observation Period, is equal to the SOFR reference rate for that U.S. Government Securities Business Day "i";

"**SOFR Observation Period**" means, in respect of an Interest Period, the period from (and including) the date falling the number of SOFR Observation Shift Days prior to the first day of such Interest Period to (but excluding) the date falling the number of SOFR Observation Shift Days prior to the Interest Payment Date for such Interest Period;

"**SOFR Observation Shift Days**" means the number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement;

“**d**” means the number of calendar days in the relevant SOFR Observation Period;

“$\mathbf{d_o}$” for any SOFR Observation Period, means the number of U.S. Government Securities Business Days in the relevant SOFR Observation Period;

“**i**” means a series of whole numbers ascending from one to do, representing each U.S. Government Securities Business Day from (and including) the first U.S. Government Securities Business Day in the relevant SOFR Observation Period (each a “**U.S. Government Securities Business Day “i””**); and

“$\mathbf{n_i}$” for any U.S. Government Securities Business Day “i” means the number of calendar days from (and including) such U.S. Government Securities Business Day “i” up to (but excluding) the following U.S. Government Securities Business Day.

The following defined terms shall have the meanings set out below for purpose of this 4(b)(iii)(D)(1):

“**Bloomberg Screen SOFRRATE Page**” means the Bloomberg screen designated “SOFRRATE” or any successor page or service;

“**Reuters Page USDSOFR=**” means the Reuters page designated “USDSOFR=” or any successor page or service;

“**SOFR**” means, in respect of a U.S. Government Securities Business Day, the reference rate determined by the Calculation Agent in accordance with the following provision:

(i) the Secured Overnight Financing Rate published at the SOFR Determination Time as such reference rate is reported on the Bloomberg Screen SOFRRATE Page; the Secured Overnight Financing Rate published at the SOFR Determination Time as such reference rate is reported on the Reuters Page USDSOFR=; or the Secured Overnight Financing Rate published at the SOFR Determination Time on the SOFR Administrator’s Website;

(ii) if the reference rate specified in (i) above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have not occurred, the SOFR reference rate shall be the reference rate published on the SOFR Administrator’s Website for the first preceding U.S. Government Securities Business Day for which SOFR was published on the SOFR Administrator’s Website; or

(iii) if the reference rate specified in (i) above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have occurred, the provisions set forth in Condition 4(g) shall apply as specified in the applicable Pricing Supplement;

“**SOFR Determination Time**” means approximately 3:00 p.m. (New York City time) on the immediately following U.S. Government Securities Business Day.

(2) If SOFR Index (“**SOFR Index**”) is specified in the applicable Pricing Supplement, the SOFR Benchmark for each Interest Period shall be equal to the compounded average of daily SOFR reference rates for each day during the relevant SOFR Observation Period as calculated by the Calculation Agent as follows:

$$\left(\frac{SOFR\ Index_{End}}{SOFR\ Index_{Start}} - 1\right) \times \left(\frac{360}{d_c}\right)$$

with the resulting percentage being rounded, if necessary, to the nearest one hundred-thousandth of a percentage point, with 0.000005%. being rounded upwards (e.g., 9.876541%. (or 0.09876541) being rounded down to 9.87654%. (or 0.0987654) and 9.876545%. (or 0.09876545) being rounded up to 9.87655%. (or 0.0987655)) and where:

"**SOFR Index**" means, in respect of a U.S. Government Securities Business Day, the SOFR Index value as published on the SOFR Administrator's Website at the SOFR Index Determination Time on such U.S. Government Securities Business Day, provided that:

(A) if the value specified above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have not occurred, the "SOFR Index" shall be calculated on any Interest Determination Date with respect to an Interest Period, in accordance with the Compounded Daily SOFR formula described above in Condition 4(b)(iii)(D)(1)(B) "SOFR Observation Shift", and the term "SOFR Observation Shift Days" shall mean five U.S. Government Securities Business Days; or

(B) if the value specified above does not appear and a SOFR Benchmark Transition Event and its related SOFR Benchmark Replacement Date have occurred, the provisions set forth in Condition 4(g) shall apply as specified in the applicable Pricing Supplement;

"**SOFR Index$_{End}$**" means, in respect of an Interest Period, the SOFR Index value on the date that is the number of U.S. Government Securities Business Days specified in the applicable Pricing Supplement prior to the Interest Payment Date for such Interest Period (or in the final Interest Period, the Maturity Date);

"**SOFR Index$_{Start}$**" means, in respect of an Interest Period, the SOFR Index value on the date that is the number of U.S. Government Securities Business Days specified hereon prior to the first day of such Interest Period;

"**SOFR Index Determination Time**" means, in respect of a U.S. Government Securities Business Day, approximately 3:00 p.m. (New York City time) on such U.S. Government Securities Business Day;

"**SOFR Observation Period**" means, in respect of an Interest Period, the period from (and including) the date falling the number of SOFR Observation Shift Days prior to the first day of such Interest Period to (but excluding) the date falling the number of SOFR Observation Shift Days prior to the Interest Payment Date for such Interest Period;

"**SOFR Observation Shift Days**" means the number of U.S. Government Securities Business Days as specified in the applicable Pricing Supplement; and

"**d_c**" means the number of calendar days in the applicable SOFR Observation Period.

The following defined terms shall have the meanings set out below for purpose of this Condition 4(b)(iii)(D):

"**Interest Determination Date**" means, with respect to a Rate of Interest and Interest Period, the date specified as such in the applicable Pricing Supplement or, if none is so specified, the second U.S. Government Securities Business Day prior to the last day of each Interest Period;

"**SOFR Administrator's Website**" means the website of the Federal Reserve Bank of New York (currently, being *https://www.newyorkfed.org/*markets*/reference-rates/sofr-averages-and-index*), or any successor source;

"**SOFR Benchmark Replacement Date**" means the Benchmark Replacement Date with respect to the then-current Benchmark;

"**SOFR Benchmark Transition Event**" means the occurrence of a Benchmark Event with respect to the then-current Benchmark; and

"**U.S. Government Securities Business Day**" means any day except for a Saturday, a Sunday or a day on which the Securities Industry and Financial Markets Association recommends that the fixed income departments of its members be closed for the entire day for purposes of trading in U.S. government securities

(3) If the Covered Bonds become due and payable in accordance with Condition 10, the final Interest Determination Date shall, notwithstanding any Interest Determination Date specified hereon, be deemed to be the date on which the Covered Bonds became due and payable and the Rate of Interest on the Covered Bonds shall, for so long as the Covered Bonds remain outstanding, be that determined on such date.

(c) **Accrual of Interest:** Interest shall cease to accrue on each Covered Bond on the due date for redemption unless, upon due presentation, payment is improperly withheld or refused, in which event interest shall continue to accrue (both before and after judgment) at the Rate of Interest in the manner provided in this Condition 4 to the Relevant Date (as defined in Condition 7).

(d) **Margin, Maximum/Minimum Rates of Interest, Redemption Amounts and Rounding:**

(i) If any Margin is specified in the relevant Pricing Supplement (either (A) generally, or (B) in relation to one or more Interest Accrual Periods), an adjustment shall be made to all Rates of Interest, in the case of (A), or the Rates of Interest for the specified Interest Accrual Periods, in the case of (B), calculated in accordance with Condition 4(b) above by adding (if a positive number) or subtracting (if a negative number) the absolute value of such Margin, subject always to Condition 4(d)(ii) below.

(ii) If any Maximum Rate of Interest or Minimum Rate of Interest or Redemption Amount is specified in the relevant Pricing Supplement, then any Rate of Interest or Redemption Amount shall be subject to such maximum or minimum, as the case may be. Regardless of whether or not a Minimum Rate of Interest or Maximum Rate of Interest is specified in the relevant Pricing Supplement, in no event shall the Rate of Interest (including any applicable Margin) be less than zero.

(iii) For the purposes of any calculations required pursuant to these Conditions (unless otherwise specified), (A) all percentages resulting from such calculations shall be rounded, if necessary, to the nearest one hundred-thousandth of a percentage point (with 0.000005 of a percentage point being rounded up), (B) all figures shall be rounded to seven significant figures (provided that if the eighth significant figure is a five or greater, the seventh significant figure shall be rounded up) and (C) all currency amounts that fall due and payable shall be rounded to the nearest unit of such currency (with half a unit being rounded up), save in the case of yen, which shall be rounded down to the nearest yen. For these purposes, "**unit**" means the lowest amount of such currency that is available as legal tender in the relevant country of such currency.

(e) **Calculations:** The amount of interest payable per calculation amount specified in the relevant Pricing Supplement (or, if no such amount is specified, the Specified Denomination) (the "**Calculation Amount**") in respect of any Covered Bond for any Interest Accrual Period shall be equal to the product of the Rate of Interest, the Calculation Amount specified in the relevant Pricing Supplement, and the Day Count Fraction for such Interest Accrual Period, unless an Interest Amount (or a formula for its calculation) is applicable to such Interest Accrual Period, in which case the amount of interest payable per Calculation Amount in respect of such Covered Bond for such Interest Accrual Period shall equal such Interest Amount (or be calculated in accordance with such formula). Where any Interest Period comprises two or more Interest Accrual Periods, the amount of interest payable per Calculation Amount in respect of such Interest Period shall be the sum of the Interest Amounts payable in respect of each of those Interest Accrual Periods. In respect of any other period for which interest is required to be calculated, the provisions above shall apply save that the Day Count Fraction shall be for the period for which interest is required to be calculated.

(f) **Determination and Publication of Rates of Interest, Interest Amounts, Final Redemption Amounts and Optional Redemption Amounts:** The Calculation Agent shall, as soon as practicable on each Interest Determination Date, or such other time on such date as the Calculation Agent may be required to calculate any rate or amount or make any determination or calculation, and provided, where applicable, that the Calculation Agent has been provided with any quotations or other information as contemplated in Condition 4(b), determine such rate and calculate the Interest Amounts for the relevant Interest Accrual Period, calculate the Final Redemption Amount or Optional Redemption Amount or make such determination or calculation, as the case may be, and cause the Rate of Interest and the Interest Amounts for each Interest Accrual Period and the relevant Interest Payment Date and, if required to be calculated, the Final Redemption Amount or Optional Redemption Amount to be notified to the Trustee, the Issuer, each of the Paying Agents, the Covered Bondholders, any other Calculation Agent appointed in respect of the Covered Bonds that is to make a further calculation upon receipt of such information as soon as possible after their determination but in no event later than (i) the commencement of the relevant Interest Period, if determined prior to such time, in the case of notification to such exchange of a Rate of Interest and Interest Amount, or (ii) in all other cases, the fourth Business Day after such determination. Where any Interest Payment Date or Interest Period Date is subject to adjustment pursuant to Condition 4(b)(ii), the Interest Amounts and the Interest Payment Date so published may subsequently be amended (or appropriate alternative arrangements made by way of adjustment) without notice in the event of an extension or shortening of the Interest Period. If the Covered Bonds become due and payable under Condition 10, the accrued interest and the Rate of Interest payable in respect of the Covered Bonds shall nevertheless continue to be calculated as previously in accordance with this Condition 4 but no publication of the Rate of Interest or the Interest Amount so calculated need be made unless the Trustee otherwise requires. The determination of any rate or amount and the making of each determination or calculation by the Calculation Agent(s) shall (in the absence of manifest error) be final and binding upon all parties.

(g) **Benchmark Replacement (SOFR):** The following provisions shall apply if Benchmark Replacement (SOFR) is specified in the applicable Pricing Supplement

(i) **Benchmark Replacement**

If the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee determines on or prior to the relevant Reference Time that a Benchmark Event and its related Benchmark Replacement Date have occurred with respect to the-then current Benchmark, the Benchmark Replacement will replace the then-current Benchmark for all purposes relating to the Covered Bonds in respect of all determinations on such date and for all determinations on all subsequent dates.

(ii) **SOFR Benchmark Replacement Conforming Changes**

In connection with the implementation of a Benchmark Replacement, the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee will have the right to make SOFR Benchmark Replacement Conforming Changes from time to time. For the avoidance of doubt, any of the Trustee or Agents shall, at the direction and expense of the Issuer, effect such consequential amendments to the Trust Deed, Agency Agreement and these Conditions as may be required to give effect to this Condition 4(g). Covered Bondholders' consent shall not be required in connection with effecting any such changes, including the execution of any documents or any steps to be taken by the Trustee or Agents (if required). Further, none of the Trustee, Calculation Agent, the Paying Agents, the Registrars or the Transfer Agents shall be responsible or liable for any determinations, decisions or elections made by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee with respect to any Benchmark Replacement or any other changes and shall be entitled to rely conclusively on any certifications provided to each of them in this regard.

(iii) **Decisions and Determinations**

Any determination, decision or election that may be made by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee pursuant to this Condition 4(g), including any determination with respect to a tenor, rate or adjustment or of the occurrence or non-occurrence of an event, circumstance or date and any decision to take or refrain from taking any action or any selection i) will be conclusive and binding absent manifest error, (ii) will be made in the sole discretion of the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee, as applicable, and (iii) notwithstanding anything to the contrary in the documentation relating to the Covered Bonds, shall become effective with respect to the applicable Covered Bonds without consent from any other party.

(vii) **Notices, etc.**

Any Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any SOFR Benchmark Replacement Conforming Changes determined under this Condition 4(g) will be notified promptly by the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor to the Trustee, the Agents and, in accordance with Condition 16, the Covered Bondholders. Such notice shall be irrevocable and shall specify the effective date of the SOFR Benchmark Replacement Conforming Changes, if any.

No later than notifying the Covered Bondholders of the same, the Issuer or the Asset Monitor (as the case may be) shall deliver to the Trustee, the Calculation Agent and the Paying Agents a certificate signed by one Authorised Signatory of the Issuer or the duly authorised signatories of the Asset Monitor (as the case may be):

(1) confirming (1) that a Benchmark Event has occurred and (2) the Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any SOFR Benchmark Replacement Conforming Changes, in each case as determined in accordance with the provisions of this Condition 4(g); and

(2) certifying that the SOFR Benchmark Replacement Conforming Changes are necessary to ensure the proper operation of the Benchmark Replacement.

The Trustee and the Agents shall be entitled to rely conclusively on such certificate (without liability to any person) as sufficient evidence thereof.

(v) **Survival of the Benchmark**

Without prejudice to the obligations of the Issuer or the Asset Monitor (as the case may be) under Condition 4(g)(i), 4(g)(ii), 4(g)(iii) and 4(g)(iv), the Benchmark and the fallback provisions provided for in the Agency Agreement will continue to apply unless and until the Trustee, the Calculation Agent and the Paying Agents have been notified of the Benchmark Replacement (including any Benchmark Replacement Adjustment) and the specific terms of any SOFR Benchmark Replacement Conforming Changes, in accordance with Condition 4(g)(iv).

(ix) **Certain Defined Terms**

As used in this Condition 4(g):

"**Benchmark**" means, initially, the relevant SOFR Benchmark specified in the applicable Pricing Supplement; provided that if the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee determines on or prior to the Reference Time that a Benchmark Event and its related Benchmark Replacement Date have occurred with respect to the relevant SOFR Benchmark (including any daily published component used in the calculation thereof) or the then-current Benchmark, then "**Benchmark**" means the applicable Benchmark Replacement;

"**Benchmark Event**" means the occurrence of one or more of the following events with respect to the then-current Benchmark (including any daily published component used in the calculation thereof):

(i) a public statement or publication of information by or on behalf of the administrator of the Benchmark (or such component) announcing that such administrator has ceased or will cease to provide the Benchmark (or such component), permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark (or such component); or

(ii) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark (or such component), the central bank for the currency of the Benchmark (or such component), an insolvency official with jurisdiction over the administrator for the Benchmark (or such component), a resolution authority with jurisdiction over the administrator for the Benchmark (or such component) or a court or an entity with similar insolvency or resolution authority over the administrator for the Benchmark, which states that the administrator of the Benchmark (or such component) has ceased or will cease to provide the Benchmark (or such component) permanently or indefinitely, provided that, at the time of such statement or publication, there is no successor administrator that will continue to provide the Benchmark (or such component); or

(iii) a public statement or publication of information by the regulatory supervisor for the administrator of the Benchmark announcing that the Benchmark is no longer representative;

"**Benchmark Replacement**" means the first alternative set forth in the order below that can be determined by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee as of the Benchmark Replacement Date:

(i) the sum of:

(1) the alternate reference rate that has been selected or recommended by the Relevant Governmental Body as the replacement for the then-current Benchmark (including any daily published component used in the calculation thereof); and

(2) the Benchmark Replacement Adjustment;

(ii) the sum of:

(1) the ISDA Fallback Rate; and

(2) the Benchmark Replacement Adjustment; or

(iii) the sum of:

(1) the alternate reference rate that has been selected by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee as the replacement for the then-current Benchmark (including any daily published component used in the calculation thereof) giving due consideration to any industry-accepted reference rate as a replacement for the then-current Benchmark (including any daily published component used in the calculation thereof) for U.S. dollar-denominated Floating Rate Covered Bonds at such time; and

(2) the Benchmark Replacement Adjustment;

"**Benchmark Replacement Adjustment**" means the first alternative set forth in the order below that can be determined by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee as of the Benchmark Replacement Date:

(i) the spread adjustment, or method for calculating or determining such spread adjustment, (which may be a positive or negative value or zero) that has been selected or recommended by the Relevant Governmental Body for the applicable Unadjusted Benchmark Replacement;

(ii) if the applicable Unadjusted Benchmark Replacement is equivalent to the ISDA Fallback Rate, the ISDA Fallback Adjustment; or

(iii) the spread adjustment (which may be a positive or negative value or zero) that has been selected by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee giving due consideration to any industry-accepted spread adjustment, or method for calculating or determining such spread adjustment, for the replacement of the then-current Benchmark (including any daily published component used in the calculation thereof) with the applicable Unadjusted Benchmark Replacement for U.S. dollar-denominated Floating Rate Covered Bonds at such time;

"**Benchmark Replacement Date**" means the earliest to occur of the following events with respect to the then-current Benchmark (including any daily published component used in the calculation thereof):

(i) in the case of sub-paragraph (i) or (ii) of the definition of "Benchmark Event", the later of:

(1) the date of the public statement or publication of information referenced therein; and

(2) the date on which the administrator of the Benchmark permanently or indefinitely ceases to provide the Benchmark (or such component); or

(ii) in the case of sub-paragraph (iii) of the definition of "Benchmark Event", the date of the public statement or publication of information referenced therein;

"**ISDA Definitions**" means the 2006 ISDA Definitions published by the International Swaps and Derivatives Association, Inc. or any successor thereto, as amended or supplemented from time to time, or any successor definitional booklet for interest rate derivatives published from time to time;

"**ISDA Fallback Adjustment**" means the spread adjustment, (which may be a positive or negative value or zero) that would apply for derivatives transactions referencing the ISDA Definitions to be determined upon the occurrence of an index cessation event with respect to the Benchmark for the applicable tenor;

"**ISDA Fallback Rate**" means the rate that would apply for derivatives transactions referencing the ISDA Definitions to be effective upon the occurrence of an index cessation date with respect to the Benchmark (including any daily published component used in the calculation thereof) for the applicable tenor excluding the applicable ISDA Fallback Adjustment;

"**Reference Time**" with respect to any determination of the Benchmark means (1) if the Benchmark is the SOFR Benchmark, the SOFR Determination Time (where Simple SOFR Average or Compounded Daily SOFR is specified as applicable hereon) or SOFR Index Determination Time (where SOFR Index is specified as applicable hereon), or (2) if the Benchmark is not the SOFR Benchmark, the time determined by the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee after giving effect to the SOFR Benchmark Replacement Conforming Changes;

"**Relevant Governmental Body**" means the Federal Reserve Board and/or the Federal Reserve Bank of New York, or a committee officially endorsed or convened by the Federal Reserve Board and/or the Federal Reserve Bank of New York or any successor thereto;

"**SOFR Benchmark Replacement Conforming Changes**" means, with respect to any Benchmark Replacement, any technical, administrative or operational changes (including changes to the timing and frequency of determining rates and making payments of interest, rounding of amounts or tenors, and other administrative matters) the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee decides may be appropriate to reflect the adoption of such Benchmark Replacement in a manner substantially consistent with market practice (or, if the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee decides that adoption of any portion of such market practice is not administratively feasible or if the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee determines that no market practice for use of the Benchmark Replacement exists, in such other manner as the Issuer or its designee or (following the service of an Issuer EOD Notice) the Asset Monitor or its designee determines is reasonably necessary); and

"**Unadjusted Benchmark Replacement**" means the Benchmark Replacement excluding the Benchmark Replacement Adjustment.

(h) **Definitions:** In these Conditions, unless the context otherwise requires, the following defined terms shall have the meanings set out below:

"**Business Centre**" means each of London, New York, Seoul and Hong Kong, unless the context otherwise requires or unless otherwise specified in the relevant Pricing Supplement;

"**Business Day**" means:

(i) in the case of a currency other than euro, a day (other than a Saturday or Sunday) on which commercial banks and foreign exchange markets settle payments in the principal financial centre for such currency; and/or

(ii) in the case of euro, any day on which T2 is open for the settlement of payments in euro (a "**TARGET Business Day**"); and/or

(iii) in the case of a currency and/or one or more Business Centres, a day (other than a Saturday or a Sunday) on which commercial banks and foreign exchange markets settle payments in such currency in the Business Centre(s) or, if no currency is indicated, generally in each of the Business Centres;

"**Day Count Fraction**" means, in respect of the calculation of an amount of interest on any Covered Bond for any period of time (from and including the first day of such period to but excluding the last) (whether or not constituting an Interest Period or an Interest Accrual Period, the "**Interest Calculation Period**"):

(i) if "**Actual/Actual**" or "**Actual/Actual - ISDA**" is specified in the relevant Pricing Supplement, the actual number of days in the Interest Calculation Period divided by 365 (or, if any portion of that Interest Calculation Period falls in a leap year, the sum of (A) the actual number of days in that portion of the Interest Calculation Period falling in a leap year divided by 366 and (B) the actual number of days in that portion of the Interest Calculation Period falling in a non-leap year divided by 365);

(ii) if "**Actual/365** (**Fixed**)" is specified in the relevant Pricing Supplement, the actual number of days in the Interest Calculation Period divided by 365;

(iii) if "**Actual/365 (Sterling)**" is specified in the relevant Pricing Supplement, the actual number of days in the Interest Calculation Period divided by 365 or, in the case of an Interest Payment Date falling in a leap year, 366;

(iv) if "**Actual/360**" is specified in the relevant Pricing Supplement, the actual number of days in the Interest Calculation Period divided by 360;

(v) if "**30/360**", "**360/360**" or "**Bond Basis**" is specified in the relevant Pricing Supplement, the number of days in the Interest Calculation Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"$\mathbf{Y_1}$" is the year, expressed as a number, in which the first day of the Interest Calculation Period falls;

"$\mathbf{Y_2}$" is the year, expressed as a number, in which the day immediately following the last day included in the Interest Calculation Period falls;

"$\mathbf{M_1}$" is the calendar month, expressed as a number, in which the first day of the Interest Calculation Period falls;

"$\mathbf{M_2}$" is the calendar month, expressed as a number, in which the day immediately following the last day included in the Interest Calculation Period falls;

"$\mathbf{D_1}$" is the first calendar day, expressed as a number, of the Interest Calculation Period, unless such number would be 31, in which case D_1 will be 30; and

"$\mathbf{D_2}$" is the calendar day, expressed as a number, immediately following the last day included in the Interest Calculation Period, unless such number would be 31 and D_1 is greater than 29, in which case D_2 will be 30;

(vi) if "**30E/360**" or "**Eurobond Basis**" is specified in the relevant Pricing Supplement, the number of days in the Interest Calculation Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"$\mathbf{Y_1}$" is the year, expressed as a number, in which the first day of the Interest Calculation Period falls;

"$\mathbf{Y_2}$" is the year, expressed as a number, in which the day immediately following the last day included in the Interest Calculation Period falls;

"$\mathbf{M_1}$" is the calendar month, expressed as a number, in which the first day of the Interest Calculation Period falls;

"$\mathbf{M_2}$" is the calendar month, expressed as a number, in which the day immediately following the last day included in the Interest Calculation Period falls;

"$\mathbf{D_1}$" is the first calendar day, expressed as a number, of the Interest Calculation Period, unless such number would be 31, in which case D_1 will be 30; and

"$\mathbf{D_2}$" is the calendar day, expressed as a number, immediately following the last day included in the Interest Calculation Period, unless such number would be 31, in which case D_2 will be 30;

(vii) if "**30E/360 (ISDA)**" is specified in the relevant Pricing Supplement, the number of days in the Interest Calculation Period divided by 360, calculated on a formula basis as follows:

$$\text{Day Count Fraction} = \frac{[360 \times (Y_2 - Y_1)] + [30 \times (M_2 - M_1)] + (D_2 - D_1)}{360}$$

where:

"$\mathbf{Y_1}$" is the year, expressed as a number, in which the first day of the Interest Calculation Period falls;

"$\mathbf{Y_2}$" is the year, expressed as a number, in which the day immediately following the last day included in the Interest Calculation Period falls;

"$\mathbf{M_1}$" is the calendar month, expressed as a number, in which the first day of the Interest Calculation Period falls;

"$\mathbf{M_2}$" is the calendar month, expressed as a number, in which the day immediately following the last day included in the Interest Calculation Period falls;

"$\mathbf{D_1}$" is the first calendar day, expressed as a number, of the Interest Calculation Period, unless (i) that day is the last day of February or (ii) such number would be 31, in which case D_1 will be 30; and

"$\mathbf{D_2}$" is the calendar day, expressed as a number, immediately following the last day included in the Interest Calculation Period, unless (i) that day is the last day of February but not the Maturity Date or (ii) such number would be 31, in which case D_2 will be 30;

(viii) if "**Actual/Actual-ICMA**" is specified in the relevant Pricing Supplement,

(a) if the Interest Calculation Period is equal to or shorter than the Determination Period during which it falls, the number of days in the Interest Calculation Period divided by the product of (x) the number of days in such Determination Period and (y) the number of Determination Periods normally ending in any year; and

(b) if the Interest Calculation Period is longer than one Determination Period, the sum of:

(x) the number of days in such Interest Calculation Period falling in the Determination Period in which it begins divided by the product of (1) the number of days in such Determination Period and (2) the number of Determination Periods normally ending in any year; and

(y) the number of days in such Interest Calculation Period falling in the next Determination Period divided by the product of (1) the number of days in such Determination Period and (2) the number of Determination Periods normally ending in any year, where:

“**Determination Period**” means the period from and including a Determination Date in any year to but excluding the next Determination Date; and

“**Determination Date**” means the date(s) specified as such in the relevant Pricing Supplement or, if none is so specified, the Interest Payment Date(s);

“**Euro-zone**” means the region comprised of member states of the European Union that adopt the single currency in accordance with the Treaty establishing the European Community, as amended;

“**Interest Accrual Period**” means the period beginning on (and including) the Interest Commencement Date and ending on (but excluding) the first Interest Period Date and each successive period beginning on (and including) an Interest Period Date and ending on (but excluding) the next succeeding Interest Period Date;

“**Interest Amount**” means:

(i) in respect of an Interest Accrual Period, the amount of interest payable per Calculation Amount for that Interest Accrual Period and which, in the case of Fixed Rate Covered Bonds, and unless otherwise specified in the relevant Pricing Supplement, shall mean the Fixed Coupon Amount or Broken Amount specified in the relevant Pricing Supplement as being payable on the Interest Payment Date ending the Interest Period of which such Interest Accrual Period forms part; and

(ii) in respect of any other period, the amount of interest payable per Calculation Amount for that period;

“**Interest Commencement Date**” means the issue date or such other date as may be specified in the relevant Pricing Supplement;

“**Interest Determination Date**” means, with respect to a Rate of Interest and Interest Accrual Period, the date specified as such in the relevant Pricing Supplement or, if none is so specified, (i) the first day of such Interest Accrual Period if the Specified Currency is Sterling or (ii) the day falling two Business Days in London for the Specified Currency prior to the first day of such Interest Accrual Period if the Specified Currency is neither Sterling nor euro or (iii) the day falling two TARGET Business Days prior to the first day of such Interest Accrual Period if the Specified Currency is euro;

“**Interest Period**” means the period beginning on and including the Interest Commencement Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date unless otherwise specified in the relevant Pricing Supplement;

“**Interest Period Date**” means each Interest Payment Date unless otherwise specified in the relevant Pricing Supplement;

"**ISDA Definitions**" means the 2006 ISDA Definitions, as published by the International Swaps and Derivatives Association, Inc. (as the same may be updated, amended or supplemented from time to time), unless otherwise specified in the relevant Pricing Supplement;

"**Rate of Interest**" means the rate of interest payable from time to time in respect of this Covered Bond and that is either specified or calculated in accordance with the provisions in the relevant Pricing Supplement;

"**Reference Banks**" means, in the case of a determination of EURIBOR, the principal Euro-zone office of four major banks in the Euro-zone inter-bank market, in each case selected by the Issuer or as specified in the relevant Pricing Supplement;

"**Reference Rate**" means the relevant EURIBOR or other rate as specified in the relevant Pricing Supplement;

"**Relevant Screen Page**" means such page, section, caption, column or other part of a particular information service as may be specified in the relevant Pricing Supplement (or any successor or replacement page, section, caption, column or other part of a particular information service);

"**Specified Currency**" means the currency specified as such in the relevant Pricing Supplement or, if none is specified, the currency in which the Covered Bonds are denominated; and

"**T2**" means the real time gross settlement system operated by the Eurosystem, or any successor system,

(i) **Calculation Agent:** The Issuer shall procure that there shall at all times be one or more Calculation Agents if provision is made for them in the relevant Pricing Supplement and for so long as any Covered Bond is outstanding (as defined in the Master Definitions Agreement). Where more than one Calculation Agent is appointed in respect of the Covered Bonds, references in these Conditions to the Calculation Agent shall be construed as each Calculation Agent performing its respective duties under the Conditions. If the Calculation Agent is unable or unwilling to act as such or if the Calculation Agent fails duly to establish the Rate of Interest for an Interest Accrual Period or to calculate any Interest Amount, Final Redemption Amount or Optional Redemption Amount, as the case may be, or to comply with any other requirement, the Issuer shall (with the prior written approval of the Trustee) appoint a leading bank or financial institution engaged in the interbank market (or, if appropriate, money, swap or over-the-counter index options market) that is most closely connected with the calculation or determination to be made by the Calculation Agent (acting through its principal London office or any other office actively involved in such market) to act as such in its place. The Calculation Agent may not resign its duties without a successor having been appointed as aforesaid.

(j) **Interest Rate and Payments in the event of an extension of maturity of the Covered Bonds:** If an Extended Maturity Date is specified in the relevant Pricing Supplement and the maturity of the Covered Bonds is extended beyond the Maturity Date in accordance with Condition 5(b), the following provisions shall apply:

(i) each Covered Bond shall bear interest on its outstanding nominal amount from (and including) the Maturity Date to (but excluding) the earlier of the relevant Interest Payment Date after the Maturity Date on which it is redeemed in full and the Extended Maturity Date;

(ii) such interest shall be payable in arrear on each such Interest Payment Date falling after the Maturity Date, in respect of the interest periods beginning on (and including) the Maturity Date and ending on (but excluding) the first Interest Payment Date after the Maturity Date and each subsequent interest period beginning on (and including) an Interest Payment Date and ending on (but excluding) the next Interest Payment Date, subject as otherwise provided in the relevant Pricing Supplement. The final Interest Payment Date shall fall no later than the Extended Maturity Date; and

(iii) the rate of interest payable in respect of the outstanding nominal amount on each Covered Bond on each such Interest Payment Date falling after the Maturity Date will be a floating rate as specified in the relevant Pricing Supplement and, where applicable, determined by the Calculation Agent as specified in the relevant Pricing Supplement.

This Condition 4(j) shall only apply to the Covered Bonds in respect of which an Extended Maturity Date is specified in the relevant Pricing Supplement and only if the Issuer fails to redeem those Covered Bonds (in full) on the Maturity Date (or within 10 days thereafter) and the maturity of those Covered Bonds is automatically extended up to the Extended Maturity Date in accordance with Condition 5(b).

(k) **Benchmark Discontinuation (General)**

(i) **Independent Adviser:** If a Benchmark Transition Event occurs in relation to an Original Reference Rate when any Rate of Interest (or any component part thereof) remains to be determined by reference to such Original Reference Rate the Issuer shall use its reasonable endeavours to appoint an Independent Adviser, as soon as reasonably practicable, to determine a Successor Rate, failing which an Alternative Rate (in accordance with Condition 4(k)(ii)) and, in either case, an Adjustment Spread and any Benchmark Amendments (in accordance with 4(k)(iv)). In making such determination, the Independent Adviser appointed pursuant to this Condition 4(k) shall act in good faith and in a commercially reasonable manner as an expert. In the absence of bad faith or fraud, the Independent Adviser shall have no liability whatsoever to the Issuer, the Trustee, the Paying Agents, or the Covered Bondholders for any determination made by it, pursuant to this Condition 4(k).

If (i) the Issuer is unable to appoint an Independent Adviser, or (ii) the Independent Adviser appointed by it fails to determine a Successor Rate or, failing which, an Alternative Rate in accordance with this Condition 4(k)(i) prior to the date which is 10 business days prior to the relevant Interest Determination Date, the Rate of Interest applicable to the next succeeding Interest Period shall be equal to the Rate of Interest last determined in relation to Floating Rate Covered Bonds in respect of the immediately preceding Interest Period. If there has not been a first Interest Payment Date, the Rate of Interest shall be the initial Rate of Interest / determined using the Original Reference Rate last displayed on the Relevant Screen Page prior to the relevant Interest Determination Date. Where a different Margin or Maximum or Minimum Rate of Interest is to be applied to the relevant Interest Period from that which applied to the last preceding Interest Period, the Margin or Maximum or Minimum Rate of Interest relating to the relevant Interest Period shall be substituted in place of the Margin or Maximum or Minimum Rate of Interest relating to that last preceding Interest Period. For the avoidance of doubt, this paragraph shall apply to the relevant next succeeding Interest Period only and any subsequent Interest Periods are subject to the subsequent operation of, and to adjustment as provided in, the first paragraph of this Condition 4(k)(i).

(ii) **Successor Rate or Alternative Rate:** If the Independent Adviser, determines that:

(a) there is a Successor Rate, then such Successor Rate and the applicable Adjustment Spread shall subsequently be used in place of the Original Reference Rate to determine the Rate of Interest (or the relevant component part thereof) for all future payments of interest on Floating Rate Covered Bonds (subject to the operation of this Condition 4(k)); or

(b) there is no Successor Rate but that there is an Alternative Rate, then such Alternative Rate and the applicable Adjustment Spread shall subsequently be used in place of the Original Reference Rate to determine the Rate of Interest (or the relevant component part thereof) for all future payments of interest on Floating Rate Covered Bonds (subject to the operation of this Condition 4(k)).

(iii) **Adjustment Spread:** The Adjustment Spread (or the formula or methodology for determining the Adjustment Spread) shall be applied to the Successor Rate or the Alternative Rate (as the case may be). If the Independent Adviser is unable to determine the quantum of, or a formula or methodology for determining, such Adjustment Spread, then the Successor Rate or Alternative Rate (as applicable) will apply without an Adjustment Spread.

(iv) **Benchmark Amendments:** If any Successor Rate or Alternative Rate and, in either case, the applicable Adjustment Spread is determined in accordance with this Condition 4(k) and the Independent Adviser determines (i) that amendments to these Conditions, the Trust Deed and/or the Agency Agreement are necessary to ensure the proper operation of such Successor Rate or Alternative Rate and/or (in either case) the applicable Adjustment Spread (such amendments, the "**Benchmark Amendments**"), and (ii) the terms of the Benchmark Amendments, then the Issuer shall, subject to giving notice thereof in accordance with Condition 4(k)(v), without any requirement for the consent or approval of Covered Bondholders, vary these Conditions, the Trust Deed and/or the Agency Agreement to give effect to such Benchmark Amendments with effect from the date specified in such notice.

Notwithstanding any other provision of this Condition 4(k) , the Trustee, the Calculation Agent or any Paying Agent is not obliged to concur with the Issuer or the Independent Adviser in respect of any changes or amendments as contemplated under this Condition 4(k) which, in the sole opinion of the Trustee, the Calculation Agent or the relevant Paying Agent, as the case may be, would impose more onerous obligations upon it or expose it to any additional duties, responsibilities or liabilities or reduce or amend the protective provisions afforded to the Trustee, the Calculation Agent or the relevant Paying Agent (as applicable) in the Trust Deed, the Agency Agreement and/or these Conditions.

In connection with any such variation in accordance with this Condition 4(k)(iv), the Issuer shall comply with the rules of any stock exchange on which the Floating Rate Covered Bonds are for the time being listed or admitted to trading.

(v) **Notices, etc.:** Any Successor Rate, Alternative Rate, Adjustment Spread and the specific terms of any Benchmark Amendments determined under this Condition 4(k) will be notified at least 10 business days prior to the relevant Interest Determination Date by the Issuer to the Trustee, the Calculation Agent, the Paying Agents, the Rating Agencies and, in accordance with Condition 16, the Covered Bondholders. Such notice shall be irrevocable and shall specify the effective date of the Benchmark Amendments, if any.

No later than notifying the Covered Bondholders of the same, the Issuer shall deliver to the Trustee, the Calculation Agent and the Paying Agents a certificate signed by two directors of the Issuer:

(a) confirming (i) that a Benchmark Transition Event has occurred, (ii) the Successor Rate or, as the case may be, the Alternative Rate, (iii) the applicable Adjustment Spread and (iv) the specific terms of the Benchmark Amendments (if any), in each case as determined in accordance with the provisions of this Condition 4(k); and

(b) certifying that the Benchmark Amendments (if any) are necessary to ensure the proper operation of such Successor Rate or Alternative Rate and (in either case) the applicable Adjustment Spread.

Each of the Trustee, the Calculation Agent and the Paying Agents shall be entitled to rely on such certificate (without liability to any person) as sufficient evidence thereof. The Successor Rate or Alternative Rate and the Adjustment Spread and the Benchmark Amendments (if any) specified in such certificate will (in the absence of manifest error or bad faith in the determination of the Successor Rate or Alternative Rate and the Adjustment Spread and the Benchmark Amendments (if any) and without prejudice to the Trustee's or the Calculation Agent's or the Paying Agents' ability to rely on such certificate as aforesaid) be binding on the Issuer, the Trustee, the Calculation Agent, the Paying Agents and the Covered Bondholders.

Notwithstanding any other provision of this Condition 4(k), if following the determination of any Successor Rate, Alternative Rate, Adjustment Spread or Benchmark Amendments (if any), in the Calculation Agent's opinion there is any uncertainty between two or more alternative courses of action in making any determination or calculation under this Condition 4(k), the Calculation Agent shall promptly notify the Issuer thereof and the Issuer shall direct the Calculation Agent in writing as to which alternative course of action to adopt. If the Calculation Agent is not promptly provided with such direction, or is otherwise unable (other than due to its own gross negligence, willful default or fraud) to make such calculation or determination for any reason, it shall notify the Issuer thereof and the Calculation Agent shall be under no obligation to make such calculation or determination and (in the absence of such gross negligence, willful default or fraud) shall not incur any liability for not doing so.

(vi) **Survival of Original Reference Rate:** Without prejudice to the obligations of the Issuer under Condition 4(k)(i), Condition 4(k)(ii), Condition 4(k)(iii) and Condition 4(k)(iv), the Original Reference Rate and the fallback provisions provided for in Condition 4(b)(i) will continue to apply unless and until a Benchmark Transition Event has occurred.

(vii) **Definitions:** As used in this Condition 4(k):

"**Adjustment Spread**" means either (x) a spread (which may be positive, negative or zero) or (y) a formula or methodology for calculating a spread, in each case to be applied to the Successor Rate or the Alternative Rate (as the case may be) and is the spread, formula or methodology which:

(a) (in the case of a Successor Rate, is formally recommended in relation to the replacement of the Original Reference Rate with the Successor Rate by any Relevant Nominating Body; or (if no such recommendation has been made, or in the case of an Alternative Rate);

(b) the Independent Adviser determines, is customarily applied to the relevant Successor Rate or the Alternative Rate (as the case may be) in international debt capital markets transactions to produce an industry-accepted replacement rate for the Original Reference Rate; or (if the Independent Adviser determines that no such spread is customarily applied);

(c) the Independent Adviser determines is recognised or acknowledged as being the industry standard for over-the-counter derivative transactions which reference the Original Reference Rate, where such rate has been replaced by the Successor Rate or the Alternative Rate (as the case may be);

"**Alternative Rate**" means an alternative benchmark or screen rate which the Independent Adviser determines in accordance with Condition 4(k)(ii) is customarily applied in international debt capital markets transactions for the purposes of determining rates of interest (or the relevant component part thereof) in the same Specified Currency as the Floating Rate Covered Bonds;

"**Benchmark Amendments**" has the meaning given to it in Condition 4(k)(iv);

"**Benchmark Replacement Conforming Changes**" means, with respect to the Benchmark Amendments, any technical, administrative or operational changes (including changes to the timing and frequency of determining rates and making payments of interest, rounding of amounts or tenors, and other administrative matters) that the Issuer or its designee decides may be appropriate to reflect the adoption of such Benchmark Amendments in a manner substantially consistent with market practice (or, if the Issuer or its designee decides that adoption of any portion of such market practice is not administratively feasible or if the Issuer or its designee determine that no market practice for use of the Benchmark Amendments exists, in such other manner as the Issuer or its designee determines is reasonably necessary);

"**designee**" means a designee as selected and separately appointed by the Issuer in writing;

"**Benchmark Transition Event**" means:

(a) the Original Reference Rate ceasing to be published for a period of at least 5 Business Days or ceasing to exist; or

(b) a public statement by the administrator of the Original Reference Rate that it has ceased or that it will cease publishing the Original Reference Rate permanently or indefinitely (in circumstances where no successor administrator has been appointed that will continue publication of the Original Reference Rate); or

(c) a public statement by the supervisor of the administrator of the Original Reference Rate, that the Original Reference Rate has been or will be permanently or indefinitely discontinued; or

(d) a public statement by the supervisor of the administrator of the Original Reference Rate as a consequence of which the Original Reference Rate will be prohibited from being used either generally, or in respect of the Floating Rate Covered Bonds; or

(e) the making of a public statement by the supervisor of the administrator of the Original Reference Rate that the Original Reference Rate is or will be (or is or will be deemed by such supervisor to be) no longer representative of its relevant underlying market; or

(f) it has become unlawful for any Paying Agent, the Calculation Agent, the Issuer or other party to calculate any payments due to be made to any Covered Bondholders using the Original Reference Rate,

provided that the Benchmark Transition Event shall be deemed to occur (i) in the case of sub-paragraphs (b) and (c) above, on the date of the cessation of publication of the Original Reference Rate or the discontinuation of the Original Reference Rate, as the case may be, (ii) in the case of sub-paragraph (d) above, on the date of the prohibition of use of the Original Reference Rate and (iii) in the case of sub-paragraph (e) above, on the date with effect from which the Original Reference Rate will no longer be (or will be deemed by the relevant supervisor to no longer be) representative of its relevant underlying market and which is specified in the relevant public statement, and, in each case, not the date of the relevant public statement.

The occurrence of a Benchmark Transition Event shall be determined by the Issuer and promptly notified to the Trustee, the Calculation Agent and the Paying Agents. For the avoidance of doubt, neither the Trustee, the Calculation Agent nor the Paying Agents shall have any responsibility for making such determination;

"**Independent Adviser**" means an independent financial institution of international repute or an independent financial adviser with appropriate expertise appointed by the Issuer under Condition 4(k)(i);

"**Original Reference Rate**" means the originally-specified benchmark or screen rate (as applicable) used to determine the Rate of Interest (or any component part thereof) on the Floating Rate Covered Bonds;

"**Relevant Nominating Body**" means, in respect of a benchmark or screen rate (as applicable):

(a) the central bank for the currency to which the benchmark or screen rate (as applicable) relates, or any central bank or other supervisory authority which is responsible for supervising the administrator of the benchmark or screen rate (as applicable); or

(b) any working group or committee sponsored by, chaired or co-chaired by or constituted at the request of (i) the central bank for the currency to which the benchmark or screen rate (as applicable) relates, (ii) any central bank or other supervisory authority which is responsible for supervising the administrator of the benchmark or screen rate (as applicable), (ii) a group of the aforementioned central banks or other supervisory authorities or (iv) the Financial Stability Board or any part thereof; and

"**Successor Rate**" means a successor to or replacement of the Original Reference Rate which is formally recommended by any Relevant Nominating Body. In connection with the implementation of the Benchmark Amendments, the Issuer or its designee will have the right to make Benchmark Replacement Conforming Changes (as defined herein) from time to time.

5. Redemption, Purchase and Options

(a) Final Redemption:

Unless previously redeemed, purchased and cancelled as provided below, each Covered Bond shall be redeemed on the Maturity Date specified in the relevant Pricing Supplement at its Final Redemption Amount (which is its nominal amount), subject to Condition 5(b) if an Extended Maturity Date is specified in the relevant Pricing Supplement.

(b) **Extension of maturity up to Extended Maturity Date:**

(i) An Extended Maturity Date may be specified in the relevant Pricing Supplement as applying to the relevant Series of Covered Bonds, and this Condition 5(b) shall only apply to the relevant Series of Covered Bonds if an Extended Maturity Date is specified in the relevant Pricing Supplement.

(ii) If an Extended Maturity Date is specified in the relevant Pricing Supplement as applicable and the Issuer fails to redeem all of the relevant Series of Covered Bonds in full on the Maturity Date or within 10 days thereafter, the maturity of the Covered Bonds and the date on which such Covered Bonds will be due and payable for the purposes of these Conditions will be automatically extended up to but no later than the Extended Maturity Date, subject as otherwise provided for in the relevant Pricing Supplement. The Issuer (or, if the Trustee has given an Issuer EOD Notice pursuant to Condition 10(a), the Asset Monitor on behalf of the Issuer) shall give notice to the holders of Covered Bonds (in accordance with Condition 16) and to the Trustee, the Paying Agents and the Rating Agencies in writing at least five Business Days prior to the Maturity Date confirming whether or not it intends to redeem all or any of the principal amount outstanding of the Covered Bonds on the Maturity Date or within 10 days thereafter. Any failure by the Issuer to notify such persons shall not affect the validity or effectiveness of any redemption by the Issuer on the Maturity Date or within 10 days thereafter or, as the case may be, of any extension of the maturity of the Covered Bonds, or give rise to rights to any such persons.

(iii) Following an extension of the date on which the relevant Series of Covered Bonds will be due and payable to the Extended Maturity Date, the Issuer may redeem all or any part of the principal amount outstanding of the Covered Bonds on any Interest Payment Date falling after the Maturity Date up to and including the Extended Maturity Date or as otherwise provided in the relevant Pricing Supplement. The Issuer (or, if the Trustee has given an Issuer EOD Notice pursuant to Condition 10(a), the Asset Monitor on behalf of the Issuer) shall give notice to the holders of Covered Bonds (in accordance with Condition 16) and to the Trustee and the Paying Agents in writing of its intention to redeem all or any of the principal amount outstanding of the Covered Bonds at least five Business Days prior to the relevant Interest Payment Date or, as applicable, the Extended Maturity Date (such amount to be redeemed to be determined, following the giving of an Issuer EOD Notice, in accordance with the applicable priority of payments as set out in the Establishment Deed).

(iv) Any extension of the maturity of the Covered Bonds under this Condition 5(b) shall be irrevocable.

(v) In the event of the extension of the maturity of the Covered Bonds under this Condition 5(b), interest rates, interest periods and interest payment dates on the Covered Bonds from (and including) the Maturity Date to (but excluding) the Extended Maturity Date shall be determined and made in accordance with the terms specified in the relevant Pricing Supplement and Condition 4(j).

(vi) If the Issuer redeems part and not all of the principal amount outstanding of the Covered Bonds on any Interest Payment Date falling after the Maturity Date, the redemption proceeds shall be applied rateably across the Covered Bonds and the principal amount outstanding of the Covered Bonds shall be reduced by the level of that redemption.

(c) **Redemption for Taxation Reasons:** The Covered Bonds may be redeemed at the option of the Issuer in whole, but not in part, on any Interest Payment Date (if this Covered Bond is a Floating Rate Covered Bond) or at any time (if this Covered Bond is not a Floating Rate Covered Bond), on giving not less than 30 nor more than 60 days' notice to the Covered Bondholders in accordance with Condition 16 (which notice shall be irrevocable) and to the Trustee and the Paying Agents in writing, at their Final Redemption Amount (as described in Condition 5(a) above) (together with interest accrued to but excluding the date fixed for redemption), if the Issuer satisfies the Trustee immediately prior to the giving of such notice that (i) it has or will become obliged to pay additional amounts as described under Condition 7 as a result of any change in, or amendment to, the laws or regulations of Korea or any political subdivision or, in each case, any authority thereof or therein having power to tax, or any change in the application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after the date on which agreement is reached to issue the first Tranche of the Covered Bonds, and (ii) such obligation cannot be avoided by the Issuer taking reasonable measures available to it, provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Issuer would be obliged to pay such additional amounts were a payment in respect of the Covered Bonds then due.

Prior to the publication of any notice of redemption pursuant to this Condition 5(c), the Issuer shall deliver or procure that there is delivered to the Issuing and Paying Agent and the Trustee:

(x) a certificate in English signed by an Authorised Signatory of the Issuer stating that the Issuer is entitled to effect such redemption and setting forth a statement of facts showing that the conditions precedent to the right of the Issuer so to redeem have occurred; and

(y) an opinion of independent tax or legal advisers of recognised standing to the effect that the Issuer has or is likely to become obliged to pay such additional amounts as a result of such change or amendment.

The Trustee shall be entitled to accept any such certificate and opinion as sufficient evidence of the satisfaction of the conditions precedent set out in (i) and (ii) of this Condition 5(c) above without further enquiry and without liability to any Covered Bondholder, Couponholder or any other person, in which event the same shall be conclusive and binding on the Covered Bondholders and Couponholders.

(d) **Redemption at the Option of the Issuer:** If Call Option is specified in the relevant Pricing Supplement, the Issuer may, on giving not less than 15 nor more than 30 days' irrevocable notice to the Covered Bondholders in accordance with Condition 16 (or such other notice period as may be specified in the relevant Pricing Supplement) and to the Trustee and the Paying Agents in writing, redeem all or, if so provided in the relevant Pricing Supplement, some of the Covered Bonds on any Optional Redemption Date. Any such redemption of Covered Bonds shall be at their Optional Redemption Amount specified in the relevant Pricing Supplement, together with interest accrued to but excluding the date fixed for redemption. Any such redemption or exercise must relate to Covered Bonds of a nominal amount at least equal to the Minimum Redemption Amount to be redeemed specified in the relevant Pricing Supplement and no greater than the Maximum Redemption Amount to be redeemed specified in the relevant Pricing Supplement.

All Covered Bonds in respect of which any such notice is given shall be redeemed on the date specified in such notice in accordance with this Condition 5(d).

In the case of a partial redemption, the notice to Covered Bondholders shall also contain the certificate numbers of the Bearer Covered Bonds, or in the case of Registered Covered Bonds, the relevant Covered Bonds shall be surrendered to the Registrar or the relevant Transfer Agent for payment and payment shall be made in accordance with the directions of the holder(s) of such Registered Covered Bonds given on the relevant redemption notice.

(e) **Redemption at the Option of Covered Bondholders:** If Put Option is specified in the relevant Pricing Supplement, the Issuer shall, at the option of the holder of any such Covered Bond, upon the holder of such Covered Bond giving not less than 15 nor more than 30 days' notice to the Trustee and the Issuer (or such other notice period as may be specified in the relevant Pricing Supplement) redeem such Covered Bond on the Optional Redemption Date(s) at its Optional Redemption Amount specified in the relevant Pricing Supplement, together with interest accrued to but excluding the date fixed for redemption.

To exercise such option the holder must deposit (in the case of Bearer Covered Bonds) such Covered Bond (together with all unmatured Coupons and unexchanged Talons) with any Paying Agent or (in the case of Registered Covered Bonds) the Certificate representing such Covered Bond(s) with the relevant Registrar or any other Transfer Agent at its specified office, together with a duly completed option exercise notice (an "**Exercise Notice**") in the form obtainable from any Paying Agent, the relevant Registrar or any Transfer Agent (as applicable) within the notice period. No Covered Bond or Certificate so deposited and option exercised may be withdrawn (except as provided in the Agency Agreement) without the prior consent of the Issuer.

(f) **Purchases:** The Issuer and its subsidiaries may at any time purchase Covered Bonds (provided that all unmatured Coupons and unexchanged Talons relating thereto are attached thereto or surrendered therewith) in the open market or otherwise at any price. For the purposes of this Condition 5(f), a "**subsidiary**" of a company or corporation (the "**parent**") shall be construed as a reference to any company or corporation (i) in which the parent holds a majority of the voting rights or (ii) of which the parent is a member and has the right to appoint or remove a majority of the board of directors or (iii) of which the parent is a member and controls a majority of the voting rights, and includes any company which is a subsidiary of a subsidiary of the parent.

(g) **Cancellation:** All Covered Bonds purchased by or on behalf of the Issuer or any of its subsidiaries may be surrendered for cancellation, in the case of Bearer Covered Bonds, by surrendering each such Covered Bond together with all unmatured Coupons and all unexchanged Talons to the Issuing and Paying Agent and, in the case of Registered Covered Bonds, by surrendering the Certificate representing such Covered Bonds to the relevant Registrar and, in each case, if so surrendered, shall, together with all Covered Bonds redeemed by the Issuer, be cancelled forthwith (together with all unmatured Coupons and unexchanged Talons attached thereto or surrendered therewith). Any Covered Bonds so surrendered for cancellation may not be reissued or resold and the obligations of the Issuer in respect of any such Covered Bonds shall be discharged.

6. **Payments and Talons**

(a) **Bearer Covered Bonds:** Payments of principal and interest in respect of Bearer Covered Bonds shall, subject as mentioned below, be made against presentation and surrender of the relevant Covered Bonds (in the case of interest, as specified in Condition 6(f)(v)) or Coupons (in the case of interest, save as specified in Condition 6(f)(ii)), as the case may be, at the specified office of any Paying Agent outside the United States by transfer to an account denominated in such currency with a Bank. In this Condition 6, "**Bank**" means a bank in the principal financial centre for such currency or, in the case of euro, in a city in which banks have access to T2.

(b) **Registered Covered Bonds:**

(i) Payments of principal in respect of Registered Covered Bonds shall be made against presentation and surrender of the relevant Certificates at the specified office of any of the relevant Registrar or any of the other Transfer Agents and in the manner provided in Condition 6(b)(ii) below.

(ii) Interest on Registered Covered Bonds shall be paid to the person shown on the Register at the close of business on the fifteenth day before the due date for payment thereof (the "**Record Date**"). Payments of interest on each Registered Covered Bond shall be made in the relevant currency by transfer to an account in the relevant currency maintained by the payee with a Bank.

(c) **Payments in the United States:** Notwithstanding the foregoing, if any Bearer Covered Bonds are denominated in U.S. dollars, payments in respect thereof may be made at the specified office of any Paying Agent in New York City in the same manner as aforesaid if (i) the Issuer shall have appointed Paying Agents with specified offices outside the United States with the reasonable expectation that such Paying Agents would be able to make payment of the amounts on the Covered Bonds in the manner provided above when due, (ii) payment in full of such amounts at all such offices is illegal or effectively precluded by exchange controls or other similar restrictions on payment or receipt of such amounts and (iii) such payment is then permitted by United States law, without involving, in the opinion of the Issuer, any adverse tax consequence to the Issuer.

(d) **Payments subject to Laws:** Save as provided in Condition 7, all payments are subject in all cases to any applicable fiscal or other laws, regulations and directives in the place of payment or other laws and regulations to which the Issuer or its Agents agree to be subject and none of the Issuer or its Agents will be liable for any taxes or duties of whatever nature imposed or levied by such laws, regulations, directives or agreements. No commission or expenses shall be charged to the Covered Bondholders or Couponholders in respect of such payments.

(e) **Appointment of Agents:** The Issuing and Paying Agent, the other Paying Agents, the Registrars, the Transfer Agents and the Calculation Agent initially appointed by the Issuer and their respective specified offices are listed below. The Issuing and Paying Agent, the other Paying Agents, the Registrars, the other Transfer Agents and the Calculation Agents act solely as agents of the Issuer and do not assume any obligation or relationship of agency or trust for or with any Covered Bondholder or Couponholder. The Issuer reserves the right at any time with the prior written approval of the Trustee to vary or terminate the appointment of the Issuing and Paying Agent, any other Paying Agent, any of the Registrars, any Transfer Agent or any of the Calculation Agent(s) and to appoint additional or other Paying Agents or Transfer Agents, provided that the Issuer shall at all times maintain (i) an Issuing and Paying Agent, (ii) a relevant Registrar in relation to Registered Covered Bonds, (iii) a Transfer Agent in relation to Registered Covered Bonds, (iv) one or more Calculation Agent(s) where the Conditions so require and (v) such other agents as may be required by any other stock exchange on which the Covered Bonds may be listed in each case, as approved by the Trustee.

In addition, the Issuer shall forthwith appoint a Paying Agent in New York City in respect of any Bearer Covered Bonds denominated in U.S. dollars in the circumstances described in Condition 6(c) above.

Notice of any such change or any change of any specified office shall promptly be given by the Issuer to the Covered Bondholders.

(f) **Unmatured Coupons and Unexchanged Talons:**

(i) Upon the due date for redemption of Bearer Covered Bonds which comprise Fixed Rate Covered Bonds, such Covered Bonds should be surrendered for payment together with all unmatured Coupons (if any) relating thereto, failing which an amount equal to the face value of each missing unmatured Coupon (or, in the case of payment not being made in full, that proportion of the amount of such missing unmatured Coupon that the sum of principal so paid bears to the total principal due) shall be deducted from the Final Redemption Amount or Optional Redemption Amount, as the case may be, due for payment. Any amount so deducted shall be paid in the manner mentioned above against surrender of such missing Coupon within a period of 10 years from the Relevant Date for the payment of such principal (whether or not such Coupon has become void pursuant to Condition 8).

(ii) Upon the due date for redemption of any Bearer Covered Bond comprising a Floating Rate Covered Bond, unmatured Coupons relating to such Covered Bond (whether or not attached) shall become void and no payment shall be made in respect of them.

(iii) Upon the due date for redemption of any Bearer Covered Bond, any unexchanged Talon relating to such Covered Bond (whether or not attached) shall become void and no Coupon shall be delivered in respect of such Talon.

(iv) Where any Bearer Covered Bond that provides that the relative unmatured Coupons are to become void upon the due date for redemption of those Covered Bonds is presented for redemption without all unmatured Coupons, and where any Bearer Covered Bond is presented for redemption without any unexchanged Talon relating to it, redemption shall be made only against the provision of such indemnity and/or security as the Issuer or the relevant Agent may require.

(v) If the due date for redemption of any Covered Bond is not a due date for payment of interest, interest accrued from the preceding due date for payment of interest or the Interest Commencement Date, as the case may be, shall only be payable against presentation (and surrender if appropriate) of the relevant Bearer Covered Bond or Certificate representing it, as the case may be. Interest accrued on a Covered Bond that only bears interest after its Maturity Date shall be payable on redemption of such Covered Bond against presentation of the relevant Covered Bond or Certificate representing it, as the case may be.

(g) **Talons:** On or after the Interest Payment Date for the final Coupon forming part of a Coupon sheet issued in respect of any Bearer Covered Bond, the Talon forming part of such Coupon sheet may be surrendered at the specified office of the Issuing and Paying Agent in exchange for a further Coupon sheet (and if necessary another Talon for a further Coupon sheet) (but excluding any Coupons that may have become void pursuant to Condition 8).

(h) **Non-Business Days:** If any date for payment in respect of any Covered Bond or Coupon is not a business day, the holder shall not be entitled to payment until the next following business day nor to any interest or other sum in respect of such postponed payment. In this Condition 6, "**business day**" means a day (other than a Saturday, a Sunday or a public holiday) on which banks and foreign exchange markets are open for business in the relevant place of presentation, in such jurisdictions as shall be specified as "**Financial Centres**" in the relevant Pricing Supplement and:

(i) (in the case of a payment in a currency other than euro) where payment is to be made by transfer to an account maintained with a bank in the relevant currency, on which foreign exchange transactions may be carried on in the relevant currency in the principal financial centre of the country of such currency; or

(ii) (in the case of a payment in euro) which is a TARGET Business Day.

7. Taxation

All payments of principal and interest by or on behalf of the Issuer in respect of the Covered Bonds and the Coupons shall be made free and clear of, and without withholding or deduction for or on account of, any taxes, duties, assessments or governmental charges of whatever nature imposed, levied, collected, withheld or assessed by Korea or any authority therein or thereof having power to tax, unless such withholding or deduction is required by law. In that event, the Issuer shall pay such additional amounts as shall result in receipt by the Covered Bondholders and Couponholders of such amounts as would have been received by them had no such withholding or deduction been required, except that no such additional amounts shall be payable with respect to any Covered Bond or Coupon:

(a) **Presentation**: to, or to a third party on behalf of, a holder who presented such Covered Bond or Coupon for payment (where presentation is necessary) in Korea (solely to the extent such taxes, duties, assessments or governmental charges would not have been imposed if such Covered Bond or Coupon, as the case may be, were presented at an office of a Paying Agent outside Korea); or

(b) **Other connection:** to, or to a third party on behalf of, a holder who is liable to such taxes, duties, assessments or governmental charges in respect of such Covered Bond or Coupon by reason of his having some connection with Korea other than the mere holding of the Covered Bond or Coupon; or

(c) **Lawful avoidance of withholding:** to, or to a third party on behalf of, a holder who could lawfully avoid (but has not so avoided) such deduction or withholding by complying or procuring that any third party complies with any statutory requirements or by making or procuring that any third party makes a declaration of non-residence or other similar claim for exemption to any tax authority in the place where the relevant Covered Bond (or the Certificate representing it) or Coupon is presented for payment; or

(d) **Presentation more than 30 days after the Relevant Date:** presented (or in respect of which the Certificate representing it is presented) for payment more than 30 days after the Relevant Date except to the extent that the holder of it would have been entitled to such additional amounts on presenting it for payment on the thirtieth day.

Neither the Trustee nor any Agent shall be responsible for paying any tax, duty, charges, withholding or other payment referred to in this Condition 7 or for determining whether such amounts are payable or the amount thereof, and none of them shall be responsible or liable for any failure by the Issuer, any Covered Bondholder or any third party to pay such tax, duty, charges, withholding or other payment in any jurisdiction or to provide any notice or information to the Trustee or any Agent that would permit, enable or facilitate the payment of any principal, premium (if any), interest or other amount under or in respect of the Covered Bonds without deduction or withholding for or on account of any tax, duty, charge, withholding or other payment imposed by or in any jurisdiction.

Notwithstanding any other provision of these Conditions, any amounts to be paid on the Covered Bonds by or on behalf of the Issuer will be paid net of any deduction or withholding imposed or required pursuant to an agreement described in Section 1471(b) of the Code, or otherwise imposed pursuant to Sections 1471 through 1474 of the Code (or any regulations thereunder or official interpretations thereof) or an intergovernmental agreement between the United States and another jurisdiction facilitating the implementation thereof (or any fiscal or regulatory legislation, rules or practices implementing such an intergovernmental agreement) (any such withholding or deduction, a "**FATCA Withholding**"). Neither the Issuer nor any other person (including without limitation the Trustee or any Agent) will be required to pay any additional amounts in respect of FATCA Withholding.

As used in these Conditions, "**Relevant Date**" in respect of any Covered Bond or Coupon means the date on which payment in respect of it first becomes due or (if any amount of the money payable is improperly withheld or refused) the date on which payment in full of the amount outstanding is made or (if earlier) the date seven days after that on which notice is duly given to the Covered Bondholders that, upon further presentation of the Covered Bond (or relative Certificate) or Coupon being made in accordance with the Conditions, such payment will be made, provided that payment is in fact made upon such presentation.

References in these Conditions to (i) "**principal**" shall be deemed to include any premium payable in respect of the Covered Bonds, Final Redemption Amounts, Optional Redemption Amounts and all other amounts in the nature of principal payable pursuant to Condition 5 or any amendment or supplement to it, (ii) "**interest**" shall be deemed to include all Interest Amounts and all other amounts payable pursuant to Condition 4 or any amendment or supplement to it, and (iii) "**principal**" and/or "**interest**" shall be deemed to include any additional amounts that may be payable under this Condition 7 or any undertaking given in addition to or in substitution for it under the Trust Deed.

8. Prescription

Claims against the Issuer for payment in respect of the Covered Bonds and Coupons (which, for this purpose, shall not include Talons) shall be prescribed and become void unless made within 10 years (in the case of principal) or five years (in the case of interest) from the appropriate Relevant Date in respect of them.

9. Issuer Covenants

The Issuer makes the covenants set out in clause 4 (*Issuer Covenants*) of the Establishment Deed (in these Conditions, the "**Issuer Covenants**") in favour of the Trustee for so long as any of the Covered Bonds are outstanding. The Trustee shall hold the benefit of the Issuer Covenants on trust for the Covered Bondholders and Couponholders of the relevant Series.

10. Events of Default

(a) **Issuer Events of Default:** If any of the following events (each an "**Issuer Event of Default**") occurs, the Trustee at its discretion may (but is not obliged to do so) and, if so requested in writing by holders of at least 25%. in nominal amount of the Covered Bonds of this Series and the Covered Bonds of all other Series then outstanding as if they were all a single Series or if so directed by an Extraordinary Resolution of holders of Covered Bonds of all outstanding Series as if they were all a single Series shall (subject in each case to the Trustee being indemnified and/or secured and/or pre-funded to its satisfaction), give notice to the Issuer (which notice shall be copied to the Asset Monitor and the Rating Agencies) (an "**Issuer EOD Notice**") that an Issuer Event of Default has occurred:

(i) **Non-payment under Covered Bonds:** default is made in the payment of any amount of principal or interest in respect of any of the Covered Bonds of any Series on the due date for payment thereof (including, in respect of Covered Bonds for which an Extended Maturity Date is specified, default in the payment of principal in full on the Maturity Date) and such default remains unremedied for, in the case of default in the payment of principal, 10 days, or, in the case of default in the payment of interest, 15 days thereafter; or

(ii) **Non-payment under Swap Agreement:** default is made by the Issuer in the payment of any amount under any Swap Agreement on the due date for payment thereof and the expiration of any applicable grace period; or

(iii) **Breach of Issuer Covenants:** default is made in the performance or observance of any of the Issuer Covenants (other than in respect of the Pre-Maturity Test (for which Condition 10(a)(x) applies) or the Asset Coverage Test (for which Condition 10(a)(xi) applies)) and such default remains unremedied for 30 days (or such longer period as the Trustee may permit) after written notice thereof, addressed to the Issuer, has been delivered by the Trustee to the Issuer; or

(iv) **Cross-acceleration:** any Indebtedness (as defined below) in aggregate exceeding US$20,000,000 (or its equivalent in one or more other currencies) of the Issuer either (1) becoming due and payable prior to the due date for payment thereof by reason of acceleration following a default by the Issuer or (2) not being repaid by the Issuer within 30 days after maturity (as extended by the period of grace, if any) applicable thereto, or any guarantee given by the Issuer in respect of Indebtedness of any other person not being honored within 30 days after becoming due and called (as extended by the period of grace, if any); provided that, in each case excluding any Indebtedness or guarantee in respect of Indebtedness for which non-payment is due to an on-going litigation or dispute in a court, arbitral body or other regulatory authority regarding payment of such Indebtedness or guarantee in respect of Indebtedness, and in the case of (1) above, if any such default under any such Indebtedness shall be cured or waived, then the default under the Covered Bonds shall be deemed to have been cured and waived;or

(v) **Bankruptcy, etc.**: a court or administrative or other governmental agency or body having jurisdiction shall enter a decree or order for relief in respect of the Issuer in an involuntary case under any applicable bankruptcy, insolvency, reorganisation, compulsory composition or other similar law now or hereafter in effect, or appointing a receiver, liquidator, assignee, custodian, trustee, sequestrator or similar official of the Issuer or for any substantial part of its property or ordering the winding up, dissolution or liquidation of its affairs, or shall otherwise adjudicate or find the Issuer to be bankrupt or insolvent and such decree or order shall remain unstayed and in effect for a period of 45 consecutive days; or

(vi) **Voluntary proceedings**: the Issuer shall commence a voluntary case under any applicable bankruptcy, insolvency, reorganisation, compulsory composition or other similar law now or hereafter in effect, or consent to the entry of an order for relief in an involuntary case under any such law, or consent to the appointment or taking possession by a receiver, liquidator, assignee, custodian, trustee, sequestrator or similar official of the Issuer or for any substantial part of its property, or cease to carry on the whole or substantially the whole of its business or make any general assignment for the benefit of creditors, or enter into any composition with its creditors or take corporate action in furtherance of any such action; or

(vii) **Failure of Pre-Maturity Test:** (A) the Pre-Maturity Test in respect of any Series of Hard Bullet Covered Bonds is breached during the Pre-Maturity Test Period of such Series of Hard Bullet Covered Bonds and the Issuer does not add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account with a Pre-Maturity Liquidity Assets Value at least equal to the Series Required Redemption Amount on or before the earlier of (1) 20 Korean Business Days following such failure of the Pre-Maturity Test and (2) the Maturity Date of such Series of Hard Bullet Covered Bonds (such earlier date, the "**Series Required Redemption Amount Cut-off Date**"), except where the Pre-Maturity Test Cure Requirement is satisfied in respect of all Series of Hard Bullet Covered Bonds which are scheduled to mature within 12 months of such Pre-Maturity Test Date on or prior to the Series Required Redemption Amount Cut-off Date, or (B) in relation to all PMT Ongoing Test Series, the Issuer fails to add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account with a Pre-Maturity Liquidity Assets Value at least equal to the PMT Shortfall Amount (if any) in respect of a PMT Shortfall Valuation Date on or before the immediately succeeding PMT Shortfall Valuation Date, except where the Pre-Maturity Test Cure Requirement is satisfied on any Pre-Maturity Test Date during the period from the date of determination of such PMT Shortfall Amount to (and including) such immediately succeeding PMT Shortfall Valuation Date; or

(viii) **Failure of Asset Coverage Test:** (A) an Asset Coverage Test Breach Notice has been served and remains outstanding and has not been revoked or deemed to have been revoked on or before the second Calculation Date after service of such Asset Coverage Test Breach Notice by the Asset Monitor on the Issuer, or (B) an Asset Coverage Test Breach Notice has been served on the Issuer by the Asset Monitor following the determination by the Asset Monitor that there have been errors in the relevant calculations of the Asset Coverage Test performed by the Issuer and that the Asset Coverage Test was not satisfied on the previous three Calculation Dates (where the Issuer had recorded it as being satisfied on those days), and such breach of the Asset Coverage Test is not cured within 60 days of receipt of that Asset Coverage Test Breach Notice; or

(ix) **Covered Bond Event of Default:** the occurrence of a Covered Bond Event of Default.

(b) **Covered Bond Events of Default:** If, following the occurrence of an Issuer Event of Default which is continuing and in respect of which an Issuer EOD Notice has been given by the Trustee to the Issuer, any of the following events (each a "**Covered Bond Event of Default**") occurs, the Trustee at its discretion may (but is not obliged to do so) and, if so requested in writing by holders of at least 25%. in nominal amount of the Covered Bonds of this Series and the Covered Bonds of all other Series then outstanding as if they were all a single Series, or if so directed by an Extraordinary Resolution of holders of Covered Bonds of all outstanding Series as if they were all a single Series, shall (subject in each case to the Trustee being indemnified and/or secured and/or pre-funded to its satisfaction) give notice to the Issuer (which notice shall be copied to the Asset Monitor and the Rating Agencies) (an "**Acceleration Notice**") that the Covered Bonds shall immediately become due and repayable, whereupon the Covered Bonds shall immediately become due and repayable at their Final Redemption Amount together with accrued interest as provided in the Trust Deed:

(i) **Failure of Amortisation Test**: failure to satisfy the Amortisation Test, and the Issuer fails to bring the Cover Pool into compliance with the Amortisation Test within 30 days of such breach; or

(ii) **Non-payment**: default is made in the payment of any amount of principal or interest in respect of the Covered Bonds of any Series on the due date for payment thereof (subject to Condition 5(b)) and such default remains unremedied for 20 days or, in the case of default in the payment of interest, 25 days thereafter.

(c) The Issuer shall not issue any further Covered Bonds if the Trustee has given an Issuer EOD Notice to the Issuer in accordance with Condition 10(a).

(d) In these Conditions:

(i) "**Indebtedness**" means all obligations created, incurred or assumed by a Person for the payment or repayment of moneys relating to or in connection with (a) any indebtedness of a Person in respect of moneys borrowed by it; (b) any indebtedness of a Person under acceptance or documentary credit facilities; (c) any indebtedness of a Person under bills, bonds, debentures, notes or similar instruments on which a Person is liable; (d) any obligations of a Person under leases which in accordance with accounting principles generally accepted in Korea are required to be capitalised for financial reporting purposes; (e) any indebtedness of a Person (whether actual or contingent) for moneys owing under any instrument entered into by a Person in respect of the acquisition cost of assets payment of which is deferred for a period in excess of six months after acquisition thereof, and (f) indebtedness of a Person (actual or contingent) under guarantees, security, indemnities or other commitments designed to assure any creditors in respect of the payment of any indebtedness of any other person; and

(ii) "**Person**" means any individual, company, corporation, firm, partnership, joint venture, association, organisation, state, agency of a state or other entity, whether or not having a separate legal personality.

11. **Meetings of Covered Bondholders, Modification, Waiver and Substitution**

(a) **Meetings of Covered Bondholders:** The Trust Deed contains provisions for convening meetings of Covered Bondholders to consider any matter affecting their interests, including the sanctioning by Extraordinary Resolution (as defined in the Trust Deed) of a modification of any of these Conditions or any provisions of the Trust Deed or the other Transaction Documents. Such a meeting may be convened by the Issuer or the Trustee and shall be convened by the Trustee if requested in writing by Covered Bondholders holding not less than 10% in nominal amount of the Covered Bonds for the time being outstanding (subject to, in each case, the Trustee being indemnified and/or secured and/or prefunded to its satisfaction against the costs and expenses of such meeting). The quorum for any meeting convened to consider an Extraordinary Resolution shall be two or more persons holding or representing more than 50% in nominal amount of the Covered Bonds for the time being outstanding, or at any adjourned meeting two or more persons being or representing Covered Bondholders whatever the nominal amount of the Covered Bonds held or represented, unless (i) the business of such meeting is the substitution of the Issuer as principal debtor under the Trust Deed, in which case no quorum is required provided that the holders of the relevant nominal amount outstanding of the Covered Bonds have approved such substitution; or (ii) the business of such meeting includes consideration of proposals, *inter alia*, (A) to amend the dates of maturity or redemption of the Covered Bonds, any date for payment of interest or Interest Amounts on the Covered Bonds, in each case, for the avoidance of doubt, other than due to an Extended Maturity Date being specified in the relevant Pricing Supplement, (B) to reduce or cancel the nominal amount of, or any premium payable on redemption of, the Covered Bonds, (C) to reduce the rate or rates of interest in respect of the Covered Bonds or to vary the method or basis of calculating the rate or rates or amount of interest or the basis for calculating any Interest Amount in respect of the Covered Bonds, (D) if a Minimum Rate of Interest and/or a Maximum Rate of Interest or Redemption Amount is shown in the relevant Pricing Supplement, to reduce any such Minimum Rate of Interest and/or Maximum Rate of Interest or any such Redemption Amount, (E) to vary any method of, or basis for, calculating the Final Redemption Amount or the Optional Redemption Amount or (F) to modify the provisions concerning the quorum required at any meeting of Covered Bondholders or the majority required to pass an Extraordinary Resolution, in which case the necessary quorum shall be two or more persons holding or representing not less than 75%, or at any adjourned meeting not less than 25%, in nominal amount of the Covered Bonds for the time being outstanding. Any Extraordinary Resolution duly passed shall be binding on Covered Bondholders (whether or not they were present at the meeting at which such resolution was passed) and on all Couponholders.

The Trust Deed provides that a resolution:

(1) in writing signed by or on behalf of; or

(2) approved by way of electronic consents communicated through the electronic communications systems of the relevant clearing system(s) to the Issuing and Paying Agent or another specified agent and/or the Trustee in accordance with their operating rules and procedures by or on behalf of,

the holders of not less than 75% (or, in the case of a resolution regarding the substitution of the Issuer as principal debtor under the Trust Deed, such percentage as is required by the Korean Covered Bond Laws) in nominal amount of the Covered Bonds outstanding shall for all purposes be as valid and effective as an Extraordinary Resolution passed at a meeting of Covered Bondholders duly convened and held. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Covered Bondholders.

The Trust Deed sets out the requirements for the holding of meetings of the Covered Bondholders where the relevant resolution affects one Series alone or more than one Series. The Trust Deed further provides that where any provisions of the Trust Deed or the Conditions expressly require an Extraordinary Resolution of the Covered Bonds of all outstanding Series as if they were all a single Series, any such Extraordinary Resolution shall be deemed to have been duly passed only if passed at a single meeting of the Covered Bondholders of all Series (provided that any such resolution may also be passed by resolutions in writing or approved by way of electronic consents).

These Conditions may be amended, modified or varied in relation to any Series of Covered Bonds by the terms of the relevant Pricing Supplement in relation to such Series.

(b) **Modification of the Transaction Documents:**

(i) Subject to Condition 11(b)(ii) below, the Trustee may agree, without the consent of the Covered Bondholders or Couponholders, to (A) any modification of any of the provisions of the Transaction Documents (including these Conditions) that is in the opinion of the Trustee of a formal, minor or technical nature or is made to correct a manifest error or to comply with any mandatory provision of law, and (B) any other modification (other than a modification relating to a Series Reserved Matter or a modification requiring the consent of Covered Bondholders under the Korean Covered Bond Laws), and any waiver or authorisation of any breach or proposed breach, of any of the provisions of the Transaction Documents (including these Conditions) that is in the opinion of the Trustee not materially prejudicial to the interests of the Covered Bondholders of any Series, provided that in the case of a waiver or authorisation, the Trustee shall not do so in contravention of an express direction given by an Extraordinary Resolution or a request made pursuant to this Condition 11.

(ii) Notwithstanding Condition 11(b)(i) above and subject to the terms of the Trust Deed, the Trustee shall, without the consent of the Covered Bondholders or Couponholders, be obliged to concur with the Issuer in making any modifications (other than a modification relating to a Series Reserved Matter or a modification requiring the consent of Covered Bondholders under the Korean Covered Bond Laws) to the Transaction Documents (including these Conditions) to which it is a party or entering into any new documents, whether in its existing capacity as Trustee or in a new capacity, that the Issuer considers necessary:

(I) for the purpose of adding any additional Rating Agency or replacing any existing Rating Agency with a replacement Rating Agency or removing any Rating Agency in relation to the Programme and/or maintaining the current rating and complying with, or implementing or reflecting, any change in the criteria of one or more of the Rating Agencies which may be applicable from time to time to maintain that rating, provided that the Issuer certifies in writing to the Trustee that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect and if applicable, is necessary to comply with such criteria (including to avoid a downgrade, withdrawal or suspension of the then current rating assigned by each Rating Agency to any Series of Covered Bonds);

(II) for the purpose of enabling any Series of Covered Bonds to achieve a Moody's rating of "Aaa" and/or a Fitch rating of "AAA" and/or equivalent rating of any replacement Rating Agency, provided that the Issuer certifies in writing to the Trustee that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect and is necessary to achieve such a rating;

(III) for the purpose of making any modification to a Transaction Document or entering into new documents proposed by the Issuer in order (A) for a Swap Provider or an Account Bank to remain eligible to perform its role in such capacity in conformity with the criteria of the Rating Agencies and/or (B) for the Swap Provider or an Account Bank to avoid taking action which it would otherwise be required to take to enable it to continue performing such role (including, without limitation, posting collateral or advancing funds), provided that the Issuer certifies in writing to the Trustee that such modification or entry into new documents is necessary for the purposes described in Conditions 11(b)(ii)(III)(A) and/or 11(b)(ii)(III)(B) above;

(IV) for the purpose of enabling the Covered Bonds issued under the Programme to qualify or to continue to qualify as regulated covered bonds under the Korean Covered Bond Laws and which the Issuer certifies in writing to the Trustee are necessary to comply with the Korean Covered Bond Laws and are required solely for such purpose and have been drafted solely to such effect or, as the case may be, are solely to implement and reflect the Korean Covered Bond Laws;

(V) for the purpose of enabling the Covered Bonds issued under the Programme or any relevant Transaction Party to comply with any mandatory provisions of law, provided that the Issuer certifies to the Trustee in writing that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect;

(VI) for the purpose of enabling the Covered Bonds to be (or to remain) listed on the Stock Exchange, provided that the Issuer certifies to the Trustee in writing that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect;

(VII) for the purpose of enabling the Issuer to issue Covered Bonds in the form of N Bonds under the Programme on the following terms: (1) the terms and conditions of the N Bonds shall be governed by German law (save for Condition 3 (*Status*), which shall be governed by Korean law); (2) the N Bonds shall not be listed or traded on any Stock Exchange, but shall be issued in registered form on a private placement basis to eligible investors; and (3) the N Bonds shall constitute "Covered Bonds" issued under the Programme, ranking *pari passu* with all other Covered Bonds issued from time to time;

(VIII) in order to enable the Issuer and/or the Swap Provider (or any potential Swap Provider), as the case may be, to comply with:

(i) any obligation which applies to it under Articles 9, 10 and 11 of Regulation (EU) 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories dated July 4, 2012 (including, without limitation, any associated regulatory technical standards and advice, guidance or recommendations from relevant supervisory regulators) (EMIR); or

(ii) any other obligation which applies to it under EMIR; or

(iii) any other obligation under any applicable laws or regulations that require parties to uncleared over-the-counter derivative transactions to report such transactions to a trade repository and/or to exchange collateral in the form of initial margin and/or variation margin,

and any modification in connection with sub-paragraphs (VIII)(i) to (VIII)(iii) above may include (and without limitation) modifications to the provisions set out in the Transaction Documents regarding payments using assets in the Cover Pool, withdrawal of cash from the Cover Pool, opening of additional Cover Pool Accounts by the Issuer and the priority of payments in order to allow payments in respect of collateral by the Issuer (or, following the service of an Issuer EOD Notice, the Asset Monitor) to the Swap Provider in priority to amounts payable to the Covered Bondholders or Couponholders (but, for the avoidance of doubt, the Trustee is not obliged to agree to modifications to allow such payments to be made *pari passu* or in priority to payments to the Trustee in the priority of payments provisions); or

(IX) for the purpose of enabling the Covered Bonds issued under the Programme to qualify or to continue to qualify under any equivalence regime introduced for third-country credit institutions issuing covered bonds and for investors in those covered bonds as referred to in Article 31 of Directive (EU) 2019/2162 of the European Parliament and of the Council of 27 November 2019 on the issue of covered bonds and covered bond public supervision and amending Directives 2009/65/EC and 2014/59/EU ("**EU Covered Bond Directive**") and which the Issuer certifies in writing to the Trustee are necessary to comply with any such equivalence regime in relation to the EU Covered Bond Directive and/or Regulation (EU) 2019/2160 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) No 575/2013 as regards exposures in the form of Covered Bonds, and are required solely for such purpose and have been drafted solely to such effect;

provided that the Issuer (or, in the case of sub-paragraph (VIII) above, the Issuer, the Swap Provider and/or the potential Swap Provider, as appropriate) certifies to the Trustee in writing (and in the case of the Issuer, any such certificate to be signed by an Authorised Signatory of the Issuer) that (i) such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect and (ii) the Issuer has received advice from a reputable law firm in Korea that in respect of the relevant modification or entry into new documents either (x) no consent is required from the FSC, the MOEF and any other relevant Korean authority (other than an amendment filing to the Covered Bond Issuance Plan and acceptance thereof by the FSC); or that (y) any and all consents which are required from the FSC, the MOEF and any other relevant Korean authority have been received from the FSC, the MOEF and any other relevant Korean authority and are in full force and effect.

Each certificate to be provided by the Issuer or the relevant Transaction Party or the relevant potential Swap Provider, as the case may be, pursuant to paragraphs (I) to (VIII) above is a "**Modification Certificate**" and it is agreed that the Trustee shall rely on any Modification Certificate absolutely and without further enquiry or liability to any Covered Bondholders or Couponholders or any other person, provided that:

(1) except for any modification or entry into new documents pursuant to Condition 11(b)(ii)(VII) the Issuer has provided at least 30 days' notice to the Covered Bondholders of each Series of the proposed modification or entry into new documents in accordance with Condition 16; and

(2) the Modification Certificate(s) in relation to such modification or entry into new documents shall be provided to the Trustee both at the time the Trustee is notified of the proposed modification or entry into new documents and on the date that such modification or entry into new documents takes effect,

and further provided that:

(3) except for any modification or entry into new documents pursuant to Condition 11(b)(ii)(VII), Covered Bondholders representing at least 10% in nominal amount of the Covered Bonds of all Series then outstanding as if they were all a single Series (and for this purpose, the nominal amount of Covered Bonds which are not denominated in U.S. dollars shall be the equivalent in U.S. dollars at the spot rate of a bank nominated by the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor for the conversion of the relevant currency or currencies into U.S. dollars on the seventh dealing day prior to the last day of the notification period referred to above) have not contacted the Trustee in writing (or otherwise in accordance with the then current practice of any applicable clearing system

through which such Covered Bonds may be held) within such notification period notifying the Trustee that such Covered Bondholders do not consent to the modification or entry into new documents.

If Covered Bondholders representing at least 10% in nominal amount of the Covered Bonds of all Series then outstanding as if they were all a single Series (and for this purpose, the nominal amount of Covered Bonds which are not denominated in U.S. dollars shall be the equivalent in U.S. dollars at the spot rate of a bank nominated by the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor for the conversion of the relevant currency or currencies into U.S. dollars on the seventh dealing day prior to the last day of the notification period referred to above) have notified the Trustee in writing (or otherwise in accordance with the then current practice of any applicable clearing system through which such Covered Bonds may be held) within the notification period referred to above that they do not consent to the modification or entry into new documents, then such modification or entry into new documents will not be made unless a single Extraordinary Resolution or, as determined in accordance with the provisions of the Trust Deed, separate Extraordinary Resolutions of the Covered Bondholders of the Series affected by such modification or entry into new documents is/are passed in favor of such modification or entry into new documents in accordance with Condition 11(a). Objections made in writing other than through the applicable clearing system must be accompanied by evidence to the Trustee's satisfaction (having regard to prevailing market practices) of the relevant Covered Bondholder's holding of the Covered Bonds;

(4) the Issuer:

(i) obtains from each of the Rating Agencies written confirmation that such modification or entry into new documents would not result in a downgrade, withdrawal or suspension of the then current ratings assigned to any Series of Covered Bonds by such Rating Agency and would not result in any Rating Agency placing any Covered Bonds on rating watch negative (or equivalent) and delivers a copy of each such confirmation to the Issuer and the Trustee; or

(ii) certifies in the Modification Certificate that it has been unable to obtain such written confirmation, but has received oral confirmation from an appropriately authorised person at each of the Rating Agencies that such modification or entry into new documents would not result in (x) a downgrade, withdrawal or suspension of the then current ratings assigned to any Covered Bonds by such Rating Agency or (y) such Rating Agency placing any Covered Bonds on rating watch negative (or equivalent); or

(iii) certifies in the Modification Certificate that it has informed the Rating Agencies of the proposed modification or entry into new documents and none of the Rating Agencies has indicated that such modification or entry into new documents would result in (x) a downgrade, withdrawal or suspension of the then current ratings assigned to any Covered Bonds by such Rating Agency or (y) such Rating Agency placing any Covered Bonds on rating watch negative (or equivalent);

(5) the Asset Monitor has provided its consent to such modification or entry into new documents prior to the date that such modification or entry into new documents takes effect, such consent not to be unreasonably withheld or delayed, and a copy of such consent has been provided to the Trustee; and

(6) the Issuer pays all fees, all costs and expenses (including legal fees) properly incurred and all liabilities and other amounts incurred by the Trustee in connection with such modification, or entry into new documents.

(iii) Any such modification, entry into new documents, authorisation or waiver in accordance with the Trust Deed and this Condition 11(b) shall be binding on the Covered Bondholders and the Couponholders and such modification or entry into new documents shall be notified by the Issuer as soon as reasonably practicable to the Covered Bondholders (in accordance with Condition 16), the Asset Monitor and, so long as any of the Covered Bonds rated by the Rating Agencies remains outstanding, each Rating Agency.

(iv) Notwithstanding any other provision of this Condition 11, the Trustee is not obliged to concur with the Issuer in respect of any changes or amendments as contemplated under this Condition 11 which, in the sole opinion of the Trustee would impose more onerous obligations upon it or expose it to any additional duties, responsibilities or liabilities or reduce or amend the protective provisions afforded to the Trustee in the Trust Deed, Agency Agreement and/or these Conditions.

(c) **Substitution:** The Trust Deed provides that if, pursuant to Article 22(3) of the Korean Covered Bond Act, the FSC has requested that the consent of Covered Bondholders be sought in preparation for an order to be given by the FSC that the contracts relating to the Covered Bonds be transferred to another issuer, the Issuer will seek, subject to such amendment of the Trust Deed and such other conditions as the Trustee may require, the consent of holders of Covered Bonds of all outstanding Series as if they were all a single Series of Covered Bonds acting by Extraordinary Resolution, to the substitution of the relevant substitute issuer that is an 'Eligible Issuer' for the purposes of the Korean Covered Bond Act (the "**Substituted Obligor**") in place of the Issuer, or of any previous substituted company, as principal debtor under the Trust Deed and the Covered Bonds, provided that the Issuer and the Substituted Obligor comply with such other requirements as the Trustee may direct in the interests of the Covered Bondholders.

Notice of the substitution shall be given by the Issuer to the Covered Bondholders (in accordance with Condition 16) within 14 days of the execution of such amendment and/or transfer documents as aforesaid and compliance with such requirements.

Provided that holders of Covered Bonds of all outstanding Series as if they were a single Series, acting by Extraordinary Resolution, have approved such substitution, and upon completion of the formalities set out in the Trust Deed, the Substituted Obligor shall be deemed to be named in the Transaction Documents, the Covered Bonds, the Certificates, the Coupons and the Talons as the principal debtor in place of the Issuer (or of any previous substitute) and the Transaction Documents, the Covered Bonds, the Certificates, the Coupons and the Talons shall be deemed to be amended as necessary to give effect to the substitution.

(d) **Entitlement of the Trustee:** In connection with the exercise of its functions, rights, powers and discretions (including but not limited to those referred to in this Condition 11) the Trustee shall have regard to the interests of the Covered Bondholders as a class and shall not have regard to the consequences of any such exercise for individual Covered Bondholders or Couponholders, and the Trustee shall not be entitled to require on behalf of any Covered Bondholder or Couponholder, nor shall any Covered Bondholder or Couponholder be entitled to claim, from the Issuer any indemnification or payment in respect of any tax consequence of any such exercise upon individual Covered Bondholders or Couponholders.

(e) **Deemed consent to termination or resignation of Asset Monitor:** By holding Covered Bonds, each Covered Bondholder is deemed to consent to the resignation or termination of the Asset Monitor if:

(i) such resignation or termination of the Asset Monitor is due to the appointment of the Asset Monitor as the auditor of the Issuer or where it is expected that the Asset Monitor will be appointed as the auditor of the Issuer; or

(ii) an Extraordinary Resolution of holders of Covered Bonds of all outstanding Series as if they were all a single Series has approved such resignation or termination of the Asset Monitor.

12. **Enforcement**

At any time after the Covered Bonds become due and payable, the Trustee may, at its discretion and without further notice, institute such proceedings and/or take such other steps and/or action (including lodging an appeal in any proceedings) against or in relation to the Issuer or any other person as it may think fit to enforce the terms of the Trust Deed, the Covered Bonds and the Coupons, but it need not institute any such proceedings and/or take any such other steps or action unless (a) it shall have been so directed by the Covered Bondholders acting by way of an Extraordinary Resolution of holders of Covered Bonds of all outstanding Series as if they were all a single Series or so requested in writing by Covered Bondholders holding at least 25%. in nominal amount of the Covered Bonds of all outstanding Series as if they were all a single Series, and (b) it shall have been indemnified and/or secured and/or pre-funded to its satisfaction. No Covered Bondholder or Couponholder may proceed directly against the Issuer unless the Trustee, having become bound so to proceed, fails to do so within a reasonable time and such failure is continuing. Any proceeds received by a Covered Bondholder pursuant to any such proceedings brought by a Covered Bondholder shall be paid promptly following receipt thereof to the Trustee for application pursuant to clause 12 of the Establishment Deed or, as the case may be, pursuant to Clause 5.1 of the Trust Deed.

13. **Indemnification of the Trustee**

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including provisions relieving it from taking any action unless indemnified and/or secured and/or pre-funded to its satisfaction. The Trustee is entitled to enter into business transactions with the Issuer and/or any other Transaction Party and any entity related to the Issuer and/or any other Transaction Party without accounting for any profit.

The Trustee may rely without liability to Covered Bondholders or Couponholders, the Issuer, any other Transaction Party or any other person on any report, confirmation or certificate or any advice or opinion of any accountants, legal advisers, financial advisers, financial institution or any other expert, whether or not addressed to it and whether their liability in relation thereto is limited (by its terms or by any engagement letter relating thereto entered into by the Trustee or any other person or in any other manner) by reference to a monetary cap, methodology or otherwise. The Trustee may accept and shall be entitled to rely on any such report, confirmation, certificate, advice or opinion and, in such event, such report, confirmation, certificate, advice or opinion shall be binding on the Issuer, the Trustee and the Covered Bondholders and Couponholders.

None of the Trustee or any of the Agents shall be responsible for the performance by the Issuer, the Asset Monitor or any other person appointed by the Issuer in relation to the Covered Bonds of the duties and obligations on their part expressed in respect of the same or under the Transaction Documents and, unless it has express written notice from the Issuer to the contrary, the Trustee and each Agent shall be entitled to assume that the same are being duly performed.

None of the Trustee or any Agent shall be liable to any Covered Bondholders or Couponholder, the Issuer, any other Transaction Party or any other person for any action taken by the Trustee or such Agent in accordance with the instructions of the Covered Bondholders. The Trustee shall be entitled to rely on any direction, request or resolution of Covered Bondholders given by holders of the requisite principal amount of Covered Bonds outstanding or passed at a meeting of Covered Bondholders convened and held in accordance with the Trust Deed.

Whenever the Trustee is required or entitled by the terms of the Trust Deed, these Conditions or any other Transaction Document to exercise any discretion or power, take any action, make any decision or give any direction, the Trustee is entitled, prior to its exercising any such discretion or power, taking any such action, making any such decision, or giving any such direction, to seek directions from the Covered Bondholders by way of an Extraordinary Resolution, and the Trustee is not responsible or liable to any person for any loss or liability incurred by any person as a result of any delay in it exercising such discretion or power, taking such action, making such decision, or giving such direction where the Trustee is seeking such directions or in the event that no such directions are received.

The Trustee shall not be under any obligation to monitor compliance with the provisions of the Trust Deed, any other Transaction Document or these Conditions.

Each Covered Bondholder and Couponholder shall be solely responsible for making and continuing to make its own independent appraisal and investigation into the financial condition, creditworthiness, condition, affairs, status and nature of the Issuer, the Asset Monitor and each other Transaction Party, and the Trustee shall not at any time have any responsibility for the same and each Covered Bondholder and Couponholder shall not rely on the Trustee in respect thereof.

14. **Replacement of Covered Bonds, Certificates, Coupons and Talons**

If a Covered Bond, Certificate, Coupon or Talon is lost, stolen, mutilated, defaced or destroyed, it may be replaced, subject to applicable laws, regulations and stock exchange or other relevant authority regulations, at the specified office of the Issuing and Paying Agent (in the case of Bearer Covered Bonds, Coupons or Talons) and of the relevant Registrar (in the case of Certificates) or such other Paying Agent or Transfer Agent, as the case may be, as may from time to time be designated by the Issuer for the purpose and notice of whose designation is given to Covered Bondholders, in each case on payment by the claimant of the fees and costs incurred in connection therewith and on such terms as to evidence, security and indemnity (which may provide, *inter alia*, that if the allegedly lost, stolen or destroyed Covered Bond, Certificate, Coupon or Talon is subsequently presented for payment or, as the case may be, for exchange for further Coupons, there shall be paid to the Issuer on demand the amount payable by the Issuer in respect of such Covered Bonds, Certificates, Coupons or further Coupons) and otherwise as the Issuer may require. Mutilated or defaced Covered Bonds, Certificates, Coupons or Talons must be surrendered before replacements will be issued.

15. **Further Issues**

The Issuer may from time to time without the consent of the Covered Bondholders or Couponholders create and issue further covered bonds either having the same terms and conditions as the Covered Bonds in all respects (or in all respects except for the issue date and the first payment of interest on them) and so that such further issue shall be consolidated and form a single series with the outstanding Covered Bonds of any series (including the Covered Bonds) or upon such terms as the Issuer may determine at the time of their issue, subject to the Trustee first receiving written confirmation from the Issuer that:

(a) the Asset Coverage Test was satisfied on the previous Calculation Date and will continue to be satisfied after the issue of any further covered bonds; and

(b) no Issuer Event of Default has occurred or will occur as a consequence of the issue of any further covered bonds.

References in these Conditions to the Covered Bonds include (unless the context requires otherwise) any further covered bonds issued pursuant to this Condition 15 and forming a single series with the Covered Bonds. Any further covered bonds forming a single series with the outstanding securities of any series (including the Covered Bonds) constituted by the Trust Deed or any deed supplemental to it shall, and any other covered bonds may (with the consent of the Trustee), be constituted by the Trust Deed. The Trust Deed contains provisions for convening a single meeting of the Covered Bondholders and the holders of Covered Bonds of other series in certain circumstances. The Issuer shall notify each Rating Agency upon the issue of any further covered bonds.

16. **Notices**

Notices to the holders of Registered Covered Bonds shall be mailed to them at their respective addresses in the Register and deemed to have been given on the fourth weekday (being a day other than a Saturday or a Sunday) after the date of mailing. Notices to the holders of Bearer Covered Bonds shall be valid if published in a daily newspaper of general circulation in London (which is expected to be the *Financial Times*). Any such notice shall be deemed to have been given on the date of such publication or, if published more than once or on different dates, on the first date on which publication is made, as provided above.

Couponholders shall be deemed for all purposes to have notice of the contents of any notice given to the holders of Bearer Covered Bonds in accordance with this Condition 16.

17. **Contracts (Rights of Third Parties) Act 1999**

Without prejudice to Condition 12, no person shall have any right to enforce any term or condition of the Covered Bonds under the Contracts (Rights of Third Parties) Act 1999.

18. **Governing Law and Jurisdiction**

(a) **Governing Law:** The Trust Deed, the Covered Bonds, the Coupons and the Talons and any non-contractual obligations arising out of or in connection with them are governed by, and shall be construed in accordance with, English law save that the provisions of Condition 3 are governed by, and shall be construed in accordance with, Korean law.

(b) **Jurisdiction:** The courts of England are to have jurisdiction to settle any disputes (whether contractual or non-contractual) that may arise out of or in connection with any Covered Bonds, Coupons or Talons and accordingly any legal action or proceedings arising out of or in connection with any Covered Bonds, Coupons or Talons ("**Proceedings**") may be brought in such courts. The Issuer has in the Trust Deed irrevocably submitted to the jurisdiction of such courts.

(c) **Service of Process:** The Issuer has in the Trust Deed irrevocably appointed an agent in England to receive, for it and on its behalf, service of process in any Proceedings in England.

USE OF PROCEEDS

The net proceeds from each issue of the Covered Bonds will be applied by the Bank for its general corporate purposes or such other purposes as may be specified in the applicable Pricing Supplement.

EXCHANGE RATES

The following table sets forth, the Market Average Exchange Rate for the last day of, and the average for, the periods indicated. No representation is made that the Won or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all.

Year Ended December 31,	At End of Period	Average[(1)]	High	Low
	(Won per US$1.00)			
2018	1,118.1	1,100.3	1,142.5	1,057.6
2019	1,157.8	1,165.7	1,218.9	1,111.6
2020	1,088.0	1,180.1	1,280.1	1,082.7
2021	1,185.5	1,144.4	1,199.1	1,083.1
2022	1,267.3	1,292.0	1,436.6	1,185.5
2023 (through October 17)	1,353.8	1,302.6	1,360.6	1,219.3
January	1,228.7	1,247.3	1,274.7	1,228.7
February	1,317.4	1,270.7	1,317.4	1,219.3
March	1,287.2	1,308.0	1,325.7	1,287.2
April	1,339.9	1,320.0	1,339.9	1,295.4
May	1,322.2	1,328.2	1,340.2	1,311.4
June	1,312.8	1,296.7	1,321.6	1,273.5
July	1,280.0	1,286.3	1,319.4	1,261.6
August	1,321.4	1,318.5	1,341.6	1,273.8
September	1,344.8	1,329.5	1,344.8	1,319.2
October (through October 17)	1,353.8	1,349.0	1,360.6	1,339.6

Source: Seoul Money Brokerage Services, Ltd.

Note:

(1) Represents the average of the Market Average Exchange Rate over the relevant period.

In addition to other information contained in this offering circular, you should consider carefully the risks described below. These risks are not the only ones that the Bank faces. Additional risks not currently known to the Bank or those which the Bank currently believes are immaterial may also impair its business operations. The Bank's business, financial condition or results of operations could be materially adversely affected by any of these risks.

Risks Relating to the Bank's Business

Difficult conditions and turbulence in the Korean and global economy and financial markets may adversely affect the Bank's business, asset quality, capital adequacy and earnings.

Most of the Bank's assets are located in, and the Bank generates most of its income from, Korea. Accordingly, the Bank's business and profitability are largely dependent on the general economic and social conditions in Korea, including interest rates, inflation, exports, personal expenditures and consumption, unemployment, demand for business products and services, debt service burden of households and businesses, the general availability of credit, the asset value of real estate and securities and other factors affecting the financial well-being of the Bank's corporate and retail customers.

The Korean economy is closely integrated with, and is significantly affected by, developments in the global economy. In light of the periodic re-proliferation of COVID-19, global inflation caused by rising energy prices and global supply chain disruptions, the Russia-Ukraine conflict and the subsequent economic slowdown, rapidly changing monetary policies (including higher interest rates and quantitative tightening) led by developed countries in reaction to such inflation, instability in the financial industries (including potential for bank runs) and capital flight risks in emerging economies caused by such changes in monetary policy, credit risks of Chinese real estate developers, ongoing US-China trade conflicts, signs of economic slowdown in China and continuing geopolitical and social instability in various parts of the Middle East, including Iraq, Syria and Yemen, among others, significant uncertainty remains as to the global economic prospects in general and has adversely affected, and may continue to adversely affect, the Korean economy. In addition, as the Korean economy matures, it is increasingly exposed to the risk of a "scissor effect," namely being pursued by competitors in less advanced economies while not having fully caught up with competitors in advanced economies, which risk is amplified by the fact that Korean economy is heavily dependent on exports. The Korean economy also continues to face other difficulties, including sluggishness in domestic consumption and investment, risk of corporate debt liquidity issues, volatility in the real estate market, rising household debt, potential declines in productivity due to aging demographics and low birth rates, and a rise in youth unemployment. Any future deterioration of the global and Korean economies could adversely affect the Bank's business, financial condition and results of operations.

In particular, difficulties in financial and economic conditions could result in significant deterioration in the quality of the Bank's assets and accumulation of higher provisioning, allowances for loan losses and charge-offs as an increasing number of the Bank's corporate and retail customers declare bankruptcy or insolvency or otherwise face increasing difficulties in meeting their debt obligations. For example, in 2011 and 2012, the continuing slump in the real estate market and the shipbuilding industry led to increased delinquency among many of the Bank's corporate borrowers, including some Korean commercial conglomerates knowns as "*chaebol*s," in such industries, and in certain cases, even insolvency, workouts, recovery proceedings and/or voluntary arrangements with creditors. During the same period, the sustained slump in the real estate market also led to increased delinquency among the Bank's retail borrowers, and in particular, borrowers with collective loans for pre-sale of newly constructed apartment units. Recently, various Government-led financial support programs have been introduced in response to the COVID-19 pandemic, rising inflation and economic slowdown, such as loan rescheduling and principal and interest payment deferral programs, have helped financial institutions, including the Bank, manage their asset quality at a stable level. Such financial support programs have been introduced since April 1, 2020 and are available to small- and medium-sized enterprises and "small office, home office" ("**SOHO**") that meet certain criteria, such as that they have not been delinquent on their prior loans and are not subject to liquidation or bankruptcy proceedings. Such financial support programs expired on September 30, 2022. However, the Government has decided, based on discussions with financial institutions, to provide further financial support to the debtors using the financial support programs as of the expiration date of such financial support programs in the forms of (i) the extension of loan maturity dates up to 3 years, (ii) the postponement of repaying loans up to 1 year until September 2023, or (iii) the rescheduling of loans under the New Start Fund set up by the Government on October 4, 2022 or loan rescheduling programs led by the financial institutions. Accordingly, the Bank's delinquency ratio was 0.24% as of December 31, 2020, 0.19% as of December 31, 2021, 0.21% as of December 31, 2022 and 0.27% as of June 30, 2023. However, despite such financial support programs, there is no assurance that the Bank will not experience increased levels of credit losses on loans from borrowers, particularly those in troubled industries, since the quality of loans to such borrowers may further deteriorate due to a continued slump in volatile industries amid sluggish economic situation or for other reasons. In addition, the COVID-19 outbreak continues to have certain level of impact on global and domestic consumption, most notably in the transportation, tourism, retail, lodging, catering, industrial production and construction industries and any unexpected deterioration of the outbreak may lead to an increase in delinquency and adversely affect the Bank's asset quality. Further, Government-led financial support programs or other countermeasures may not achieve their intended results and could also result in unintended consequences or otherwise adversely affect the Bank's business, financial condition and results of operations.

Moreover, as was the case during the global financial crisis of 2008-2009, depending on the nature of the difficulties in the financial markets and general economy, the Bank may be forced to scale back certain of its core lending activities and other operations and/or borrow money at a higher funding cost or face a tightening in the net interest spread, any of which may have a negative impact on its earnings and profitability. Furthermore, while the Bank currently maintains its capital adequacy ratio at a level higher than the required regulatory minimum, there is no guarantee that an even higher capital requirement will not be imposed by the Government in case of a renewed economic crisis. In addition, given the highly integrated nature of financial systems and economic relationships worldwide, there may be other unanticipated systemic or other risks that may not be presently predictable. Any of these risks, if materialized, may have a material adverse effect on the Bank's business, liquidity, financial condition and results of operations.

Competition in the Korean financial services industry is intense, and may further intensify.

Competition in the Korean financial services industry is, and is likely to remain, intense, including as a result of the sustained low interest rate environment (which narrows opportunities to make profit based on the spread between lending rates and funding rates), the continuing sluggishness in the general economy, the growing maturation and saturation of the industry as a whole, the entry of new market participants and deregulation, among others.

The Bank competes principally with other national commercial banks in Korea, but also faces competition from a number of additional banking institutions, including branches and subsidiaries of foreign banks operating in Korea, regional banks, Internet-only banks, government-owned development banks and Korea's specialized banks, such as Korea Development Bank, the Industrial Bank of Korea and the National Federation of Fisheries Cooperatives, as well as various other types of financial service providers, including savings institutions (such as mutual savings and finance companies, credit unions and credit cooperatives), investment companies (such as securities brokerage firms, merchant banking corporations and asset management companies) and life insurance companies. As of June 30, 2023, Korea had six major nationwide domestic commercial banks (including Citibank Korea Inc. and Standard Chartered Bank Korea Limited, both of which are domestic commercial banks acquired by global financial institutions), six regional commercial banks, three Internet-only banks and thirty-five branches and subsidiaries of foreign banks. Foreign financial institutions, many of which have greater experiences and resources than the Bank does, may continue to enter the Korean market and compete with the Bank in providing financial products and services either by themselves or in partnership with existing Korean financial institutions.

In the small- and medium-sized enterprise and retail banking segments, which have been the Bank's traditional core businesses, competition is expected to increase further. In recent years, Korean banks, including the Bank, have increasingly focused on stable asset growth based on quality credit, such as corporate borrowers with high credit ratings, loans to SOHO with high levels of collateralization, and mortgage and home equity loans within the limits of the prescribed loan-to-value ratios and debt-to-income ratios. This common shift in focus toward stable growth based on less risky assets has intensified competition as banks compete for the same limited pool of quality credit by engaging in price competition or by other means although the Bank has traditionally focused, and will continue to focus, on enhancing profitability rather than increasing asset size or market share, and has avoided, to the extent practicable, engaging in price competition by way of lowering lending rates. In addition, such competition may result in lower net interest margin and reduced overall profitability, especially if the low interest rate environment were to continue for a significant period of time. The Bank's net interest margin (on a separate basis) increased to 1.85% in 2022 from 1.62% in 2021 due to, at least partly, increases in base interest rate by the Bank of Korea from 1.00% to 1.25% in January 2022, from 1.25% to 1.50% in April 2022, from 1.50% to 1.75% in May 2022, from 1.75% to 2.25% in July 2022, from 2.25% to 2.50% in August 2022, from 2.50% to 3.00% in October 2022 and from 3.00% to 3.25% in November 2022. The Bank of Korea further raised the base interest rate from 3.25% to 3.50% in January 2023, which may be further increased during 2023. Even if interest rates were to increase, the effect on the Bank's results of operations may not be as beneficial as expected, or at all, due to factors such as increased volatility of market interest rates and tighter regulations regarding SOHO loans, including the implementation of additional credit review guidelines for individual businesses. Further, if competing financial institutions seek to expand market share by lowering their lending rates, the Bank may suffer customer loss, especially among customers who select their lenders principally on the basis of lending rates. In response thereto or for other strategic reasons, the Bank may subsequently lower its lending rates to stay competitive, which could lead to a further decrease in its net interest margins and outweigh any potential positive impact on the net interest margin from a general rise in market interest rates. Any future decline in the Bank's customer base or its net interest margins could have an adverse effect on its results of operations and financial condition.

Consolidation among the Bank's rival institutions and the Government's privatization efforts may also add competition in the markets in which the Bank conducts business. A number of significant mergers and acquisitions in the industry have taken place in Korea recently. In January 2019, Woori Financial Group was established pursuant to a comprehensive stock transfer under the Korean Commercial Code whereby holders of the common stock of Woori Bank and certain of its subsidiaries transferred all of their shares to Woori Financial Group (the new financial holding company) and in return received shares of Woori Financial Group. As a result, Woori Bank and certain of its former wholly-owned subsidiaries became direct and wholly-owned subsidiaries of Woori Financial Group. The Korea Deposit Insurance Corp., which as of April 9, 2021 owned 17.25% of the outstanding common stock of Woori Financial Group, has sold 13.63% of the outstanding common stock of Woori Financial Group in multiple transactions in accordance with its plan that was approved by the FSC in June 2019. The Korea Deposit Insurance Corp. sold additional 2.33% of the outstanding common stock of Woori Financial Group in May 2022 and currently owns only 1.29% of the outstanding common stock of Woori Financial Group. In the asset management business sector, Woori Financial Group acquired two asset management companies, Tongyang Asset Management and ABL Global Asset Management (former Allianz Global Investors) in 2019. In August 2021, KB Financial Group completed the acquisition of Prudential Life

Insurance, the former Korean unit of Prudential Financial Inc. Any of these developments may place the Bank at a competitive disadvantage and outweigh any potential benefit to the Bank in the form of opportunities to acquire new customers who are displeased with the level of services at the newly reorganized entities or to provide credit facilities to corporate customers who wish to maintain relationships with a wide range of banks in order to diversify their sources of funding. The Bank expects that such consolidation and other structural changes in the financial industry will continue. Other financial institutions may seek to acquire or merge with other entities, and the financial institutions resulting from such consolidation may, by virtue of their increased size and business scope, provide greater competition for the Bank. Increased competition and continuing consolidation may lead to decreased margins, resulting in a material adverse impact on the Bank's future profitability.

Regulatory reforms and the general modernization of business practices in Korea have also led to increased competition among financial institutions in Korea. In December 2017, the FSC introduced the "my account at a glance" system, which enables consumers to view their key financial account information online, including information on banks, insurances, mutual finance, loan and card issuances on one page. The "my account at a glance" system became available on mobile channels in February 2016 and expanded its scope of services to include savings banks and securities companies. Since their introduction, the integrated automatic payment transfer management service, integrated account management service and "my account at a glance" system have gained widespread acceptance. As the reform of the financial sector continues, competition may become more intense among existing banks, insurance companies, securities companies and other financial organizations, and may lead to significant changes in the current Korean financial market. Moreover, since January 1, 2020, in calculating loan to deposit ratio, retail loans and corporate loans are weighed differently, with retail loans subject to a multiple of 115% and corporate loans (excluding loans to SOHOs) subject to a multiple of 85%, thereby increasing the impact of retail loans and reducing the impact of corporate loans in calculating such ratio. This may further intensify competition for corporate loans and deposits among commercial banks and, as a result, the Bank may face difficulties in increasing or retaining its corporate loans and deposits, which in turn may result in an increase in its cost of funding.

Furthermore, as the Korean economy further develops and new business opportunities arise, more competitors may enter the financial services industry. For example, as online service providers and technology companies with large-scale user networks, such as Kakao Corp., NAVER and Samsung Electronics, recently make significant inroads in providing virtual payment services through a system based on a growing convergence of financial services and technology commonly referred to as "fintech," competition for online customers is growing not just among commercial banks, but also from online and mobile payment service providers. In 2015, the Government announced its plans to allow Internet-only banks to operate in Korea. KT consortium's K-Bank, Kakao consortium's Kakao Bank and Viva Republica consortium's Toss Bank commenced operations in April 2017, July 2017 and October 2021, respectively. Internet-only banks may have advantages over traditional banks as the former can pass savings in labor and overhead costs to their customers by offering higher interest rates on deposit accounts, lower loan costs and reduced service fees. Accordingly, commercial banks will likely face increasing pressure to upgrade their service platforms to attract and maintain online users, which represents a growing customer base compared to traditional customers who have primarily conducted banking in-person at physical banking branches.

As part of the Government's financial policies to promote innovative digital finance, 10 commercial banks, including the Bank, began offering a preliminary open banking service in October 2019. More local banks and fintech companies joined in December 2019, when the open banking service was fully and officially launched. Open banking service allows each fintech company and bank to provide banking services, such as checking balances and making withdrawals and transfers, with regards to customers' accounts at other banks. Using open banking service, customers can easily access accounts, products and services across multiple banks, instead of being limited to the accounts, products and services available at the particular bank that they deal with. In addition, on January 9, 2020, the Korean National Assembly passed amendments to three major data privacy laws (the Personal Information Protection Act, the Act on the Promotion of Information and Communications Network Utilization and Information Protection and the Act on the Use and Protection of Credit Information). These amendments introduced the MyData service, allowing and requiring (upon the customer's request and subject to compliance requirements) financial institutions that have been approved by the FSC as a MyData service provider access and sharing of customers' personal information, credit information and transaction data. On January 27, 2021, the Bank obtained a license from the FSC as a MyData service provider. On January 5, 2023, the Bank launched the MyData business and has been providing advanced wealth management and various financial services. Until October 13, 2021, the Financial Services Commission granted MyData licenses to 58 companies (46 companies receiving main licenses and 12 companies receiving preliminary licenses), 22 of which were fintech firms (19 companies receiving main licenses and three companies receiving preliminary licenses), and competition between traditional financial institutions like us and fintech firms is expected to intensify, particularly with respect to asset management services. On January 5, 2022, the API-based MyData service was fully implemented and 33 companies (including ten fintech firms) are providing services. As of June 30, 2023, the FSC had granted licenses to 66 companies to operate as MyData service providers, 24 of which were fintech or IT firms. If more fintech companies receive authorization as MyData service providers, we expect competition for customers among banks and fintech firms to intensify. In addition, the FSC also led discussions in July 2022 about the creation of a government-led platform where consumers can compare loan products from various financial institutions and apply for debt consolidation on a single platform.

Recently, following the global financial crisis, the Government has subjected Korean financial institutions to stricter regulatory requirements and guidelines in areas of asset quality, capital adequacy, liquidity and residential and other lending practices (including a requirement to maintain a certain ratio of core capital to total risk exposure, which was introduced in January 2018 in order to control excessive leverage), which has had a dampening effect on competition. The FSC implemented the capital requirements of Basel III, whose minimum requirements were phased in sequentially from December 1, 2013 through full implementation by January 1, 2015, based on the guidelines set forth in the amended Regulation on the Supervision of the Banking Business and the Detailed Regulation on the Supervision of the Banking Business. In addition, the FSC has implemented the Basel III requirements relating to liquidity coverage ratio and capital conservation buffer, each of which have been fully phased in as of January 1, 2019. As of January 1, 2016, the FSC implemented Basel III requirements relating to accumulation of additional capital for systemically important banks and bank holding companies and countercyclical capital buffer requirements. Each year, the FSC may designate banks with significant influence (based on size and connectivity with other financial institutions) on the domestic financial system as a domestic systemically important bank and require the accumulation of additional capital in accordance with the highest of: (i) ratio of common equity capital to risk-weighted assets, ranging from 0.0% to 2.0%, depending on the systematic importance evaluation score, (ii) if the bank's holding company is a domestic systemically important bank holding company, the capital ratio corresponding to the additional capital required for the bank holding company under the Financial Holding Company Supervision Regulations, or (iii) if the bank is also a global systemically important bank, as defined by the Basel Committee on Banking Supervision (the "**Basel Committee**"), the capital ratio as required by the Basel Committee. According to the instructions of the FSC, domestic systemically important banks, including the Bank, have been required to maintain an additional capital buffer of 0.25% since January 1, 2016, with such buffer increased by 0.25% annually to reach 1.00% as of January 1, 2019. The FSC may also, upon quarterly review, determine and require banks to accumulate a required level of countercyclical capital buffer within the range of 0% to 2.5% of risk-weighted assets, taking into account factors such as the degree of increase in credit relative to the gross domestic product. In July 2021, Shinhan Financial Group, Hana Financial Group, KB Financial Group, NongHyup Financial Group and Woori Financial Group were designated by the FSC as domestic systemically important bank holding companies, and the Bank, KEB Hana Bank, Kookmin Bank, NongHyup Bank and Woori Bank were designated by the FSC as domestic systemically important banks. In addition, in July 2021, the FSC identified domestic systemically important bank holding companies and domestic systemically important banks as domestic systemically important financial institutions under the Act on the Structural Improvement of the Financial Industry. Domestic systemically important financial institutions are required to prepare and submit their own recovery plans to the FSS within three months from the date of notification of designation pursuant to the Act on the Structural Improvement of the Financial Industry. However, there is no assurance that these measures will have the effect of curbing competition or that the Government will not reverse or reduce such measures or introduce other deregulatory measures, which may further intensify competition in the Korean financial services industry. For further details on the capital requirements applicable to the Bank, see "*Supervision and Regulation — Principal Regulations Applicable to Banks — Capital Adequacy*."

If, despite its efforts to adapt to the changing macroeconomic environment and comply with new regulations, the Bank is unable to compete effectively in the changing business and regulatory environment, its profit margin and market share may erode and its future growth opportunities may become limited, which could adversely affect its business, financial condition and results of operations.

The extent to which the COVID-19 pandemic will continue to impact the Bank's business, results of operations and financial condition will depend on future developments, which are highly uncertain and difficult to predict.

The rapid spread of COVID-19 and global health concerns relating to this outbreak, which was declared a "pandemic" by the World Health Organization in March 2020, have had severe negative impact on, among other things, financial markets, liquidity, economic conditions and trade and could continue to do so or could worsen for an unknown period of time, which could in turn have a material adverse impact on the Bank's business, results of operations and financial condition, including liquidity, asset quality and growth. Risks associated with a prolonged outbreak of COVID-19 may include:

- an increase in defaults on loan payments from the Bank's customers who may not be able to meet payment obligations, which may lead to an increase in delinquency;

- depreciation of the Won against major foreign currencies, which may increase the Bank's costs in servicing foreign currency-denominated debt and result in foreign exchange losses (see "Changes in interest rates, foreign exchange rates, bond and equity prices, and other market factors have affected and will continue to affect the Bank's business, results of operation and financial condition.");

- impairments in the fair value of the Bank's investments in companies that may be adversely affected by COVID-19; and

- increased cyberattacks and financial crimes under the new working arrangements such as expanded telework for employees.

The extent to which the COVID-19 pandemic will continue to impact the Bank's business, results of operations and financial condition will depend on future developments, including the timeliness and effectiveness of actions taken or not taken to contain and mitigate the effects of COVID-19 both in Korea and internationally by governments, central banks, healthcare providers, health system participants, other businesses and individuals, which are highly uncertain and difficult to predict. Therefore, the Korean and global economy may remain volatile or continue to deteriorate, which may also have the effect of increasing the likelihood and magnitude of the other risks described in this offering circular, thereby having a material adverse effect on the Bank's business, liquidity, financial condition and results of operations.

The Bank has significant exposure to small- and medium-sized enterprises, and financial difficulties experienced by such enterprises may result in a deterioration of its asset quality.

One of the Bank's core banking businesses has historically been and continues to be lending to small- and medium-sized enterprises (as defined in "*Business — Business Overview — The Bank's Principal Activities — Corporate Banking Services — Small- and Medium-sized Enterprises Banking*"). The Bank's loans (before allowance for loan losses and deferred loan origination costs and fees) to such enterprises amounted to ₩108,016 billion as of December 31, 2020, ₩121,961 billion as of December 31, 2021, ₩131,304 billion as of December 31, 2022 and ₩132,867 billion as of June 30, 2023, representing 36.0%, 37.2%, 37.9% and 38.6%, respectively, of the Bank's total loan portfolio as of such dates.

Compared to loans to large corporations, which tend to be better capitalized and better able to weather business downturns, or loans to individuals and households, which tend to be secured with homes and with respect to which the borrowers are therefore less willing to default, loans to small- and medium-sized enterprises have historically had a relatively higher delinquency ratio. Many small- and medium-sized enterprises represent sole proprietorships or small businesses dependent on a relatively limited number of suppliers or customers and tend to be affected to a greater extent than large corporate borrowers by fluctuations in the Korean and global economy. In addition, small- and medium-sized enterprises often maintain less sophisticated financial records than large corporate borrowers. Therefore, it is generally more difficult for banks to judge the level of risk inherent in lending to these enterprises, as compared to large corporations. In addition, many small- and medium-sized enterprises are dependent on business relationships with large corporations in Korea, primarily as suppliers. Any difficulties encountered by those large corporations would likely hurt the liquidity and financial condition of related small- and medium-sized enterprises, including those to which the Bank has exposure, also resulting in an impairment of their ability to repay loans. As large Korean corporations continue to expand into China, Southeast Asia and other countries with lower labor costs and other expenses by relocating their production plants and facilities to such countries, such development may have a material adverse impact on such small- and medium-sized enterprises.

Financial difficulties experienced by small- and medium-sized enterprises as a result of, among other things, recent economic difficulties in Korea and globally and aggressive marketing and intense competition among banks to lend to this segment in recent years, coupled with the Bank's efforts to counter asset quality deterioration through conservative lending policy, have led to a fluctuation in the asset quality of the Bank's loans to this segment. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the Bank's delinquent loans to small- and medium-sized enterprises were ₩372 billion, ₩363 billion, ₩385 billion and ₩492 billion, respectively, representing delinquency ratios (net of charge-offs and loan sales) of 0.34%, 0.30%, 0.29% and 0.37%, respectively. If the ongoing difficulties in the Korean or global economy were to continue or aggravate, the delinquency ratio of the Bank's loans to small- and medium-sized enterprises may rise.

Of particular concern is the Bank's exposure to enterprises in the real estate and leasing and construction industries. As of June 30, 2023, the Bank had outstanding loans (before allowance for loan losses and deferred loan origination costs and fees) to enterprises in the real estate and leasing and construction industries (many of which are small- and medium-sized enterprises) of ₩43,344 billion and ₩3,999 billion, respectively, representing 12.6% and 1.2%, respectively, of the Bank's total loan portfolio as of such date. The Bank also has other exposure to borrowers in these sectors of the Korean economy, including extending guarantees for the benefit of such companies and holding debt and equity securities issued by such companies. In addition, the Bank has exposure to borrowers in the shipbuilding and shipping industries, which have yet to stage a meaningful turnaround.

The enterprises in the real estate development and construction industries in Korea, which are heavily concentrated in the housing market, have recently seen modest growth backed by the housing market which has remained strong over the recent few years. However, the Government's policy measures to stabilize the real estate market, oversupply of residential property, ongoing economic sluggishness in Korea and globally and demographic changes in the Korean population may result in difficulties to the housing market in general as well as these enterprises. The Bank also has limited exposure to real estate project financing, particularly by construction companies that have built residential units in provinces outside the metropolitan Seoul area, which have experienced a relatively low rate of pre-sales, the proceeds from which the construction companies primarily rely on as a key source for liquidity and cash flow.

Any of the foregoing developments may result in deterioration in the asset quality of the Bank. See "*Description of Assets and Liabilities — Credit Exposures to Companies in Workout and Recovery Proceedings*." The Bank has been taking active steps to curtail delinquency among its small- and medium-sized enterprise customers, including by way of strengthening loan application review processes and closely monitoring borrowers in troubled sectors. Despite such efforts, there is no assurance that the delinquency ratio for the Bank's loans to small- and medium-sized enterprises will not rise in the future, especially if the Korean economy were to face renewed difficulties and, as a result, the liquidity and cash flow of these borrowers deteriorate. A significant rise in the delinquency ratios among these borrowers would lead to increased charge-offs and higher provisioning and reduced interest and fee income, which would have a material adverse effect on the Bank's business, financial condition and results of operations.

A limited portion of the Bank's credit exposure is concentrated in a relatively small number of large corporate borrowers, and future financial difficulties experienced by them may have an adverse impact on the Bank.

Of the Bank's 10 largest corporate exposures as of June 30, 2023, two were companies for which the Bank was a main creditor bank. All of the 10 companies are or were members of the main debtor groups as identified by the Governor of the FSS, which are largely comprised of the largest Korean commercial conglomerates knowns as "chaebols." As of such date, the total amount of the Bank's exposures to the 10 companies was ₩27,340 billion, or 8.1%, of its total exposures. As of that date, the Bank's single largest outstanding exposure to a main debtor group amounted to ₩4,642 billion, or 1.4%, of its total exposures. See "*Description of Assets and Liabilities — Loan Portfolio — Exposure to Main Debtor Groups*." Largely due to the continued stagnation in the shipbuilding industry, current and former member companies of the STX Group, one of the leading conglomerates in Korea, entered into voluntary arrangements in 2013 with their creditors (including the Bank) to improve their credit situation, and STX Offshore & Shipbuilding and STX Heavy Industries, two of the STX Group's member companies, recently filed for court receivership in May 2016 and July 2016, respectively. Due to stagnation in the construction industry, Keangnam Enterprises Co., Ltd., a large construction company in Korea, also entered into workout proceedings in 2013 and subsequently filed for recovery proceedings in March 2015. Dongbu Steel Co., Ltd. and Sambu Construction Co., Ltd. also experienced significant hardship and entered into workout or recovery proceedings in 2015. Additionally, in October 2015, creditors of Daewoo Shipbuilding & Marine Engineering Co., Ltd., led by Korea Development Bank, announced a restructuring plan that included cash injection and additional loans totaling ₩4.2 trillion and extensive streamlining measures, and in November 2016, Korea Development Bank agreed to swap ₩1.8 trillion of debt to equity and the Export-Import Bank of Korea agreed to issue ₩1 trillion of perpetual bonds. Amidst continued deterioration of Daewoo Shipbuilding & Marine Engineering Co., Ltd.'s financial conditions, in March 2017, Korea Development Bank and the Export-Import Bank of Korea further agreed to provide an additional ₩2.9 trillion in loans and swap ₩1.6 trillion of debt to equity, provided that other creditors and bondholders agree to certain debt-to-equity swaps and extension of maturities. In January 2016, Hanjin Heavy Industries & Construction Co., Ltd. entered into voluntary restructuring agreements with its creditors due to liquidity shortage in the wake of prolonged industry slowdown. Partly as a result of its active past efforts to reduce exposure to the shipbuilding and construction sectors, the

Bank currently has limited exposure to the aforementioned troubled companies. However, if the credit quality of the Bank's exposure to large corporations, including those in the main debtor groups, declines, the Bank may be required to record additional loan loss provisions in respect of loans and impairment losses in respect of securities, which would adversely affect its financial condition, results of operations and capital adequacy. The Bank cannot assure you that the allowances it has established against these exposures will be sufficient to cover all future losses arising from such exposures, especially in the case of a prolonged or renewed economic downturn.

A limited number of the main debtor groups to which the Bank has credit exposure are subject to restructuring programs or are otherwise making significant efforts to improve their financial conditions, such as by obtaining intragroup loans and entering into agreements to further improve their capital structures. There is no assurance that there will not be future restructuring with the Bank's major corporate customers or that such restructuring will not result in significant losses to the Bank with less than full recovery. In addition, if the Government decides to pursue an aggressive restructuring policy with respect to distressed companies, Korean commercial banks, including the Bank, may face a temporary rise in delinquencies and intensified pressure for additional provisioning. Furthermore, bankruptcies or financial difficulties of large corporations, including *chaebol* groups, may have an adverse ripple effect of triggering delinquencies and impairment of the Bank's loans to small- and medium-sized enterprises that supply parts or labor to such corporations. If the Bank experiences future losses from its exposure to large corporations, including *chaebol* groups, it may have a material adverse impact on the Bank's business, financial condition and results of operations.

The asset quality of the Bank's retail loan portfolio may deteriorate.

In recent years, consumer debt, including lending to households and small unincorporated businesses, has continued to increase in Korea. The Bank's portfolio of retail loans is comprised of two principal product types, namely secured retail loans (which are primarily comprised of mortgage and home equity loans secured by real estate) and general purpose loans (which are unsecured loans and tend to carry a higher credit risk). As of June 30, 2023, the Bank's retail loan portfolio (before allowance for loan losses and deferred loan origination costs and fees) was ₩140,092 billion, representing 40.7% of its total loans outstanding. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the Bank's non-performing retail loans were ₩281 billion, ₩261 billion, ₩294 billion and ₩339 billion, respectively, representing non-performing loan ratios (net of charge-offs and loan sales) of 0.21%, 0.18%, 0.21% and 0.24%, respectively.

The Bank's large exposure to consumer debt means that it is exposed to changes in economic conditions affecting Korean consumers. For example, a rise in unemployment, an increase in interest rates or a decline in housing prices in Korea could adversely affect the ability of consumers to make payments and increase the likelihood of potential defaults. Economic difficulties in Korea that hurt consumers could result in increasing delinquencies and a decline in the asset quality of the Bank's household loan portfolio, which may in turn require the Bank to record higher provisions for credit loss and charge-offs and may materially and adversely affect the Bank's financial condition and results of operations.

Liquidity, funding management and credit ratings are critical to the Bank's ongoing performance.

Liquidity is essential to the Bank's business as a financial intermediary, and the Bank may seek additional funding in the near future to satisfy liquidity needs, meet regulatory requirements, enhance its capital levels or fund the growth of its operations as opportunities arise.

For example, Basel III includes an international framework for liquidity risk measurement, standards and monitoring, as noted above, including a new minimum liquidity standard, known as the liquidity coverage ratio ("**LCR**"), which is designed to ensure that banks have an adequate stock of unencumbered high quality liquid assets ("**HQLA**") that can be easily and speedily converted into cash in the private marketplace to survive a significant stress scenario lasting 30 calendar days. The LCR is computed as (a) the value of a banking organization's HQLA, divided by (b) its total expected net cash outflows over the next 30 calendar days under stress scenarios. The minimum LCR is 100%. In January 2013, the Basel Committee released a revised formulation of the LCR, one of two quantitative liquidity measures approved in December 2010 as part of Basel III. The Basel Committee extended the timetable for full phase-in of the LCR to the effect that the minimum LCR was set at 60% as of January 1, 2015 and thereafter was increased in annual increments of 10% so that the minimum LCR reached 100% as of January 1, 2019. In December 2014, the FSC promulgated regulations to implement the liquidity requirements of Basel III, including raising the minimum LCR to 80% as of January 1, 2015 and thereafter by annual increments of 5% so that the minimum LCR for commercial banks in Korea is 100% since January 1, 2019. In April 2020, in response to the COVID-19 pandemic, the FSC temporarily lowered the liquidity coverage ratio requirement from 100% to 85%. The FSC subsequently decided to gradually restore this ratio on a quarterly basis from the third quarter of 2022, to a ratio of 90% in the third quarter of 2022, 92.5% in the fourth quarter of 2022, 95% in the first quarter of 2023, 97.5% in the second quarter of 2023 and 100% from the third quarter of 2023. However, in October 2022, the FSC decided to apply the 92.5% ratio until the end of June 2023 in response to the increasing volatility and uncertainty in the short-term money market, as determined through a financial market inspection meeting. The FSC announced on June 20, 2023 that a 95% ratio will be applied from July 2023 until the end of 2023.

A substantial part of the liquidity and funding requirements for the Bank is met through short-term customer deposits, which typically roll over upon maturity. While the volume of the Bank's customer deposits has generally been stable over time, customer deposits have from time to time declined substantially due to the popularity of other, higher-yielding investment opportunities, namely stocks and mutual funds, for example, during times of bullish stock markets. During such times, the Bank was required to obtain alternative funding at higher costs. There is no assurance that a similar development will not occur in the future. In addition, in recent years, the Bank has faced increasing pricing competition from its competitors with respect to its deposit products. If the Bank does not continue to offer competitive interest rates to its deposit customers, it may lose its business from such customers, which has traditionally provided a stable and low-cost source of funding. In addition, even if the Bank is able to match its competitors' pricing, doing so may result in an increase in its funding costs, which may have an adverse impact on its results of operations.

The Bank also raises funds in capital markets and borrows from other financial institutions, the cost of which depends on market rates and the general availability of credit and the terms of which may limit its ability to pay dividends, make acquisitions or subject itself to other restrictive covenants. While the Bank is not currently facing liquidity difficulties in any material respect, if the Bank is unable to obtain the funding that it needs on terms commercially acceptable to it for an extended period of time for whatever reason, it may not be able to ensure its financial viability, meet regulatory requirements, implement its strategies or compete effectively.

Credit ratings affect the cost and other terms upon which the Bank is able to obtain funding. Domestic and international rating agencies regularly evaluate the Bank, and their ratings of the Bank's long-term debt are based on a number of factors, including its financial strength as well as conditions affecting the financial services industry and the Korean economy in general. There can be no assurance that the rating agencies will maintain the Bank's current ratings or outlooks or that the Bank will not experience a downgrade in its credit ratings and outlooks for reasons related to the general Korean economy or reasons specific to the Bank. Any downgrades in the Bank's credit ratings and outlooks will likely increase its cost of funding, limit its access to capital markets and other borrowings, or require it to provide additional credit enhancement in financial transactions, any of which could adversely affect its liquidity, net interest margins and profitability, and in turn, its business, financial condition and results of operations.

Changes in interest rates, foreign exchange rates, bond and equity prices, and other market factors have affected and will continue to affect the Bank's business, results of operation and financial condition.

The most significant market risks that the Bank faces are interest rate, foreign exchange and bond and equity price risks. Changes in interest rate levels, yield curves and spreads may affect the interest rate margin realized between lending and borrowing costs. Changes in foreign currency exchange rates, particularly in the Won to U.S. dollar exchange rates, affect the value of the Bank's assets and liabilities denominated in foreign currencies, the reported earnings of the Bank's non-Korean subsidiaries and income from foreign exchange dealings, and substantial and rapid fluctuations in exchange rates may cause difficulty in obtaining foreign currency-denominated financing in the international financial markets on commercial terms acceptable to the Bank or at all. The performance of financial markets may affect bond and equity prices and, therefore, cause changes in the value of the Bank's investment and trading portfolios. While the Bank has implemented risk management systems and risk thresholds to mitigate and control these and other market risks to which it is exposed, it is difficult to predict with accuracy changes in economic or market conditions and to anticipate the effects that such changes could have on the Bank's business, financial condition and results of operations.

Changes in interest rates could hurt the Bank's net interest margin due to a mismatch in the Bank's assets and liabilities structures and other factors, which could have a material adverse effect on the Bank's asset quality and profitability.

Historically, Korea, like many other countries, has experienced interest rate fluctuations, in part due to the Government's policy to stabilize the economy through active rate-controlling measures. In November 2017, the Bank of Korea raised the base interest rate to 1.50%, marking the first time it has increased the base interest rate since 2011, and further raised such rate to 1.75% in November 2018. The Bank of Korea reduced the base interest rate from 1.75% to 1.50% in July 2019, from 1.50% to 1.25% in October 2019, from 1.25% to 0.75% in March 2020 and from 0.75% to 0.50% in May 2020. The Bank of Korea raised the base interest rate from 0.50% to 0.75% in August 2021, from 0.75% to 1.00% in November 2021, from 1.00% to 1.25% in January 2022, from 1.25% to 1.50% in April 2022, from 1.50% to 1.75% in May 2022, from 1.75% to 2.25% in July 2022, from 2.25% to 2.50% in August 2022, from 2.50% to 3.00% in October 2022 and from 3.00% to 3.25% in November 2022. The Bank of Korea further raised the base interest rate from 3.25% to 3.50% in January 2023. Interest rate movements, in terms of magnitude and timing as well as their relative impact on the Bank's assets and liabilities, have a significant impact on its net interest margin and profitability, particularly with respect to its financial products that are sensitive to such movements. For example, if the interest rates applicable to the Bank's loans (which are recorded as assets) increase at a slower pace or by a thinner margin than the interest rates applicable to its deposits (which are recorded as liabilities), its net interest margin will shrink and its profitability will be negatively affected. In addition, the relative size and composition of its variable rate loans and deposits (as compared to its fixed rate loans and deposits) may also impact its net interest margin. Furthermore, the difference in the average repricing frequency of the Bank's interest-earning assets (primarily loans) compared to its interest-bearing liabilities (primarily deposits) may also impact the Bank's net interest margin. For example, since the Bank's deposits tend to have longer terms, on average, than those of its loans, the Bank's deposits are on average less sensitive to movements in the base interest rates on which the Bank's deposits and loans tend to be pegged, and therefore, a decrease in the base interest rates tends to decrease the net interest margin of the Bank while an increase in the base interest rates tend to have the opposite effect. While the Bank continually manages its assets and liabilities to minimize its exposure to interest rate volatility, such efforts by the Bank may not mitigate the impact of interest rate volatility in a timely or effective manner, and the Bank's net interest margin, and in turn its financial condition and results of operations, could suffer significantly.

The Bank cannot assure you when and to what extent the Bank of Korea will in the future adjust the base interest rate, to which the market interest rate correlates. A decision to adjust the base interest rate is subject to many policy considerations as well as market factors, including the general economic cycle, inflationary levels, interest rates in other economies and foreign currency exchange rates, among others. In general, a decrease in interest rates adversely affects the Bank's interest income due to the different maturity structure for the Bank's assets and liabilities as discussed above. In contrast, if there were to be a significant or sustained increase in interest rates, all else being equal, such movement would lead to a decline in the value of traded debt securities and could also raise the Bank's funding costs, while reducing loan demand, especially among retail customers. Rising interest rates may therefore require the Bank to re-balance its assets and liabilities in order to minimize the risk of potential mismatches in its asset liability management and to maintain its profitability. In addition, rising interest rates may adversely affect the Korean economy and the financial condition of the Bank's corporate and retail borrowers, which in turn may lead to deterioration of asset quality for its credit portfolio. Since most of the Bank's retail and corporate loans bear interest at rates that adjust periodically based on prevailing market rates, a sustained increase in interest rates will increase the funding costs of the Bank's borrowers and may adversely affect their ability to make payments on their outstanding loans.

The Bank is required to maintain its capital ratios above a minimum required level, and the failure to so maintain could result in the suspension of some or all of its operations.

The Bank, like other commercial banks in Korea, is required to maintain specified capital adequacy ratios. For example, since January 1, 2015, the Bank is required to maintain a minimum common equity Tier I capital adequacy ratio of 4.5%, a Tier I capital adequacy ratio of 6.0% and a total capital (BIS) ratio of 8.0%. These ratios measure the respective regulatory capital as a percentage of risk-weighted assets on a consolidated basis and are determined based on guidelines of the FSC. In addition, as further described below, the Bank is also required to maintain a capital conservation buffer and additional capital as a domestic systemically important bank and may be required to maintain a countercyclical capital buffer. As of June 30, 2023, the common equity Tier I capital adequacy ratio, the Tier I capital adequacy ratio and the total capital (BIS) ratio of the Bank on a consolidated basis were 15.76%, 14.63% and 18.39%, respectively.

While the Bank currently maintains capital adequacy ratios in excess of the required regulatory minimum levels, the Bank may not be able to continue to satisfy its capital adequacy requirements for a number of reasons, including an increase in risky assets and provisioning expenses, substitution costs related to the disposal of problem loans, declines in the value of its securities portfolio, adverse changes in foreign currency exchange rates, changes in the capital ratio requirements, the guidelines regarding the computation of capital ratios, or the framework set by the Basel Committee upon which the guidelines of the FSC are based, or other adverse developments affecting the Bank's asset quality or equity capital.

In December 2010, the Basel Committee issued final standards in respect of (i) a global regulatory framework for more resilient banks and banking systems and (ii) an international framework for liquidity risk measurement, standards and monitoring, which together are commonly referred to as "Basel III." Basel III standards are in each case subject to adoption and implementation by applicable authorities in each member country. Under Basel III, Tier I capital is defined to include common equity Tier I and additional Tier I capital. Common equity Tier I capital is a new category of capital primarily consisting of common stock, capital surplus, retained earnings and other comprehensive income (progressively phased into the capital ratio calculation over several years). The new minimum Basel capital standards, including the minimum common equity Tier I requirement of 4.5% and additional mandatory capital conservation buffer requirement of 2.5%, have been fully implemented in Korea as of January 1, 2019. Additional discretionary countercyclical capital buffer requirements are also expected to be phased in, which will range at the discretion of national regulators between 0% and 2.5% of risk-weighted assets. Basel III standards also introduces a minimum leverage ratio requirement. On December 7, 2017, the Basel Committee finalized several key methodologies for measuring risk-weighted assets. The revisions include a standardized approach for credit risk, a standardized approach for operational risk, revisions to the credit valuation adjustment (CVA) risk framework and constraints on the use of internal models. The Basel Committee had also previously finalized a revised standardized model for counterparty credit risk, revisions to the securitization framework and its fundamental review of the trading book, which updates both modeled and standardized approaches for market risk measurement. The revisions also include an output floor set at 72.5% of total risk-weighted assets based on the revised standardized approaches to limit the extent to which banks can reduce risk-weighted asset levels through the use of internal models. In order to provide additional operational capacity for banks and supervisors to respond to the impact of COVID-19 on the global banking system, the Basel Committee has announced deferral of the implementation date of the final Basel III standards by one year, to January 2023, including the revised standardized approach for credit and operational risk, revised CVA risk framework, and revised market risk framework. The 72.5% output floor is subject to a six-year phase-in period, beginning at 50% in January 2023 and increasing to 72.5% by January 2028, subject to separate transition periods under applicable implementing rules adopted by member countries. Upon implementation, banks in jurisdictions that permit reference to external credit ratings will be able to take into account external credit ratings in determining the risk weights for certain exposure classes, and different mortgage risk weights will apply depending on the loan-to-value ratio of the mortgage. In addition, the 2017 reforms removed the option to use internal ratings-based approaches for measurement of equity exposures, thus requiring use of the standardized approach. Banks will also need to reflect internal loss data in evaluating operational risk and comply with the principles for sound management of operational risk.

In order to implement the capital requirements under Basel III in Korea, the Regulation on the Supervision of the Banking Business was amended, effective December 1, 2013. Under the amended Regulation on the Supervision of the Banking Business, effective January 1, 2015, commercial banks in Korea are required to maintain a minimum common equity Tier I ratio of 4.5%, a minimum Tier I capital ratio of 6.0% and a minimum total capital (BIS) ratio of 8.0%. The Regulation on the Supervision of the Banking Business was further amended on December 26, 2014, to implement the liquidity coverage ratio requirements under Basel III in increments of 5% annually, from 80% as of January 1, 2015 to 100% as of January 1, 2019. In April 2020, in response to the COVID-19 pandemic, the FSC temporarily lowered the liquidity coverage ratio requirement from 100% to 85%. The FSC subsequently decided to gradually restore this ratio on a quarterly basis from the third quarter of 2022, to a ratio of 90% in the third quarter of 2022, 92.5% in the fourth quarter of 2022, 95% in the first quarter of 2023, 97.5% in the second quarter of 2023 and 100% from the third quarter of 2023. However, in October 2022, the FSC decided to apply the 92.5% ratio until the end of June 2023 in response to the increasing volatility and uncertainty in the short-term money market, as determined through a financial market inspection meeting. The FSC announced on June 20, 2023 that a 95% ratio will be applied from July 2023 until the end of 2023. Capital conservation buffer requirements have also been phased in from January 1, 2016 in increments of 0.625% annually, to the effect that commercial banks in Korea are required to maintain a capital conservation buffer of 2.5% as of January 1, 2019. If a commercial bank fails to maintain such capital conservation buffer requirements, such bank will be subject to certain restrictions relating to its use of income, such as distributing dividends and purchasing treasury stock. As of January 1, 2016, the FSC implemented Basel III requirements relating to the accumulation of additional capital for systemically important banks and bank holding companies and countercyclical capital buffer requirements. Each year, the FSC may designate banks with significant influence (based on size and connectivity with other financial institutions) on the domestic financial system as domestic systemically important banks and require the accumulation of additional capital in accordance with the highest of: (i) ratio of common equity capital to risk-weighted assets, ranging from 0.0% to 2.0%, depending on the systematic importance evaluation score, (ii) if the bank's holding company is a domestic systemically important bank holding company, the capital ratio corresponding to the additional capital required for the bank holding company under the Financial Holding Company Supervision Regulations, or (iii) if the bank is also a global systemically important bank, as defined by the Basel Committee, the capital ratio as required by the Basel Committee. Shinhan Financial Group and the Bank were selected as a domestic systemically important bank holding company and domestic systemically important bank, respectively, from 2016 through 2024. According to the instructions of the FSC, domestic systemically important banks, including the Bank, have been required to maintain an additional capital buffer of 0.25% since January 1, 2016, with such buffer increased by 0.25% annually to reach 1.00% as of January 1, 2019. The FSC may also, upon quarterly review, determine and require banks to accumulate a required level of countercyclical capital buffer within the range of 0% to 2.5% of risk-weighted assets, taking into account factors such as the degree of increase in credit relative to the gross domestic product. Since March 2016, the FSC has maintained countercyclical capital buffer requirements at 0%. However, on May 2023, the FSC announced that the banks will be required to maintain countercyclical capital buffer of 1% starting from May 1, 2024.

The Bank is currently, and has been, in full compliance with Basel III requirements as implemented in Korea since its introduction in December 2013. However, there is no assurance that the Bank will continue to be able to be in compliance with Basel III requirements. New requirements under Basel III may require an increase in the Bank's credit risk capital requirements in the future, which may require the Bank to either improve its asset quality or raise additional capital. In addition, if the Bank's capital adequacy ratios were to fall below the required levels, the FSC might impose penalties ranging from a warning to suspension or revocation of its business licenses. In order to maintain the capital adequacy ratios above the required levels, the Bank may be required to raise additional capital through equity financing, but there is no assurance that it will be able to do so on commercially favorable terms or at all and, even if successful, any such capital raising may have a dilutive effect on the Bank's shareholders with respect to their interest in the Bank.

A decline in the value of the collateral securing the Bank's loans or the Bank's inability to fully realize the collateral value may adversely affect the Bank's credit portfolio.

Most of the Bank's mortgage and home equity loans are secured by borrowers' homes, other real estate, other securities and guarantees (which are principally provided by the Government and other financial institutions), and a substantial portion of the Bank's corporate loans are also secured, including by real estate. As of June 30, 2023, the secured portion were collateralized or guaranteed of the Bank's loans amounted to ₩218,472 billion, representing 63.5% of its total loans. There is no assurance that the collateral value will not materially decline in the future. The Bank's general policy for mortgage and home equity loans is to lend up to 40% to 85% of the appraised value of the collateral, but subject to the maximum loan-to-value ratio, debt-to-income ratio and debt service ratio requirements for mortgage loans implemented by the Government, and to periodically re-appraise such collateral. For a description of loan-to-value ratio and other requirements implemented by the Government, see "*Business — Business Overview — Retail Banking Services — Retail Lending Activities*." In order to mitigate the Bank's loss in the event of a decrease in the value of collateral, the Bank has made effort to increase the proportion of installment principal repayment-based loans and manage the loan-to-value ratio of loans. As of June 30, 2023, installment principal repayment-based housing loans accounted for 54.9% of the housing loans extended by the Bank, and the loan-to-value ratio of mortgage and home equity loans of the Bank was 44.3%. Despite these efforts, however, if the real estate market in Korea experiences a downturn, the value of the collateral may fall below the outstanding principal balance of the underlying mortgage loans. Borrowers of such under-collateralized mortgages or loans may be forced to pay back all or a portion of such mortgage loans or, if unable to meet the collateral requirement through such repayment, sell the underlying collateral, which sales may lead to a further decline in the price of real estate in general and set off a chain reaction for other borrowers due to the further decline in the value of collateral. Declines in real estate prices reduce the value of the collateral securing the Bank's mortgage and home equity loans, and such reduction in the value of collateral may result in the Bank's inability to cover the uncollectible portion of its secured loans. A decline in the value of the real estate or other collateral securing the Bank's loans, or its inability to obtain additional collateral in the event of such decline, may result in the deterioration of its asset quality and require the Bank to make additional loan loss provisions. In Korea, foreclosure on collateral generally requires a written petition to a Korean court. Foreclosure procedures in Korea generally take 7 to 12 months from initiation to collection depending on the nature of the collateral, and foreclosure applications may be subject to delays and administrative requirements, which may result in a decrease in the recovery value of such collateral. There can be no assurance that the Bank will be able to realize the full value of collateral as a result of, among others, delays in foreclosure proceedings, defects in the perfection of collateral and general declines in collateral value. The Bank's failure to recover the expected value of collateral could expose it to significant losses.

Guarantees received in connection with the Bank's real estate financing may not provide sufficient coverage.

The Bank, alone or together with other financial institutions, provides financing to real estate development projects, which are concentrated largely in the construction of residential complexes. Developers in Korea commonly use project financing to acquire land and pay for related project development costs. As a market practice, lenders in project financing, including the Bank, generally receive from general contractors a performance guarantee for the completion of projects by the developers as well as a payment guarantee for the loans raised by a special purpose financing vehicle established by the developers in order to procure the construction orders, as the developers tend to be small and highly leveraged. The Bank has actively managed and reduced its real estate project financing-related exposure, particularly during sustained downturns in the Korean real estate market. As of June 30, 2023, the total outstanding amount of the Bank's real estate project financing-related exposure was ₩5.8 trillion. However, if defaults were to significantly increase under the Bank's existing loans to real estate development projects and the general contractors fail to pay the guaranteed amount necessary to cover the amount of the Bank's financings, this may have an adverse effect on the Bank's business, financial condition and results of operations.

Any deterioration in the asset quality of the Bank's guarantees and acceptances will likely have a material adverse effect on its financial condition and results of operations.

In the normal course of the Bank's banking activities, it makes various commitments and incurs certain contingent liabilities in the form of guarantees and acceptances. Financial guarantees, which are contracts that require the Bank to make specified payments to reimburse the beneficiary of the guarantee for a loss such beneficiary incurs because the debtor in respect of which the guarantee is given fails to make payments when due in accordance with the terms of the relevant debt instrument, are recognized initially at fair value, and such initial fair value is amortized over the life of the financial guarantee. Other guarantees are recorded as off-balance sheet items in the notes to the Bank's financial statements and those guarantees that the Bank has confirmed to make payments are recorded on the statements of financial position. As of June 30, 2023, the Bank had aggregate guarantees and acceptances of ₩18,148 billion, for which it provided allowances for losses of ₩88.9 billion.

If there is significant deterioration in the quality of assets underlying the Bank's guarantees and acceptances, the Bank's allowances may be insufficient to cover actual losses resulting in respect of these liabilities.

The Bank may experience significant losses from its investments and, to a lesser extent, trading activities due to market fluctuations.

The Bank enters into and maintains large investment positions in fixed income products, primarily through its treasury and investment operations. These activities are described in "*Business — Business Overview — Other*

Banking Services — Treasury" and "— *Securities Investment and Trading*." The Bank also maintains smaller trading positions, including equity and equity-linked securities and derivative financial instruments, as part of its banking operations. Taking these positions entails making assessments about financial market conditions and trends. The revenues and profits that the Bank derives from many of these positions and related transactions are dependent on market prices, which are beyond the Bank's control. When the Bank owns assets such as debt or equity securities, a decline in market prices, for example, as a result of fluctuating market interest rates or stock market indices, can expose it to trading and valuation losses. If market prices move in a way that the Bank has not anticipated, it may experience losses. In addition, when markets are volatile and subject to rapid changes in price directions, actual market prices may be contrary to the Bank's assessments and lead to lower than anticipated revenues or profits, or even result in losses, with respect to the related transactions and positions.

The Bank may generate losses from its commission- and fee-based business.

The Bank provides, and seeks to expand the offerings of, commission- and fee-based services. Downturns in stock markets typically lead to a decline in the volume of transactions that the Bank executes for its customers and, therefore, a decline in its non-interest revenues. In addition, because the fees that the Bank charges for managing its clients' portfolios are often based on the size of the assets under management, a downturn in the stock market, which has the effect of reducing the value of its clients' portfolios or increasing the amount of withdrawals, also generally reduces the fees the Bank receives from its trust account management and other asset management services. Even in the absence of a market downturn, below-market performance by the Bank's various account services may result in increased withdrawals and reduced cash inflows, which would reduce the revenue it receives from these businesses. In addition, protracted declines in asset prices can reduce liquidity for assets held by the Bank and lead to material losses if the Bank cannot close out or otherwise dispose of deteriorating positions in a timely way or at commercially reasonable prices.

The Bank may incur losses associated with its counterparty exposures.

The Bank faces the risk that counterparties will be unable to honor their contractual obligations to the Bank. These parties may default on their obligations to the Bank due to bankruptcy, lack of liquidity, operational failure or other reasons. This risk may arise, for example, from entering into swaps or other derivative contracts under which counterparties have obligations to make payments to the Bank or in executing currency or other trades that fail to settle at the required time due to non-delivery by the counterparty or systems failure by clearing agents, exchanges, clearing houses or other financial intermediaries. Any realization of counterparty risk may adversely affect the business, operations and financial condition of the Bank.

The Bank's risk management policies and procedures may not be fully effective at all times.

In the course of the Bank's operations, it must manage a number of risks, such as credit risks, market risks and operational risks. The Bank seeks to monitor and manage its risk exposures through a comprehensive risk management platform, encompassing centralized risk management organization and credit evaluation systems, reporting and monitoring systems, early warning systems and other risk management infrastructure, using a variety of risk management strategies and techniques. See "*Risk Management*." Although the Bank devotes significant resources to developing and improving its risk management policies and procedures and expects to continue to do so in the future, its risk management practices may not be fully effective at all times in eliminating or mitigating risk exposures in all market environments or against all types of risk, including risks that are unidentified or unanticipated. For example, in the past, a limited number of the Bank's personnel engaged in embezzlement of substantial amounts for an extended period of time before such activities were detected by the Bank's risk management systems. In response to these incidents, the Bank has strengthened its internal control procedures by, among others, implementing a real-time monitoring system, but there is no assurance that such measures will be sufficient to prevent similar employee misconduct in the future. Management of credit, market and operational risk requires, among others, policies and procedures to record properly and verify a large number of transactions and events, and the Bank cannot assure you that these policies and procedures will prove to be fully effective at all times against all the risks that the Bank faces.

Labor unrest may adversely affect the Bank's operations.

As of June 30, 2023, 8,761 employees were members of a labor union, and to date, the Bank has not experienced any significant difficulties in its relationships with its employees. However, any significant labor unrest in the Korean financial industry or other sectors of the Korean economy could adversely affect the Bank's operations, as well as the operations of many of the Bank's customers and their ability to repay their loans, and could affect the financial conditions of Korean companies in general. Such developments would likely have an adverse effect on the Bank's business, financial condition, results of operations and capital adequacy.

On February 28, 2018, the National Assembly passed a bill to amend the Labor Standards Act, pursuant to which the maximum working hours of employees will be reduced from 68 hours per week to 52 hours per week. This new maximum working hours restriction under the amended Labor Standards Act applied to workplaces with 300 or more workers since July 1, 2018, workplaces with 50 or more workers since January 1, 2020, and workplaces with five or more workers from July 1, 2021. Accordingly, the Bank has reformed its workforce structure, including rearranging staffing where necessary, in order to improve efficiency and comply with the amended Labor Standards Act and believes, as of the date of this offering circular, that the amended Labor Standards Act has not had a material adverse impact on the Bank's operations. However, there can be no assurance that the amended Labor Standards Act will not have a material adverse effect on the Bank's results of operations and financial condition.

The Bank may experience disruptions, delays and other difficulties relating to its information technology systems.

The Bank relies on its information technology systems to seamlessly provide its wide-ranging financial services as well as for its daily operations, including billing, online and offline financial transactions settlement and record keeping. The Bank continually upgrades, and makes substantial expenditures to upgrade, its group-wide information technology system, including in relation to customer data-sharing and other customer relations management systems, particularly in light of the heightened cyber security risks from advances in technology. Despite the Bank's best efforts, however, it may experience disruptions, delays, cyber or other security breaches or other difficulties relating to its information technology systems, and may not timely upgrade its systems as currently planned. Any of these developments may have an adverse effect on the Bank's business, particularly if its customers perceive it to not be providing the best-in-class cyber security systems and failing to timely and fully rectify any glitches in the Bank's information technology systems.

The Bank's activities are subject to cyber security risk.

The Bank's activities have been, and will continue to be, subject to an increasing risk of cyber-attacks, the nature of which is continually evolving. Cyber security risks include unauthorized access, through system-wide "hacking" or other means, to privileged and sensitive customer information, including passwords and account information and illegal use thereof. Cyber security risk is generally on the rise as a growing number of the Bank's customers increasingly rely on its Internet- and mobile phone-based banking services for various types of financial transactions. While the Bank vigilantly protects customer data through encryption and other security programs and has made substantial investments to build and upgrade its systems and defenses to address the growing threats from cyber-attacks, there is no assurance that such data will not be subject to future security breaches. In addition, there can be no assurance that the Bank will not experience a leakage of customer information or other security breaches as a result of illegal activities by its employees, outside consultants or hackers, or otherwise.

In order to minimize the risk of security breaches related to customer and other proprietary information, the Bank has taken a series of preventive measures such as the adoption and implementation of a best-in-class information security system and reinforcement of internal control measures. The Bank is fully committed to maintaining the highest standards of cyber security and consumer protection measures and upgrading them continually. The Bank has implemented the ISO 27001-certified security management system and has obtained the Information Security Management System certification. The Bank believes that such certification represents third-party validations that the Bank is in compliance with best-in-class international standards on matters of information security. The Bank's Integrated Security Control Center's security management system enables the Bank to continuously monitor for signs of potential cyber-attacks and provides the Bank with advance warnings that will allow the Bank to promptly respond to such attacks. The Bank's security management system continuously monitors for signs of potential cyber-attacks and is designed to provide early warning alerts to enable prompt action by the Bank. In order to prevent intentional and accidental security issues by the Bank's employees, the Bank have created a violation monitoring system, reinforcing its security measures by preemptively identifying various scenarios of threats and by collecting and analyzing different types of data that allows it to quickly identify any potential security violations. Moreover, the Bank established a new information security lab to build a continuous security research and development system to respond to hacking and other cyber threats. Through these measures, the Bank is developing technical capabilities necessary to respond to the latest security threats. The Bank also provides intensive employee training to its information technology staff and other employees on cyber security and has adopted advanced security infrastructure (including through hiring a highly competent team of information security experts) for online financial services such as mandatory website certification and keyboard security functions. In addition, reviews of the Bank's system are conducted through periodic audits and simulation reviews by external experts. In addition, in compliance with applicable regulations, the Bank maintains insurance to cover cyber security breaches up to ₩10 billion. In addition, in light of the growing use of mobile devices to access financial services, the Bank has implemented security measures (including encryption and service terminal monitoring) to provide a secure mobile banking service as well as to prevent illegal leakage or sharing of customer data and otherwise enhance customer privacy.

The Bank is also keenly aware of the litigation and regulatory sanctions risks that may arise from security breaches and is aggressively reinforcing a culture that stresses safety and good custodianship as among its highest priorities. Furthermore, the Bank is actively taking steps to implement preventive and other steps recommended or required by the regulatory authorities in relation to actual and potential financial scams. Although the Bank has not experienced any material security breaches or similar large scale leakage of customer information recently, given the unpredictable and continually evolving nature of cyber security threats due to advances in technology or other reasons, there is no assurance that, notwithstanding the Bank's best efforts at maintaining the best-in-class cyber security systems, the Bank will not be vulnerable to major cyber security attacks in the future.

The public is developing heightened awareness about the importance of keeping their personal data private, and the financial regulators are placing greater emphasis on data protection by financial service providers. For example, under the Personal Information Protection Act, as last amended in August 2020, financial institutions, as personal information managers, may not collect, store, maintain, utilize or provide resident registration numbers of their customers, unless other laws or regulations specifically request or permit the management of resident registration numbers. Further, under the Use and Protection of Credit Information Act, as last amended in December 2021, a financial institution has a higher duty to protect credit information, meaning information necessary to assess the creditworthiness of the counterparty to financial transactions and other commercial transactions. Such regulations have considerably restricted a financial institution's ability to transfer or provide the information to its affiliate or holding company, and quintuple damages can be imposed on a financial institution for a leakage of such information. In addition, under the Electronic Financial Transaction Act, as last amended in June 2020 with effect from December 2020, a financial institution is primarily responsible for compensating its customers harmed by the financial institution's cyber security breach, even if the breach is not directly attributable to the financial institution. Recently, on January 9, 2020, the Korean National Assembly passed amendments to three major data privacy laws (the Personal Information Protection Act, the Act on the Promotion of Information and Communications Network Utilization and Information Protection and the Act on the Use and Protection of Credit Information), expanding the scope of personal information that may be shared among financial institutions. With this, the Bank expects cyber security and ensuring confidentiality of customers' information to become more important than ever for financial institutions. The Bank maintains an integrated system that closely monitors its customer information to ensure compliance with data protection laws and regulations, as well as its internal policies.

If a cyber or other security breach were to happen with respect to the Bank, it may result in litigation by affected customers or other third parties (including class actions), compensation for any losses suffered by victims of cyber security attacks, reputational damage, loss of customers, heightened regulatory scrutiny and related sanctions, more stringent compliance with the present and future regulatory restrictions, and other costs related to damage control, reparation and reinforcement of information security systems, any of which may have a material adverse effect on its business, financial condition and results of operations.

Our customers may become victims to "voice phishing" or other financial scams, for which we may be required to make monetary compensation and suffer damage to our business and reputation.

In recent years, financial scams known as voice phishing have been on the rise in Korea. While voice phishing takes many forms and has evolved over time in terms of sophistication, it typically involves the scammer making a phone call to a victim under false pretenses (for example, the scammer pretending to be a member of law enforcement, an employee of a financial institution or even an abductor of the victim's child) and luring the victim to transfer money to an untraceable account controlled by the scammer. More recently, voice phishing has increasingly taken the form of the scammer "hacking" or otherwise wrongfully obtaining personal financial information of the victim (such as credit card numbers or Internet banking login information) over the telephone or other means and illegally using such information to obtain credit card loans or cash advances through automated telephone banking or Internet banking. Reportedly, a substantial number of such scammers belong to international criminal syndicates with bases overseas, such as China, with operatives in Korea. In response to the growing incidents of voice phishing, regulatory authorities have undertaken a number of steps to protect consumers against voice phishing and other financial scams. There is no assurance, however, that the regulatory activities will have the desired effect of substantially eradicating or even containing the incidents of voice phishing or other financial scams.

Legal claims and regulatory risks arise in the conduct of the Bank's business.

In the ordinary course of the Bank's business, it is subject to regulatory oversight and potential legal and administrative liability risk. The Bank is also subject to a variety of other claims, disputes, legal proceedings and government investigations in Korea and other jurisdictions where it is active. See "*Business — Legal Proceedings and Other Matters*." These types of proceedings may expose the Bank to substantial monetary and/or reputational damages and legal defense costs, injunctive relief, criminal and civil penalties and the potential for regulatory restrictions on its businesses. The outcome of these matters are highly uncertain and difficult to predict, and they could adversely affect the Bank's future business.

While the Bank plans to rigorously defend its positions in the lawsuits or other regulatory proceedings against the Bank, it is difficult to predict the final outcome of such cases. The total amount in dispute may increase during the course of litigation and other lawsuits may be brought against the Bank based on similar allegations. Accordingly, these lawsuits and other proceedings may have a material adverse effect on the Bank's business, financial condition and results of operations.

Risks Relating to Law, Regulation and Government Policy

The Bank is a heavily regulated entity and operates in a legal and regulatory environment that is subject to change, and violations could result in penalties and other regulatory actions.

As a financial services provider, the Bank is subject to a number of regulations that are designed to maintain the safety and soundness of Korea's financial system, to ensure the Bank's compliance with economic and other obligations and to limit its risk exposure. These regulations may limit the Bank's activities, and changes in these regulations may increase its costs of doing business. Regulatory agencies frequently review regulations relating to the Bank's business and implement new regulatory measures, including increasing the minimum required provisioning levels or capital adequacy ratios applicable to the Bank from time to time. The Bank expects the regulatory environment in which it operates to continue to change. Changes in regulations applicable to the Bank and the Bank's business or changes in the implementation or interpretation of such regulations could affect it in unpredictable ways and could adversely affect its business, results of operations and financial condition.

Furthermore, the Financial Consumer Protection Act (the "**FCPA**") was enacted on March 24, 2020 and took effect beginning March 25, 2021. The FCPA unifies the systems for the protection of consumers of financial products, which had been dispersed in various laws, while tightening the existing consumer protection systems to strengthen the rights afforded to consumers of financial products. Banks under the Banking Act are financial instrument distributors subject to the FCPA, and deposit and loan products under the Banking Act are financial instruments subject to the FCPA.

Under the FCPA, a financial instrument distributor who intends to sell financial instruments shall comply with the following requirements: (i) confirmation of suitability and adequacy of financial instruments, (ii) compliance with the duty to explain, (iii) prohibition of unfair sales activities, (iv) prohibition of undue solicitation, and (v) prohibition of false or exaggerated advertising, etc. (collectively, the "**Sales Principles**"). If a financial instrument distributor breaches any of the Sales Principles, consumers may request the termination of such financial instrument within a period to be prescribed by a Presidential Decree and are entitled to unilaterally terminate the contract if the financial instrument distributor fails to present a justifiable reason for not accepting the consumer's request. Consumers who purchased a loan product, in particular, shall be entitled to withdraw from the contract within 14 days from the later of (i) the date of receipt of the proceeds pursuant to the contract and (ii) the execution date of the contract (or the date of receipt of the documents necessary for execution of the contract (if required under the FCPA), regardless of whether the financial instrument distributor breached any of the Sales Principles. When a consumer files a lawsuit for damages against a financial instrument distributor for breach of the duty to explain, the financial instrument distributor (and not the consumer) shall bear the burden of proof to prove that no willful conduct or negligence was involved in such breach of the duty to explain. In the event of a dispute with a financial instrument distributor, consumers may apply for mediation to the Dispute Mediation Committee of the FSC. If a financial instrument distributor files a lawsuit with a court while such mediation is in progress, the court may suspend the litigation proceedings. For certain small-sum cases, a financial instrument distributor may not file a lawsuit with a court until the completion of such mediation. Financial instrument distributors must accept requests from its consumers to access information for purposes of litigation or mediation. In the event the FSC determines that there is a clear risk that a financial product may cause significant damage to the properties of customers, the FSC may prohibit or restrict the solicitation of, and execution of a contract for, such financial product.

The Bank has been proactively taking actions necessary to comply with the FCPA, including the examination of our financial products and training of our officers and employees. However, no assurance can be given that the implementation of the FCPA will not adversely affect the Bank's businesses or lead to a material adverse effect on its reputation, business, results of operations or financial condition. The Bank may also become subject to other restrictions on its operations as a result of future changes in laws and regulations, including more stringent liquidity and capital requirements under Basel III, which are being adopted in phases in Korea in consideration of, among others, the pace and scope of international adoption of such requirements. Any of these regulatory developments may have a material adverse effect on the Bank's ability to expand operations or adequately manage its risks and liabilities.

In addition, violations of law and regulations could expose the Bank to significant liabilities and sanctions. For example, the FSS conducts periodic audits on the Bank and, from time to time, the Bank has received institutional warnings from the FSS. If the FSS determines as part of such audit or otherwise that the Bank's financial condition is unsound or that the Bank has violated applicable law or regulations, including FSS orders, or if the Bank fails to meet the applicable requisite capital ratio or the capital adequacy ratio, as the case may be, set forth under Korean law, the FSS may ask the FSC to order, among other things, cancellations of authorization, permission or registration of the business, suspensions of a part or all of the business, closures of branch offices, recommendations for dismissal of officers or suspensions of officers from performing their duties, or may order, among other things, institutional warnings, institutional cautions, reprimanding warnings on officers, cautionary warnings on officers or cautions on officers. From time to time, the Bank has been subject to investigations and disciplinary actions from the FSS. If any such measures are imposed on the Bank as a result of unsound financial condition or failure to comply with minimum capital adequacy requirements or for other reasons, it will have a material adverse effect on the Bank's business, financial condition and results of operations.

For further details on the principal laws and regulations applicable to the Bank, see "*Supervision and Regulation*."

The Government may encourage targeted lending to certain sectors in furtherance of policy objectives, and the Bank may take this factor into account.

The Government has encouraged and may in the future encourage targeted lending to certain types of enterprises and individuals in furtherance of government initiatives. The Government, through its regulatory bodies such as the FSC, from time to time announces lending policies to encourage Korean banks and financial institutions, including the Bank, to lend to particular industries, business groups or customer segments, and, in certain cases, has provided lower cost funding through loans made by the Bank of Korea for further lending to specific customer segments. For example, the Government has taken and is taking various initiatives to support small- and medium-sized enterprises and low-income individuals, who were disproportionately affected by the downturn in the Korean and global economy in the late 2000s and have yet to fully recover. As part of these initiatives, the FSS has recently encouraged banks in Korea to increase lending to small- and medium-sized enterprises in order to ease the financial burden on such enterprises amid sluggish economic recovery, and in February 2016, the Bank of Korea announced that it would increase support for loans to small- and medium-sized enterprises, in anticipation of growing liquidity difficulties among such enterprises in light of the sustained sluggishness of the general economy and to stimulate trade exports, infrastructure investments and entrepreneurial efforts. The financial regulators have also adopted several measures designed to improve certain lending practices of the commercial banks which practices were perceived as having an unduly prohibitive effect on extending loans to small- to medium-sized enterprises. Moreover, in response to the threat posed to the economy by COVID-19 outbreak, the Government has implemented various emergency aid initiatives involving Korean banks, including the Bank, to provide liquidity assistance to small- and medium-sized enterprises. Such initiatives include extending new loans to borrowers with low credit ratings, extending maturity dates on existing loans and deferring interest payment obligations on certain loans. The Bank's participation in such Government initiatives may lead it to extend credit to small- and medium-sized enterprises that it would not otherwise extend, or offer terms on such credit that it would not otherwise offer, in the absence of such initiatives. There is no guarantee that the financial condition and liquidity of the small- and medium-sized enterprises benefiting from such initiatives will improve sufficiently for them to service their debt on a timely basis or at all. Accordingly, an increase in the Bank's exposure to small- and medium-sized enterprise borrowers resulting from such Government initiatives may have a material adverse effect on its financial condition and results of operations.

In addition, as a way of supporting the Government's initiative to assist promising startups, in February 2015, the financial regulators announced that they would encourage the banks in Korea to increase lending to technology companies in the small- to medium-sized enterprise segment and to enhance technology-related credit review capabilities. According to the Korea Federation of Banks, the aggregate balance of loans to technology companies in the small- to medium-sized enterprise segment reached ₩266.9 trillion, ₩316.3 trillion, ₩326.0 trillion and ₩307.0 trillion, as of December 31, 2020, 2021, 2022 and as of June 30, 2023, respectively. The Bank's total balance of outstanding loans to technology companies as of December 31, 2020, 2021, 2022 and as of June 30, 2023 was ₩36.6 trillion, ₩46.2 trillion, ₩44.8 trillion and ₩43.7 trillion, respectively.

Furthermore, amid concerns about increasing household debt, the FSC increased target proportions for fixed interest rate loans and installment principal repayment-based housing loans for 2020 to 50% and 57.5%, respectively, which remained the same for 2021. The target proportions for fixed interest rate loans and installment principal repayment-based housing loans for 2022 were increased to 52.5% and 60.0%, respectively.

In furtherance of the policy to expand the proportion of fixed rate housing loans, the FSC implemented "Relief Debt Conversion" program from March 24 to March 27, 2015 and from March 30 to April 3, 2015, respectively, under which borrowers of eligible housing loans (namely, loans that have been in existence for one year or more since the original loan date, with no delinquency in the past six months, with principal amounts of ₩500 million or less and for houses valued at ₩900 million or less that are on a floating rate basis and/or an interest payment only basis) might convert such loans to new fixed rate loans in respect of which the borrowers would be required to repay the principal and interest in installment for a term of 10, 15, 20 or 30 years without a grace period, provided that the new loans pass the maximum loan-to-value ratio of 70% (irrespective of the location of the property) and the maximum debt-to-income ratio of 60% (only in respect of apartment units located in the greater Seoul metropolitan area, subject to certain exceptions). The borrowers were allowed to convert the original loans only at the banks that extended such loans. According to the FSC, under this program, approximately 327,000 borrowers converted loans in the aggregate amount of ₩31.7 trillion to fixed rate loans, of which the Bank accounted for approximately 13.5%.

On August 26, 2019, the FSC announced that it will implement an additional round of the program for up to ₩20 trillion. Despite tighter thresholds for eligibility, including newly adopted restrictions on annual income, and the imposition of prepayment penalties, the newly implemented program is expected to be substantively similar to the mortgage refinancing program implemented in 2015. Similar to the 2015 program, banks holding newly converted fixed rate loans will be required to sell such loans to Korea Housing Finance Corporation, which will then securitize such loans and issue mortgage-backed securities (backed by such loans) to be purchased by the banks who sold the loans in proportion to the amounts of the loans sold. The amount of loans the Bank will need to transfer to the Korea Housing Finance Corporation is ₩1.7 trillion, but the amount of mortgage-backed securities the Bank will need to purchase from Korea Housing Finance Corporation has yet to be determined. Similar to the 2015 program, in the event that market interest rates increase from those applicable during this program's implementation, the Bank may experience valuation or realization losses on the mortgage-backed securities to be held by the Bank. Further, the Bank will be required to hold mortgage-backed securities it purchases from Korea Housing Finance Corporation under the program for a period of one year, and the Bank also may not be able to sell or otherwise dispose of the mortgage backed securities in the market or otherwise in amounts or at prices commercially reasonable due to the prevailing interest rate environment and/or other market conditions. As a result of this program the Bank may incur additional costs from recalibrating its asset portfolio and asset-liability management policy. Any of these developments could adversely affect the Bank's results of operation and financial condition. Due in large part to such initiatives, fixed interest rate loans and installment principal repayment-based loans accounted for 44.2% and 51.0%, respectively, of the total housing loans extended by commercial banks in Korea as of June 30, 2018, according to data published by the Government in December 2018. Fixed interest rate and installment principal repayment-based housing loans accounted for 51.7% and 54.9%, respectively, of the housing loans extended by the Bank as of March 31, 2023.

The Bank, on a voluntary basis, may factor the existence of the Government's policies and encouragements into consideration in making loans although the ultimate decision whether to make loans remains with the Bank and is made based on its internal credit approval procedures and risk management systems independently of Government policies. In addition, in tandem with providing additional loans to small- and medium-sized enterprises and low-income individuals, the Bank takes active steps to mitigate the potential adverse impacts from making bad loans to enterprises or individuals with high risk profiles as a result of such arrangement, such as by strengthening its loan review and post-lending monitoring processes. However, the Bank cannot assure you that such arrangement did not or will not, or similar or other government-led initiatives in the future will not, result in a suboptimal allocation of the Bank's loan portfolio from a risk-reward perspective compared to what the Bank would have allocated based on purely commercial decisions in the absence of such initiatives. The Government may implement similar or other initiatives in the future to spur the overall economy or encourage the growth of targeted industries or relief to certain segments of the population. Specifically, the Government may introduce lending-related initiatives or enforce existing ones in a heightened fashion during times when small- and medium-sized enterprises or low-income households on average are facing an increased levels of financial distress or vulnerability due to an economic downturn, which makes lending to them in the volume and the manner suggested by the Government even riskier and less commercially desirable. Accordingly, such policy-driven lending may create enhanced difficulties for the Bank in terms of risk management, deterioration of its asset quality and reduced earnings, compared to what would have been in the absence of such initiatives, which may have an adverse effect on its business, financial condition and results of operations.

The Government may also encourage investments in certain institutions in furtherance of policy objectives, and the Bank may not recoup its investments therein in a timely or otherwise commercially reasonable manner.

In addition to targeted lending, the Government may from time to time encourage or request the financial institutions in Korea, including the Bank and its subsidiaries, to make investments in, or provide other forms of financial support to, certain institutions in furtherance of the Government's policy objectives. In response thereto, the Bank has made and will continue to make the ultimate decision on whether, how and to what extent it will comply with such encouragements or requests based on its internal risk assessment and in accordance with its risk management systems and policies. At the same time, as a leading member of the financial service industry in Korea and as a responsible corporate citizen the Bank will also fully give due consideration to such encouragements or requests from the Government, especially in relation to the long-term benefit arising from furthering the policy objective of maintaining a sound financial system, even if complying with such requests may involve additional short-term costs and risks to a limited extent.

For example, to deal with a growing number of non-performing loans in the wake of the global financial crisis of 2008-2009, the Government sponsored the establishment of United Asset Management Company Ltd. ("**UAMCO**") in October 2009 through capital contributions from six major policy and commercial banks, namely the Bank, Kookmin Bank, KEB Hana Bank, Industrial Bank of Korea, Woori Bank and Nonghyup Bank. The Government originally planned to dispose of UAMCO during 2015 and establish a new company that specializes in corporate restructuring, but the Government scrapped such plans and instead decided to reorganize UAMCO and expand its restructuring business. As part of an effort to strengthen its balance sheet, UAMCO received additional capital contributions in May 2016 from two new shareholders, Korea Development Bank and the Export-Import Bank of Korea, and two of its existing shareholders, Woori Bank and Nonghyup Bank. In July 2020, UAMCO notified its shareholders of a capital contribution in the aggregate amount of ₩200.0 billion (to be borne in proportion to the respective shareholding percentages of its shareholders) to improve financial soundness and secure additional investment capacity in case sales of non-performing loans increase due to the COVID-19 pandemic. Accordingly, on July 28, 2020, the Bank made a capital contribution of ₩28 billion. The Bank has committed to contribute ₩140 billion of capital to UAMCO, of which ₩113.1 billion has been contributed to date. As of the date of this offering circular, the Bank holds a 14% equity interest in UAMCO, while seven other policy and commercial banks each hold interests ranging from 2% to 14%.

UAMCO seeks to achieve financial improvement of struggling companies through a wide range of restructuring programs, including debt restructuring, capital injection, asset sales, corporate reorganization, workouts and liquidation and bankruptcy proceedings and is the largest purchaser in Korea of non-performing financial assets generally. The Bank sold non-performing assets to UAMCO in the amount of ₩246.5 billion, ₩92.4 billion, ₩91.3 billion and ₩193.7 billion in 2020, 2021, 2022 and the first half of 2023, respectively. With an enlarged capital base following the recent capital contributions mentioned above, it is expected that UAMCO will play a more active role in the restructuring of the Korean corporate sector. The Government is also considering an amendment of the Financial Investment Services and Capital Markets Act ("FSCMA") to facilitate the business activities of UAMCO.

If UAMCO is successful in its expanded restructuring activities, it is anticipated that financial institutions including the Bank will be able to further enhance their financial soundness by transferring more non-performing loans to UAMCO rather than directly engaging in the restructuring activities of the troubled borrowers. However, the Bank or other banks may be requested by the Government to make additional capital contributions or loans to UAMCO, which may entail unanticipated costs. Additionally, given the generally poor quality of its non-performing assets, there is no assurance that the Bank will be able to sell such assets held by it to UAMCO on commercially reasonable terms and on a timely basis. Furthermore, there is no assurance that in furtherance of similar or other policy objectives, the Government may not request or otherwise encourage the Bank to provide similar or other investments or provide other financial support for which it is not duly compensated or otherwise take up additional risk that it would not normally have undertaken, which may have an adverse effect on its business, financial condition and results of operations.

The level and scope of government oversight of the Bank's retail lending business, particularly regarding mortgage and home equity loans, may change depending on the economic or political climate.

Real estate comprises the most significant asset for a substantial number of households in Korea, and movements of housing prices have generally had a significant impact on the domestic economy. Accordingly, regulating housing prices, either in terms of attempting to stem actual or anticipated excessive speculation during times of a suspected housing price bubble and spur the pricing and/or volume of real estate transactions during times of a depressed real estate market by way of tax subsidy, guidelines to lending institutions or otherwise, has been a key policy initiative for the Government.

The regulations on mortgage and home equity loans are susceptible to the changes of housing market cycles and have been revised from time to time. From 2017 to 2022, the Government led by President Moon Jae-in announced and implemented a series of robust polices aimed at taming speculation and deterring the rise of housing prices. However, since the second half of 2022, the Government led by President Yoon Suk Yeol has announced and implemented a series of policies to ease the demand-side regulations in the real estate market in order to prevent housing prices from crashing due to the recent hike in interest rates. For example, the Government has released most areas from "speculative areas", "overheated speculative areas" and "adjustment targeted areas" (collectively, the "**regulated areas**") where tighter loan-to-value ratios and debt-to-income ratios are applicable to mortgage or home equity loans, with only Gangnam-Gu, Seocho-Gu, Songpa-Gu and Yongsan-Gu in the greater Seoul metropolitan area currently remaining as the regulated areas, removed the application of stricter loan-to-value ratio to new loans secured by high-price houses located in the regulated areas and allowed the extension of new loans secured by houses located in the regulated areas to households that already own one or more houses.

The Government also increased the loan-to-value ratio applicable to the regulated areas (i) up to 50% of the appraised value of the houses, except that such maximum loan-to-value ratio is 70% for low-income households that (1) have a combined (in case of married couple) annual income of no more than ₩90 million, (2) do not currently own any housing and (3) are using the loan to purchase low-price housing valued at ₩900 million or less (₩800 million or less in case of houses located in "adjustment targeted areas") and (ii) up to 80% of the appraised value of the houses, for new loans to a first-time home buyer with a maximum residential mortgage loan amount of ₩600 million or less. The regulations on the debt-to-income ratio remained largely unchanged, with the debt-to-income ratio applicable to houses being (i) 60% for those that are located in the greater Seoul metropolitan area but excluding the regulated areas, (ii) 50% for those that are located in "adjustment targeted areas" and (iii) 40% for those that are located in "speculative areas" or "overheated speculative areas". However, such debt-to-income ratios for houses located in regulated areas are adjusted to 60% for (i) low-income households that (1) have a combined (in case of married couple) annual income of no more than ₩90 million, (2) do not currently own any housing and (3) are using the loan to purchase low-price housing valued at ₩900 million or less (₩800 million or less in case of houses located in "adjustment targeted areas") and (ii) first-time homebuyers.

The FSC also introduced a debt service ratio and a modified debt-to-income ratio in order to modernize credit review methods and stabilize the management of household debt. The modified debt-to-income ratio, which has been implemented beginning January 31, 2018 reflects (i) both principal and interest payments on the applicable mortgage and home equity loan and existing mortgage and home equity loans and (ii) interest payments on other loans. Previously, debt-to-income ratio had only reflected (i) both principal and interest payments on the applicable mortgage and home equity loan and (ii) interest payments on existing mortgage and home equity loans. Debt service ratios reflect principal and interest payments on both the applicable loan and other loans and have been fully implemented since October 2018. The modified debt-to-income ratios are used as the primary reference index in the evaluation and approval process for mortgage and home equity loans, and debt service ratios are generally used as a supplementary reference index providing additional limits on mortgage and home equity loans. For example, debt service ratios applicable to the loan applicant with the total aggregate loan amount exceeding ₩100 million (including the applied but not yet extended loan amount) should not exceed 40% unless otherwise specified by the applicable regulations.

In addition, the supervising authorities in Korea from time to time issue administrative instructions to Korean banks, which have the effect of regulating the access of borrowers to housing loans and, as such, demand for real estate properties. For example, the FSS issued administrative instructions to financial institutions to (except in limited circumstances) verify the borrower's ability to repay based on proof of income prior to making a mortgage and home equity loan regardless of the type or value of the collateral or the location of the property, which has had the effect of practically barring the grant of any new mortgage and home equity loans to borrowers without verifiable income.

Pursuant to the Regulation on the Supervision of the Banking Business, the Bank must maintain a loan to deposit ratio of no more than 100%. Since January 1, 2020, in calculating such loan to deposit ratio, retail loans and corporate loans are weighed differently, with retail loans subject to a multiple of 115% and corporate loans (excluding loans to SOHOs) subject to a multiple of 85%, thereby increasing the impact of retail loans and reducing the impact of corporate loans in calculating such ratio. In response to the COVID-19 pandemic, on April 20, 2020, the FSC announced a series of measures to temporarily ease the regulations on loan-to-deposit ratio. In particular, the loan-to-deposit ratio of 100% was temporarily increased to 105% and the weighing of corporate loans to SOHOs extended since January 1, 2020 to December 31, 2021 also became subject to a multiple of 85% provided such loans are not real estate related. On March 30, 2022, the FSC announced plans to cease the temporary easement of regulations relating to the loan-to-deposit ratio as of June 30, 2022 and to gradually normalize the loan-to-deposit ratio back down to 100% beginning July 1, 2022. On October 27, 2022, the FSC further announced measures to temporarily ease the loan-to-deposit ratio requirement from 100% to 105% in consideration of the increasing demand for corporate loans due to the contraction of the corporate bond market. The FSC announced the extension of the application of this temporary increase until the end of June 2023. On June 20, 2023, however, the FSC announced that the loan-to-deposit ratio will be normalized back down to 100% beginning July 1, 2023. Additionally, the Detailed Regulation on the Supervision of the Banking Business was amended on June 30, 2018 to provide for a weighted multiple to be applied to mortgage and home equity loans where the loan-to-value ratio exceeds 60% in determining required minimum total capital (BIS) ratio. The Detailed Regulation on the Supervision of the Banking Business was also amended on June 30, 2018 to add "concentration of risk in the retail sector" as an additional criterion when the FSS evaluates the risk management systems of Korean banks.

There is no assurance that Government measures will achieve their intended results. While any Government measure that is designed to stimulate growth in the real estate sector may result in growth of, and improved profitability for, the Bank's retail lending business (particularly with respect to mortgage and home equity loans) at least for the short term, such measure could also result in unintended consequences, including potentially excessive speculation resulting in a "bubble" for the Korean real estate market and a subsequent market crash. In contrast, any Government measure changing the direction of its stimulus measures (for example, in order to preemptively curtail an actual or anticipated bubble in the real estate market) may result in a contraction of the real estate market, a decline in real estate prices and consequently, a reduction in the growth of, and profitability for, the Bank's retail and/or other lending businesses, as well as otherwise have an adverse effect on the business, financial condition and results of operations or profitability of the Bank. See "**—** *Risks Relating to the Bank's Business — A decline in the value of the collateral securing the Bank's loans or the Bank's inability to fully realize the collateral value may adversely affect the Bank's credit portfolio*."

The Bank has engaged in limited settlement transactions involving Iran and also in limited business in and related to Russia which may subject the Bank to legal or reputational risks.

The U.S. Department of the Treasury's Office of Foreign Assets Control ("**OFAC**") administers and enforces certain laws and regulations ("**OFAC Sanctions**") that impose restrictions upon dealings with or related to certain countries, governments, entities and individuals that are the subject of OFAC Sanctions, including Iran, and maintains a list of specially designated nationals (the "**SDN List**"), whose assets are blocked and with whom U.S. persons are generally prohibited from dealing. Some OFAC Sanctions require a U.S. nexus in order to apply ("**Primary Sanctions**") while other OFAC Sanctions on certain dealings with or related to Iran, North Korea, and Russia apply even in the absence of a U.S. nexus ("**Secondary Sanctions**"). Non-U.S. persons are subject to Secondary Sanctions and can also be held liable for violations of Primary Sanctions on various legal grounds, such as causing violations by U.S. persons by engaging in transactions completed in part in the United States. The European Union also enforces certain laws and regulations that impose restrictions upon nationals and entities of, and business conducted in, member states with respect to activities or transactions with certain countries, governments, entities and individuals that are the subject of such laws and regulations. The United Nations Security Council and other governmental entities also impose similar sanctions.

In August 2016, the Government authorized us to act as a settlement bank for Euro-denominated transactions between Korean and Iranian businesses. Prior to the granting of this permission, payments for business activities were settled only in Won and the Bank did not participate in such settlements. From August 2016 through August 2017, the Bank processed 10 such transactions that resulted in a minimal amount of revenue. Since August 2017, the Bank has ceased processing any such transactions and has no intention to process any such transactions in the future. The Bank is committed to engaging only in lawful activities and in obeying all relevant OFAC Sanctions and European Union sanctions but cannot guarantee that actions taken by its employees will not violate such sanctions. On May 8, 2018, U.S. President Donald Trump announced his decision to terminate the participation of the United States in the Joint Comprehensive Plan of Action (the "**JCPOA**"), pursuant to which certain relief of OFAC Sanctions relating to Iran had been provided. Following two wind down periods, one that ended on August 6, 2018 and one that ended on November 4, 2018, all Iran-related Secondary Sanctions that had been waived pursuant to the JCPOA were re-imposed and non-U.S. persons now face risk of Secondary Sanctions for dealing with certain key sectors of the Iranian economy or for providing associated services related to the targeted activities As such, any Iran-related activities may subject the Bank to OFAC Sanctions and to potential legal or reputational risks.

The Bank engages in certain limited lending activities in or related to Russia. In response to the Russia-Ukraine conflict, the U.S., EU, U.K., Korean and other governments have imposed economic sanctions on Russia, Belarus, and certain regions of Ukraine. Such sanctions target, among other persons, a wide range of Russian financial institutions as sanctioned parties as well as the Russian Central Bank, certain other state entities and certain non-Russian individuals and entities that support Russia's efforts in the conflict. Russia-related activities may subject the Bank to sanctions and potential legal or reputational risk.

The Bank is generally subject to Korean accounting, regulatory, corporate governance and disclosure standards, which differ from those applicable to banks in other countries.

Banks in Korea, including the Bank, are subject to Korean accounting standards and disclosure requirements, which differ in significant respects from those applicable to banks in certain other countries, including the United States. The Bank's financial statements are prepared in accordance with K-IFRS, which may differ in certain respects from IFRS applied in other countries. In addition, the Bank is subject to corporate governance standards applicable to Korean banks, which differ in many respects from standards applicable in other countries. There may also be less publicly available information about Korean banks, such as the Bank, than is regularly made available by public or non-public companies in other countries. Such differences in accounting and corporate governance standards as well as less available public information could result in less than satisfactory corporate governance practices or disclosure to investors.

You may not be able to enforce a judgment of a foreign court against the Bank.

The Bank is a corporation with limited liability organized under the laws of Korea. All or substantially all of the Bank's directors and officers and other persons named in this offering circular reside in Korea, and all or a substantial portion of the assets of the Bank's directors and officers and other persons named in this offering circular and substantially all of its assets are located in Korea. As a result, it may not be possible for investors to effect service of process within the United States, or to enforce against them or the Bank in the United States judgments obtained in United States courts based on the civil liability provisions of the federal securities laws of the United States. There is doubt as to the enforceability in Korea, either in original actions or in actions for enforcement of judgments of United States courts, of civil liabilities predicated on the United States federal securities laws.

Risks Relating to Korea

Unfavorable financial and economic conditions in Korea and globally may have a material adverse impact on the Bank's asset quality, liquidity and financial performance.

The Bank is incorporated in Korea, where most of its assets are located and most of its income is generated. As a result, the Bank is subject to political, economic, legal and regulatory risks specific to Korea, and its business, results of operations and financial condition are substantially dependent on developments relating to the Korean economy. As Korea's economy is highly dependent on the health and direction of the global economy, and investors' reactions to developments in one country can have adverse effects on the securities price of companies in other countries, the Bank is also subject to the fluctuations of the global economy and financial markets. Factors that determine economic and business cycles in the Korean or global economy are for the most part beyond the Bank's control and inherently uncertain. In addition to discussions of recent developments regarding the global economic and market uncertainties and the risks relating to the Bank as provided elsewhere in this section, factors that could have an adverse impact on Korea's economy in the future include, among others:

- continued volatility or deterioration in Korea's credit and capital markets;
- difficulties in the financial sectors in Europe, China and elsewhere and increased sovereign default risks in select countries and the resulting adverse effects on the global financial markets, including possibility of global inflation and the spread of economic recession to Europe as a result of geopolitical risks arising from Russia-Ukraine conflict;
- declines in consumer confidence and a slowdown in consumer spending and corporate investments;
- adverse changes or volatility in foreign currency reserve levels, commodity prices (including oil prices), exchange rates (including fluctuation of the U.S. dollar, the Euro or the Yen exchange rates or revaluation of the Chinese Renminbi, increased exchange rate volatility as a result of COVID-19 (and recovery therefrom) and consequent government interventions, interest rates, inflation rates or stock markets;
- increasing levels of household debt;
- increasing delinquencies and credit defaults by retail and small- and medium-sized enterprise borrowers;
- continuing adverse conditions in the economies of countries and regions that are important export markets for Korea, such as the United States, Europe, Japan and China, or in emerging market economies in Asia or elsewhere;
- the economic impact of any pending or future free trade agreements;
- potential escalation of the ongoing trade war between the U.S. and China as each country introduces tariffs on goods traded with the other;

- social and labor unrest;

- significant fluctuations or decreases in the market prices of Korean real estate;

- a decrease in tax revenue and a substantial increase in the Government's expenditure for fiscal stimulus measures, unemployment compensation and other economic and social programs that together, would lead to an increased government budget deficit;

- financial problems or lack of progress in the restructuring of Korean business groups, other large troubled companies, their suppliers or the financial sector;

- loss of investor confidence arising from corporate accounting irregularities and corporate governance issues concerning certain Korean business groups;

- increases in social expenditures to support an aging population in Korea or decreases in economic productivity due to the declining population size in Korea;

- geopolitical uncertainty and risk of further attacks by terrorist groups around the world, including the actions of the so-called "Islamic State";

- the occurrence of severe health epidemics in Korea and other parts of the world, including the COVID-19, Ebola, Middle East Respiratory Syndrome (MERS) and Zika virus outbreaks;

- deterioration in economic or diplomatic relations between Korea and its trading partners or allies, including deterioration resulting from territorial or trade disputes or disagreements in foreign policy such as the recent diplomatic tension between Korea and China with respect to the deployment of the Terminal High Altitude Area Defense (THAAD) system in Korea and trade disputes between Korea and the United States with respect to the imposition of anti-dumping duties on Korean steel, washing machines, transformers and solar panels;

- political uncertainty, or increasing strife among or within political parties in Korea, and political gridlock within the government or in the legislature, which prevents or disrupts timely and effective policy making;

- hostilities or political or social tensions involving oil-producing countries in the Middle East and North Africa and any material disruption in the global supply of oil or sudden increase in the price of oil;

- political or social tensions involving Russia and any resulting adverse effects on the global supply of oil or the global financial markets;

- the occurrence of natural or man-made disasters in Korea (such as the sinking of the Sewol ferry in April 2014, which significantly dampened consumer sentiment in Korea for months) and other parts of the world, particularly in trading partners of Korea; and

- an increase in the level of tensions or an outbreak of hostilities between North Korea and Korea or the United States.

Any future deterioration of the Korean economy could have an adverse effect on the Bank's business, financial condition and results of operations.

Tensions with North Korea could have an adverse effect on the Bank and the price of the Covered Bonds.

Relations between Korea and North Korea have been tense throughout Korea's modern history. The level of tension between Korea and North Korea has fluctuated and may increase abruptly as a result of current and future events. In particular, there continues to be heightened security tension in the region stemming from North Korea's hostile military and diplomatic actions, including in respect of its nuclear weapons and long-range missile programs. Some examples from recent years include the following:

- In September 2022, North Korea legislated five conditions under which it would launch a preemptive nuclear strike: (i) when a nuclear or other weapon of mass destruction attack has been carried out against North Korea or is imminent, (ii) when a nuclear or non-nuclear strike on the leadership and national nuclear force command body of North Korea has been carried out or is imminent, (iii) when a lethal military attack on important strategic targets of North Korea has been carried out or is imminent, (iv) when it is operationally unavoidable to prevent the expansion of a war and seize the initiative in times of contingencies, and (v) when a situation that causes a catastrophic crisis to the existence of North Korea and the safety of the people.

- Following Pyongyang Joint Declaration in September 2018, Korea and North Korea also reached for an agreement on the implementation of such declaration to cease any hostile military activities. Despite such agreement, North Korea fired artillery shells in maritime buffer zones in November 2019 as well as from October 2022 to December 2022 and shots on a guard post of Korea in May 2020. In December 2022, five North Korean drones violated Korean airspace, one of which returned to the North but the rest disappeared. In November 2022 and from February 2023 to June 2023, North Korea conducted test launches of intercontinental ballistic missiles to East Sea.

- In April 2018, North Korea announced an end to nuclear explosive testing, yet with denuclearization talks stalled, in December 2019, Kim Jong-un announced that North Korea was no longer bound by the moratoria. In March 2022, satellite monitoring revealed that construction resumed at North Korea's nuclear test site.

- In February 2016, in retaliation of North Korea's launch of a long-range rocket, Korea announced that it would halt its operations of the Kaesong Industrial Complex, an industrial complex in the border city of Kaesong, to impede North Korea's utilization of funds from the industrial complex to finance its nuclear and missile programs. In response, North Korea announced that it would expel all Korean employees from the industrial complex and freeze all Korean assets in the complex. All 280 Korean workers present at Kaesong left hours after the announcement by North Korea, and the complex remains closed as of the date of this offering circular.

- North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted six rounds of nuclear tests since October 2006, including claimed detonations of hydrogen bombs, which are more powerful than plutonium bombs, and warheads that can be mounted on ballistic missiles. Over the years, North Korea has also conducted a series of ballistic missile tests, including missiles launched from submarines and intercontinental ballistic missiles that it claims can reach the United States mainland. In response, the Government has repeatedly condemned the provocations and flagrant violations of relevant United Nations Security Council resolutions. Internationally, the United Nations Security

Council has passed a series of resolutions condemning North Korea's actions and significantly expanding the scope of sanctions applicable to North Korea, most recently in November 2022 in response to North Korea's intercontinental ballistic missile test in November 2022. Over the years, the United States and the European Union have also expanded their sanctions applicable to North Korea.

North Korea's economy also faces severe challenges, including severe inflation and food shortages, which may further aggravate social and political tensions within North Korea. In addition, reunification of Korea and North Korea could occur in the future, which would entail significant economic commitment and expenditure by Korea that may outweigh any resulting economic benefits of reunification.

In April, May and September 2018, President Moon Jae-in met Kim Jong-un in a series of summit meetings to discuss, among other matters, denuclearization of the Korean peninsula. In June 2018, U.S. President Donald Trump and Kim Jong-un in turn had an official summit in Singapore, the first ever meeting between leaders of the United States and North Korea. Subsequent to the Singapore summit, they signed a joint statement, which stated, among others, new peaceful relations and the denuclearization of the Korean peninsula. A second official summit between U.S. President Donald Trump and Kim Jong-un was held in Vietnam in February 2019 but ended abruptly and without an agreement. In June 2019, U.S. President Donald Trump and Kim Jong-un had another summit at the Korean Demilitarized Zone, following which both sides announced a resumption of denuclearization talks. However, in December 2019, North Korea announced its intention to resume missile testing, heightening tensions. On June 16, 2020, North Korea destroyed the joint liaison office in Kaesong, citing anti-regime propaganda allegedly disseminated using balloons across the border by Korean activists, and cut all other communication channels with Korea. On October 4, 2021, both Korea and North Korea announced that the communication channels have been reconnected. However, there has been no further discussion of resuming any operations in the Gaeseong Industrial Complex or any transactions that we are involved in.

In the aftermath of these developments, there remains significant uncertainty regarding peace talks and the denuclearization of the Korean peninsula. As such, there can be no assurance that the level of tension on the Korean peninsula will not escalate in the future or that the political regime in North Korea may not suddenly collapse. Any further increase in tension or uncertainty relating to the military, political or economic stability in the Korean peninsula, including a breakdown of diplomatic negotiations over the North Korean nuclear program, occurrence of military hostilities, heightened concerns about the stability of North Korea's political leadership or its actual collapse, a leadership crisis, a breakdown of high-level contacts or accelerated reunification could have a material adverse effect on the Bank's business, financial condition and results of operations, as well as a downgrade in the credit rating of Korea, the Bank or the Covered Bonds.

Risks Relating to the Covered Bonds

The Covered Bonds may not be a suitable investment for all investors.

Each potential investor in the Covered Bonds must determine the suitability of that investment in light of its own circumstances. In particular, each potential investor should:

- have sufficient knowledge and experience to make a meaningful evaluation of the relevant Covered Bonds, the merits and risks of investing in the relevant Covered Bonds and the information contained or incorporated by reference in this offering circular or any applicable supplement to this offering circular;

- have access to, and knowledge of, appropriate analytical tools to evaluate, in the context of its particular financial situation, an investment in the relevant Covered Bonds and the impact such investment will have on its overall investment portfolio;

- have sufficient financial resources and liquidity to bear all of the risks of an investment in the Covered Bonds, including Covered Bonds with principal or interest payable in one or more currencies, or where the currency for principal or interest payments is different from the currency in which such potential investor's financial activities are principally denominated;

- understand thoroughly the terms of the relevant Covered Bonds and be familiar with the behaviour of any relevant indices and financial markets (including, critically, the consequences of an Issuer Event of Default or Covered Bond Event of Default and the application of cashflows generated by the Cover Pool Assets thereafter); and

- be able to evaluate (either alone or with the help of a financial adviser) possible scenarios for economic, interest rate and other factors that may affect its investment and its ability to bear the applicable risks.

The Covered Bonds are complex financial instruments and such instruments may be purchased as a way to reduce risk or enhance yield with an understood, measured, appropriate addition of risk to their overall portfolios. A potential investor should not invest in Covered Bonds which are complex financial instruments unless it has the expertise (either alone or with the assistance of a financial adviser) to evaluate how the Covered Bonds will perform under changing conditions, the resulting effects on the value of such Covered Bonds and the impact this investment will have on the potential investor's overall investment portfolio.

Legal investment considerations may restrict certain investments.

The investment activities of certain investors are subject to legal investment laws and regulations, or review or regulation by certain authorities. Each potential investor should consult its legal advisers to determine whether and to what extent (i) Covered Bonds are legal investments for it, (ii) Covered Bonds can be used as collateral for various types of borrowing and (iii) other restrictions apply to its purchase or pledge of any Covered Bonds. Financial institutions should consult their legal advisers or the appropriate regulators to determine the appropriate treatment of the Covered Bonds under any applicable risk-based capital or similar rules.

The Covered Bonds are our obligations only.

The Covered Bonds will constitute our obligations which have the benefit of a statutory preference under the Korean Covered Bond Laws on the Cover Pool. An investment in the Covered Bonds involves a reliance on our creditworthiness. The Covered Bonds are not guaranteed by any member of the Shinhan Financial Group or any other person. In particular, the Covered Bonds will not represent an obligation or be the responsibility of any of the Arranger, the Dealers, the Trustee or any other party to the Transaction Documents, their officers, members, directors, employees, security holders or incorporators, other than us.

In addition, an investment in the Covered Bonds involves the risk that subsequent changes in the actual or our perceived creditworthiness may adversely affect the market value or ratings of the relevant Covered Bonds.

The Covered Bonds issued under the Programme that have different terms will rank pari passu, and an Issuer Event of Default in respect of one series will trigger an Issuer Event of Default for all Series.

Save in respect of the first issue of Covered Bonds, Covered Bonds issued under the Programme will either be fungible with an existing Series of Covered Bonds or have different terms from an existing Series of Covered Bonds (in which case they will constitute a new Series). We may also issue unlisted Covered Bonds and/or Covered Bonds which are not admitted to trading on any regulated or unregulated market. As a result, holders of the Covered Bonds issued pursuant to this offering circular should be aware that their claims will rank *pari passu* with holders of Covered Bonds which may be issued in a manner other than pursuant to this offering circular in respect of the Cover Pool assets.

If an Issuer Event of Default occurs and an Issuer EOD Notice is served on us in respect of a particular Series of Covered Bonds, there will be an Issuer Event of Default in respect of all Series. If a Covered Bond Event of Default occurs and an Acceleration Notice is served on us, the Covered Bonds of all Series outstanding will accelerate. In order to ensure that any further issue of Covered Bonds under the Programme does not adversely affect the existing Covered Bondholders:

- no further Covered Bonds may be issued under the Programme unless we have certified to the Trustee that the Asset Coverage Test is satisfied on the previous Interest Calculation Date and will continue to be satisfied after the issue of any further Covered Bonds; and

- no further Covered Bonds may be issued under the Programme unless we have certified to the Trustee that no Issuer Event of Default has occurred or will occur as a result of the issuance of further Covered Bonds.

However, there is no assurance that the issue of a further Series of Covered Bonds would not be ultimately adverse to the interests of any existing holder of Covered Bonds, because of, for instance, the reduced level of collateralization in the Cover Pool.

Change of law may affect the Covered Bonds.

The Terms and Conditions of the Covered Bonds are based on English law (except that (i) Condition 3 (*Status*) will be governed by, and construed in accordance with, Korean law and (ii) the N Bonds will be governed by, and construed in accordance with, German law) in effect as of the date of issue of the relevant Covered Bonds. The Korean Account Bank Agreement and the Asset Monitor Agreement will be governed by, and construed in accordance with, Korean law; the Custodian Bank Agreement and the Hong Kong Account Bank Agreement will be governed by, and construed in accordance with, Hong Kong law; while all other Transaction Documents will be governed by, and construed in accordance with, English law. No assurance can be given as to the impact of any possible judicial decisions or changes to law, administrative practice or tax treatment in the United Kingdom, Hong Kong or Korea after the date of issue of the relevant Covered Bonds.

The Korean Covered Bond Act entered into force in April 2014 and, as of the date of this offering circular, there are no precedents as to how the provisions will be interpreted by Korean courts or other judicial authorities. It is uncertain how the Korean Covered Bond Laws will be interpreted or whether changes or amendments will be made to it which will affect Covered Bonds issued under the Programme.

Ratings of the Covered Bonds may be changed at any time and may adversely affect the fair market value of the Covered Bonds.

The Covered Bonds are expected to be rated "Aaa" by Moody's and "AAA" by Fitch upon issuance. The ratings address the likelihood of full and timely payment to the Covered Bondholders of all payments of interest on the Covered Bonds on each Interest Payment Date and the full and timely payment of principal by the Maturity Date (or, if an Extended Maturity Date is specified, such Extended Maturity Date). Any rating agency may lower its ratings or withdraw its rating if, in the sole judgment of the rating agency, the credit quality of the Covered Bonds has declined or is in question. If any rating assigned to the Covered Bonds is lowered or withdrawn, the market value of the Covered Bonds may be reduced. A credit rating is not a recommendation to purchase, hold or sell securities and may be subject to revision, suspension or withdrawal at any time.

A credit rating may not reflect the potential impact of all risks related to the structure, market, additional factors discussed above, and other factors that may affect the value of the Covered Bonds. In addition, rating agencies may change their rating methodology from time to time, potentially making it more difficult to maintain a certain credit rating.

If the ratings initially assigned to the Covered Bonds are subsequently lowered or withdrawn for any reason, no person or entity will be obligated to provide any additional credit enhancement with respect to the Covered Bonds. Any reduction or withdrawal of a rating may have an adverse effect on the liquidity and market price of the Covered Bonds. Any reduction or withdrawal of a rating will not constitute an event of default with respect to the Covered Bonds or an event requiring us to redeem any Covered Bonds. Following the withdrawal of a rating, there is no obligation on any party to procure the re-assessment of a rating to the Covered Bonds.

We are required under the Korean Covered Bond Laws to maintain at all times a total value of the Cover Pool that exceeds 105% of the aggregate outstanding principal amount of the Covered Bonds and any interest accrued on such Covered Bonds. However, the ratings of the Covered Bonds (if applicable) are based on an assumption that we maintain a minimum level of overcollateralization determined in accordance with the Asset Coverage Test, which exceeds the requirements under the Korean Covered Bond Laws. The level of overcollateralization that is required for maintaining the ratings of the Covered Bonds (if applicable) may change from time to time. If an Asset Coverage Test Breach Notice has been served on us and has not been revoked, we may decide to add further Liquid Assets to the Cover Pool in order to cure the Asset Coverage Test breach on or before the second Calculation Date after service of such Asset Coverage Test Breach Notice and to avoid an Issuer Event of Default. However, there is no obligation on us to do so or to maintain a particular rating with respect to the Covered Bonds.

European regulated investors are restricted from using credit ratings for regulatory purposes unless issued or endorsed by a credit rating agency registered under or certified in accordance with the CRA Regulation.

In general, European regulated investors are restricted under Regulation (EC) No. 1060/2009, as amended (the "**CRA Regulation**") from using credit ratings for regulatory purposes, unless such ratings are issued by a credit rating agency established in the European Union and registered under the CRA Regulation (and such registration has not been withdrawn or suspended), subject to transitional provisions that apply in certain circumstances whilst the registration application is pending. Such general restriction will also apply in the case of credit ratings issued by non-European Union credit rating agencies, unless the relevant credit ratings are endorsed by a credit rating agency registered in the European Union or the relevant non-European Union rating agency is certified in accordance with the CRA Regulation (and such endorsement action or certification, as the case may be, has not been withdrawn or suspended). The list of registered and certified rating agencies published by the European

Securities and Markets Authority (the "**ESMA**") on its website in accordance with the CRA Regulation is not conclusive evidence of the status of the relevant rating agency included in such list, as there may be delays between certain supervisory measures being taken against a relevant rating agency and the publication of the updated ESMA list. Certain information with respect to the credit rating agencies and ratings referred to in this offering circular, is set out in "*Summary of the Programme — Ratings*" of this offering circular.

Rating Agency confirmation in respect of Covered Bonds.

The terms of the Transaction Documents provide that, in certain circumstances, we must, and Trustee may, obtain a Rating Agency confirmation. The terms of the Transaction Documents provide that in the absence of such written confirmation, a Rating Agency confirmation will be deemed to have been given if our authorized signatory has certified to the Trustee that the relevant action or event has been notified to the Rating Agencies and none of the Rating Agencies has indicated that such circumstances would result in (x) a downgrade, withdrawal or suspension of the then current ratings assigned to any outstanding Covered Bonds by such Rating Agency or (y) such Rating Agency placing any outstanding Covered Bonds on rating watch negative (or equivalent).

By acquiring the Covered Bonds, investors will be deemed to have acknowledged and agreed that, notwithstanding the foregoing, a credit rating is an assessment of credit and does not address other matters that may be of relevance to Covered Bondholders, including, without limitation, in the case of a Rating Agency confirmation, whether any action proposed to be taken by us, the Trustee or any other party to a Transaction Document is either (i) permitted by the terms of the relevant Transaction Document, or (ii) in the best interests of, or not materially prejudicial to, some or all of the Covered Bondholders. In being entitled to have regard to the fact that the Rating Agencies have confirmed that the then current ratings of the Covered Bonds would not be adversely affected or withdrawn, each of us, the Trustee, the Covered Bondholders and each other creditor with a prioritized claim to the Cover Pool assets is deemed to have acknowledged and agreed that the above does not impose or extend any actual or contingent liability on the Rating Agencies to us, the Trustee, any creditor with a prioritized claim to the Cover Pool assets (including the Covered Bondholders) or any other person or create any legal relations between the Rating Agencies and us, the Trustee, the creditors with a prioritized claim to the Cover Pool assets (including the Covered Bondholders) or any other person whether by way of contract or otherwise.

Any such written confirmation from a Rating Agency constituting a Rating Agency confirmation may be given or not given at the sole discretion of each Rating Agency. It should be noted that, depending on the timing of delivery of the request and any information needed to be provided as part of any such request, it may be the case that a Rating Agency cannot provide a Rating Agency confirmation in the time available or at all, and the Rating Agency will not be responsible for the consequences thereof (including any deemed Rating Agency confirmation in the absence of such written confirmation). Such confirmation, if given, will be given on the basis of the facts and circumstances prevailing at the relevant time, and in the context of cumulative changes to the transaction of which the Covered Bonds form part since the issuance date. A Rating Agency confirmation represents only a restatement of the opinions given, and is given on the basis that it will not be construed as advice for the benefit of any Covered Bondholders or any parties to the Transaction Documents. Even if a Rating Agency does not object to a proposed action, the relevant action may still have an adverse impact on the then current ratings of the Covered Bonds.

The Covered Bonds are subject to transfer restrictions.

The Covered Bonds will not be registered under the Securities Act or any state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons, except to QIBs in reliance on the exemption provided by Rule 144A, to certain persons in offshore transactions in reliance on Regulation S, or pursuant to another exemption from, or in another transaction not subject to, the registration requirements of the Securities Act and in accordance with applicable state securities laws. For a further discussion of the transfer restrictions applicable to the Covered Bonds, see "*Subscription and Sale and Transfer and Selling Restrictions.*"

The Covered Bonds may have limited liquidity.

The Covered Bonds may have no established trading market when issued, and one may never develop. If a market does develop, it may not be liquid. No assurance can be given as to the liquidity of, or the development and continuation of an active trading market for, the Covered Bonds. If an active trading market for the Covered Bonds does not develop or is not maintained, the market price and liquidity of the Covered Bonds may be adversely affected. If such a market were to develop, the Covered Bonds could trade at prices that may be higher or lower than the price at which the Covered Bonds are issued depending on many factors, including:

- prevailing interest rates;
- our results of operations, financial condition and credit ratings;
- political and economic developments in and affecting Korea;
- the market conditions for similar securities; and
- the financial condition and stability of the Korean financial sector.

Therefore, investors may not be able to sell their Covered Bonds easily or at prices that will provide them with a yield comparable to similar investments that have a developed secondary market. This is particularly the case for Covered Bonds that are especially sensitive to interest rate, currency or market risks, are designed for specific investment objectives or strategies or have been structured to meet the investment requirements of limited categories of investors. These types of Covered Bonds generally would have a more limited secondary market and more price volatility than conventional debt securities. Illiquidity may have a severely adverse effect on the market value of the Covered Bonds.

The Covered Bonds may be represented by Global Covered Bonds or Global Certificates and holders of a beneficial interest in a Global Covered Bond or Global Certificate must rely on the procedures of the relevant Clearing System(s).

Covered Bonds issued under the Programme may be represented by one or more Global Covered Bonds or Global Certificates. Such Global Covered Bonds or Global Certificates will be deposited with the Common Depositary for Euroclear and Clearstream and/or DTC (each of Euroclear, Clearstream, DTC, a "**Clearing System**"). Except in the circumstances described in the relevant Global Covered Bond or Global Certificate, investors will not be entitled to receive Definitive Covered Bonds. The relevant Clearing System(s) will maintain records of the beneficial interests in the Global Covered Bonds and Certificates. While the Covered Bonds are represented by one or more Global Covered Bonds or Global Certificates, investors will be able to trade their beneficial interests only through the Clearing Systems.

While the Covered Bonds are represented by one or more Global Covered Bonds or Global Certificates, we will discharge our payment obligations under the Covered Bonds by making payments to the relevant Clearing System for distribution to their account holders.

A holder of a beneficial interest in a Global Covered Bond or Global Certificate must rely on the procedures of the relevant Clearing System(s) to receive payments under the relevant Covered Bonds. We have no responsibility or liability for the records relating to, or payments made in respect of, beneficial interests in the Global Covered Bonds or Global Certificates.

The Trustee's powers may affect the interests of the Covered Bondholders, including in case of a notice of an Issuer Event of Default.

In the exercise of its powers, trusts, authorities and discretions, the Trustee shall only have regard to the interests of the Covered Bondholders and may not act on our behalf. If, in connection with the exercise of its powers, trusts, authorities or discretions, the Trustee is of the opinion that an Issuer Event of Default has occurred and that the interests of the Covered Bondholders would be materially prejudiced thereby, the Trustee has discretion to give notice to the Issuer of an Issuer Event of Default on its own accord (but is not obliged to do so), and if directed to do so by Covered Bondholders, will only give such notice with the approval of Covered Bondholders by Extraordinary Resolution passed by all series of Covered Bonds then outstanding voting as one class, or by a direction in writing of such Covered Bondholders of at least 25% of the outstanding principal amount of Covered Bonds then outstanding.

The Trustee may agree to modifications to the Transaction Documents or waive breaches without the Covered Bondholders' prior consent.

Pursuant to the terms of the Trust Deed, the Trustee may, without the consent of any of the Covered Bondholders, concur with any person in making any modification to any of the provisions of the Transaction Documents (including the Conditions of the Covered Bonds):

- provided that (save in relation to a Series Reserved Matter or a modification requiring the consent of the Covered Bondholders under the Korean Covered Bond Laws) the Trustee is of the opinion that such modification will not be materially prejudicial to the interests of any of the Covered Bondholders of any Series; or

- which, in the opinion of the Trustee, is of a formal, minor or technical nature or made to correct a manifest error or to comply with any mandatory provision of law.

Pursuant to the terms of the Trust Deed, the Trustee may also, without the consent of any of the Covered Bondholders, waive or authorise any breach or proposed breach by us or any other person of any of the provisions of the Transaction Documents (including the Conditions) or determine that an Issuer Event of Default, a Potential Issuer Event of Default, a Potential Covered Bond Event of Default or a Covered Bond Event of Default shall not be treated as such, provided that:

- the Trustee is of the opinion that such waiver, authorisation or determination will not be materially prejudicial to the interests of any of the Covered Bondholders of any Series; and

- the Trustee shall not so waive, authorise or determine in contravention of an express direction given by an Extraordinary Resolution or a request made pursuant to Condition 11 (*Meetings of Covered Bondholders, Modification, Waiver and Substitution*).

Prior to the Trustee agreeing to any such modification, waiver, authorisation or determination, the Trustee must have received a legal opinion from a reputable law firm in Korea confirming that in respect of the relevant modification, waiver, authorisation or determination either (a) no consent is required from the FSC, the Ministry of Economy and Finance (the "**MOEF**") and/or any other relevant Korean authority; or that (b) any and all consents which are required from the FSC, the MOEF and any other relevant Korean authority have been received.

Notwithstanding the above, the Trustee shall, without the consent of the Covered Bondholders, but subject to the other applicable terms of the Trust Deed, be obliged to concur with us in making any modifications (other than a modification relating to a Series Reserved Matter or a modification requiring the consent of the Covered Bondholders under the Korean Covered Bond Laws) to the Trust Deed, the Conditions or any of the Transaction Documents to which it is a party or entering into any new documents, whether in its existing capacity as Trustee or in a new capacity, that we consider necessary:

- for the purpose of adding any additional Rating Agency or replacing any existing Rating Agency with a replacement Rating Agency or removing any Rating Agency in relation to the Programme and/or maintaining the current rating and complying with, or implementing or reflecting, any change in the criteria of one or more of the Rating Agencies which may be applicable from time to time to maintain that rating, provided that we certify in writing to the Trustee that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect and if applicable, is necessary to comply with such criteria (including to avoid a downgrade, withdrawal or suspension of the then current rating assigned by each Rating Agency to any Series of Covered Bonds);

- for the purpose of enabling any Series of Covered Bonds to achieve a Moody's rating of "Aaa" and/or a Fitch rating of "AAA" and/or equivalent rating of any replacement Rating Agency, provided that we certify in writing to the Trustee that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect and is necessary to achieve such a rating;

- for the purpose of making any modification to a Transaction Document or entering into new documents proposed by us in order (i) for a Swap Provider or an Account Bank to remain eligible to perform its role in such capacity in conformity with such criteria and/or (ii) for a Swap Provider or an Account Bank to avoid taking action which it would otherwise be required to take to enable it to continue performing such role (including, without limitation, posting collateral or advancing funds), provided that we certify in writing to the Trustee that such modification or entry into new documents is necessary for the purposes described in (i) and (ii) of this paragraph;

- for the purpose of enabling the Covered Bonds issued under the Programme to qualify or to continue to qualify as regulated covered bonds under the Korean Covered Bond Laws and which we certify in writing to the Trustee are necessary to comply with the Korean Covered Bond Laws and are required solely for such purpose and have been drafted solely to such effect or, as the case may be, are solely to implement and reflect the Korean Covered Bond Laws;

- for the purpose of enabling the Covered Bonds issued under the Programme or any relevant Transaction Party to comply with any mandatory provisions of law, provided that we certify to the Trustee in writing (such certificate to be signed by our Authorised Signatory) that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect;

- for the purpose of enabling the Covered Bonds to be (or to remain) listed on the SGX-ST, provided that we certify to the Trustee in writing (such certificate to be signed by our Authorised Signatory) that such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect;

- for the purpose of enabling the Covered Bonds issued under the Programme to qualify or to continue to qualify under any equivalence regime introduced for third-country credit institutions issuing covered bonds and for investors in those covered bonds as referred to in Article 31 of Directive (EU) 2019/2162 of the European Parliament and of the Council of 27 November 2019 on the issue of covered bonds and covered bond public supervision and amending Directives 2009/65/EC and 2014/59/EU ("EU Covered Bond Directive") and which the Issuer certifies in writing to the Trustee are necessary to comply with any such equivalence regime in relation to the EU Covered Bond Directive and/or Regulation (EU) 2019/2160 of the European Parliament and of the Council of 27 November 2019 amending Regulation (EU) No 575/2013 as regards exposures in the form of Covered Bonds, and are required solely for such purpose and have been drafted solely to such effect;

- for the purpose of enabling us to issue Covered Bonds in the form of N Bonds under the Programme on the following terms: (i) the terms and conditions of the N Bonds are to be governed by German law (save for Condition 3 (*Status*), which shall be governed by Korean law); (ii) the N Bonds will not be listed or traded on any stock exchange, but will be issued in registered form on a private placement basis to eligible investors; and (iii) the N Bonds will constitute "Covered Bonds" issued under the Programme, ranking *pari passu* with all other Covered Bonds issued from time to time; or

- in order to enable us and/or the Swap Provider (or any potential Swap Provider), as the case may be, to comply with: (i) any obligation which applies to it under Articles 9, 10 and 11 of Regulation (EU) 648/2012 of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories dated July 4, 2012 (including, without limitation, any associated regulatory technical standards and advice, guidance or recommendations from relevant supervisory regulators) (EMIR); (ii) any other obligation which applies to it under EMIR; or (iii) any other obligation under any applicable laws or regulations that require parties to uncleared over-the-counter derivative transactions to report such transactions to a trade repository and/or to exchange collateral in the form of initial margin and/or variation margin, and any modification in connection with sub-paragraphs (i) to (iii) of this paragraph may include (and without limitation) modifications to the provisions set out in the Transaction Documents regarding payments using assets in the Cover Pool, withdrawal of cash from the Cover Pool, opening of additional Cover Pool Accounts by us and the priority of payments in order to allow payments in respect of collateral by us (or, following the service of an Issuer EOD Notice, the Asset Monitor) to the Swap Provider in priority to amounts payable to the Covered Bondholders or Couponholders (but, for the avoidance of doubt, the Trustee is not obliged to agree to modifications to allow such payments to be made *pari passu* or in priority to payments to the Trustee in the priority of payments provisions), provided that we (or, in the case of the last bullet point above, we, the Swap Provider and/or the potential Swap Provider, as appropriate) certify to the Trustee in writing that (a) such modification or entry into new documents is required solely for such purpose and has been drafted solely to such effect and (b) we have received advice from a reputable law firm in Korea that in respect of the relevant modification or entry into new documents either (x) no consent is required from the FSC, the MOEF and any other relevant Korean authority (other than an amendment filing to the Covered Bond Issuance Plan and acceptance thereof by the FSC); or that (y) any and all consents which are required from the FSC, the MOEF and any other relevant Korean authority have been received from the FSC, the MOEF and any other relevant Korean authority and are in full force and effect.

However, in no case shall the Trustee be obliged to agree to any modification which, in its sole opinion, would have the effect of (a) exposing the Trustee to any liability against which it has not been indemnified and/or secured and/or pre-funded to its satisfaction or (b) increasing the obligations or duties, or decreasing the rights or protection, of the Trustee in the Transaction Documents and/or the Conditions of the Covered Bonds.

The Trustee may request Covered Bondholders and/or Couponholders to provide an indemnity and/or security and/or pre-funding to its satisfaction.

In certain circumstances, including without limitation the giving of notice to the Issuer pursuant to Condition 10 of the Conditions of the Covered Bonds and the taking of any steps and/or actions and/or the instituting of proceedings against the Issuer pursuant to Condition 12 of the Conditions of the Covered Bonds, the Trustee may (at its sole discretion) request Covered Bondholders and/or Couponholders to provide an indemnity and/or security and/or pre-funding to its satisfaction before it takes any action on behalf of Covered Bondholders and/or Couponholders. The Trustee will not be obliged to take any such steps and/or actions and/or to institute any such proceedings if not indemnified and/or secured and/or pre-funded to its satisfaction. Negotiating and agreeing to any indemnity and/or security and/or pre-funding can be a lengthy process and may have an impact on when such actions can be taken. The Trustee may not be able to take actions, notwithstanding the provision of an indemnity or security or pre-funding to it, in breach of the terms of the Trust Deed or the Conditions of the Covered Bonds and in such circumstances, or where there is uncertainty or a dispute as to the applicable laws or regulations, to the extent permitted by the Trust Deed, the Conditions of the Covered Bonds and applicable laws and regulations, it will be for the Covered Bondholders and/or Couponholders to take such actions directly.

Covered Bonds are subject to optional redemption by us.

An optional redemption feature is likely to limit the market value of Covered Bonds. During any period when we may elect to redeem Covered Bonds, the market value of such Covered Bonds generally will not rise substantially above the price at which they can be redeemed. This also may be true prior to any redemption period. We may be expected to redeem Covered Bonds when our cost of borrowing is lower than the interest rate on the Covered Bonds. At those times, an investor generally would not be able to reinvest the redemption proceeds at an effective interest rate as high as the interest rate on the Covered Bonds being redeemed and may only be able to do so at a significantly lower rate. Potential investors should consider reinvestment risk in light of other investments available at that time.

We may issue Fixed/Floating Rate Covered Bonds.

Fixed/Floating Rate Covered Bonds may bear interest at a rate that converts from a fixed rate to a floating rate, or from a floating rate to a fixed rate. Where we have the right to effect such a conversion, this will affect the secondary market and the market value of such Covered Bonds since we may be expected to convert the rate when we are likely to produce a lower overall cost of borrowing. If we convert from a fixed rate to a floating rate in such circumstances, the spread on the Fixed/Floating Rate Covered Bonds may be less favourable than the then prevailing spreads on comparable Floating Rate Covered Bonds tied to the same reference rate. In addition, the new floating rate at any time may be lower than the rates on the rest of the Covered Bonds. If we convert from a floating rate to a fixed rate in such circumstances, the fixed rate may be lower than the then prevailing rates on the rest of the Covered Bonds.

Fixed Rate Covered Bonds are subject to interest rate risks.

Investment in Fixed Rate Covered Bonds involves the risk that if market interest rates subsequently increase above the rate paid on the Fixed Rate Covered Bonds, this will adversely affect the value of the Fixed Rate Covered Bonds.

Covered Bonds issued at a substantial discount or premium are subject to greater price volatility.

The market values of securities issued at a substantial discount or premium from their principal amount tend to fluctuate more in relation to general changes in interest rates than do prices for more conventional interest-bearing securities. Generally, the longer the remaining term of such securities, the greater the price volatility as compared to more conventional interest-bearing securities with comparable maturities.

There may be extendable obligations under the Covered Bonds.

The applicable Pricing Supplement may provide that an Extended Maturity Date (as defined below) applies to a Series of Covered Bonds.

If an Extended Maturity Date so applies and if we fail to redeem all of the relevant Series of Covered Bonds in full on the Maturity Date or within 10 days thereafter, the maturity of the Covered Bonds and the date on which such Covered Bonds will be due and payable for the purposes of the Conditions will be automatically extended up to but no later than the Extended Maturity Date, subject as otherwise provided in the applicable Pricing Supplement. We (or, if an Issuer EOD Notice has been served on us, the Asset Monitor on our behalf) shall give notice to the holders of Covered Bonds and to the Trustee, the Paying Agents and the Rating Agencies in writing at least five Business Days prior to the Maturity Date of the Series of Covered Bonds confirming whether or not we intend to redeem all or any of the principal amount outstanding in respect of such Series of Covered Bonds on the Maturity Date, or within 10 days thereafter. In that event, we may redeem all or part of the principal amount outstanding of the Covered Bonds on an Interest Payment Date falling in any month after the Maturity Date, up to and including the Extended Maturity Date or as otherwise provided for in the applicable Pricing Supplement. In that event also, the Covered Bonds will bear interest on the principal amount outstanding of the Covered Bonds in accordance with the applicable Pricing Supplement.

The extension of the maturity of the principal amount outstanding of the Covered Bonds from the Maturity Date to the Extended Maturity Date will constitute an Issuer Event of Default and a Cause of Disposal Event.

The Covered Bonds may be treated as issued with original issue discount for U.S. federal income tax purposes.

The Covered Bonds may be issued with original issue discount ("**OID**") for U.S. federal income tax purposes. If the "stated redemption price at maturity" of the Covered Bonds of a Series exceeds their "issue price" by an amount that is equal to or greater than the specified de minimis amount, the Covered Bonds generally will be treated as issued with OID for U.S. federal income tax purposes in an amount equal to such difference. If the Covered Bonds of a Series are treated as issued with OID for U.S. federal income tax purposes, U.S. investors in such Covered Bonds will generally be required to include OID in their gross income as it accrues in advance of the receipt of cash payments attributable to such income using the constant yield method. See "*Taxation — United States Federal Income Taxation — Original Issue Discount.*"

Priority Payment Right Holders may rank ahead of the Covered Bondholders.

Pursuant to the Establishment Deed, the Master Definitions Agreement and the Swap Agreements, each Priority Payment Right Holder agrees that the Asset Monitor will apply the Cover Pool assets in accordance with the Cover Pool Priority of Payments, which sets out the order in which the Cover Pool assets will be applied. The Cover Pool Priority of Payments provides that the payment claims of certain Priority Payment Right Holders will rank ahead of the claims of other Priority Payment Right Holders following the service of an Issuer EOD Notice and/or the service of an Acceleration Notice on us. In particular, the claims of the Trustee, Agents, Asset Monitor, Account Banks and, in certain cases, termination payments due to Swap Providers will rank ahead of the claims of the Covered Bondholders.

The Covered Bonds with a later Maturity Date or an Extended Maturity Date are subject to more risks.

Under the Cover Pool Priority of Payments, later maturing Series of Covered Bonds (including those in respect of which the repayment of the principal amount outstanding has been extended up to such Extended Maturity Date) may carry more risk than other Series of Covered Bonds with an earlier Maturity Date or Extended Maturity Date, since any over-collateralization in the Cover Pool will be applied to redeem earlier maturing Series of Covered Bonds as they become due and payable until the service of an Acceleration Notice, following which the amounts outstanding under all Series of Covered Bonds will accelerate and become due and payable and any shortfall in the Cover Pool assets will be divided amongst all such Series of Covered Bonds on a *pro rata* and *pari passu* basis.

Certain decisions of the Covered Bondholders must be taken at Programme level.

Any Extraordinary Resolution to direct the Trustee to serve an Issuer EOD Notice following an Issuer Event of Default or to serve an Acceleration Notice following a Covered Bond Event of Default and any direction to the Trustee to take any enforcement action or to appoint a substitute issuer or to replace the Trustee, in each case must be passed at a single meeting of all the Covered Bondholders of all Series then outstanding voting as one class. Therefore, the holders of a single Series of Covered Bonds will not be able to separately direct the Trustee.

Investors who purchase Covered Bonds in denominations that are an integral multiple of the Specified Denomination may be adversely affected if Definitive Covered Bonds are subsequently required to be issued.

In relation to any issue of Covered Bonds that have denominations consisting of a minimum specified denomination ("**Specified Denomination**") plus one or more higher integral multiples of another smaller amount, it is possible that such Covered Bonds may be traded in amounts that are not integral multiples of such minimum Specified Denomination. In such a case, a Covered Bondholder who, as a result of trading such amounts, holds an amount which (after deducting integral multiples of such minimum Specified Denomination) is less than the minimum Specified Denomination in his account with the relevant clearing system at the relevant time may not receive a Definitive Covered Bond in respect of such holding (should Definitive Covered Bonds be printed) and would need to purchase a principal amount of Covered Bonds such that its holding amounts to a Specified Denomination. If such Covered Bonds in definitive form are issued, Covered Bondholders should be aware that Definitive Covered Bonds that have a denomination that is not an integral multiple of the minimum Specified Denomination may be illiquid and difficult to trade.

Covered Bonds are subject to exchange rate risks and exchange controls.

We will pay principal and interest on the Covered Bonds in the Specified Currency. This presents certain risks relating to currency conversions if an investor's financial activities are denominated principally in a currency or currency unit (the "**Investor's Currency**") other than the Specified Currency. These include the risk that exchange rates may significantly change (including changes due to devaluation of the Specified Currency or revaluation of the Investor's Currency) and the risk that authorities with jurisdiction over the Investor's Currency may impose or modify exchange controls. An appreciation in the value of the Investor's Currency relative to the Specified Currency would decrease (i) the Investor's Currency-equivalent yield on the Covered Bonds, (ii) the Investor's Currency-equivalent value of the principal payable on the Covered Bonds and (iii) the Investor's Currency-equivalent market value of the Covered Bonds.

Government and monetary authorities may impose (as some have done in the past) exchange controls that could adversely affect an applicable exchange rate. As a result, investors may receive less interest or principal than expected, or no interest or principal.

There may be potential conflicts of interest in connection with the Programme.

We have a number of roles pursuant to the Programme including, but not limited to, the roles of Issuer and Account Bank, and we also service the Mortgage Loans in the Cover Pool. In respect of the Programme, we will act in our own interest subject to compliance with the Transaction Documents. Such actions by us may not be in the best interests of, and may adversely affect, the holders of the Covered Bonds, including by negatively impacting the ability for us to pay to the holders of the Covered Bonds any principal and/or interest due on the Covered Bonds. Subject to compliance with the Transaction Documents, we may act in our own interest without incurring any liability to the holders of any Series or Tranche of Covered Bonds. We rely on third parties to perform our obligations under the Covered Bonds. We have entered into agreements with a number of third parties who have agreed to perform services for us. In particular, but without limitation, the Asset Monitor has been appointed to calculate and/or monitor compliance with the Asset Coverage Test and the Amortisation Test and to provide services in respect of the management, maintenance and disposal of the Cover Pool following the occurrence of a Cause of Disposal Event; and following an Account Bank Termination Event in respect of us as Account Bank, the Cover Pool Cash Accounts will be held with a third party Account Bank. If a Servicer Replacement Event occurs, then the Asset Monitor may, as it deems appropriate in its sole discretion to ensure the continued servicing of the Mortgage Loans or to maintain the ratings of the Covered Bonds, request us to jointly appoint a Replacement Servicer to service the Mortgage Loans in the Cover Pool (or the Asset Monitor may appoint a Replacement Servicer on its own if we fail to take the requested action within a specified period). The ability of the Asset Monitor, any of its Delegates or any Replacement Servicer to fully perform the required services would depend, among other things, on its access to information, software and records available at the time. The Transaction Account Bank, Reserve Account Banks and Custodian Bank have been appointed to receive and hold monies in the Cover Pool Accounts and to operate and maintain those accounts in accordance with the Korean Covered Bond Laws, which includes segregating the amounts received from our other assets.

In the event that any of those parties fails to perform its obligations under the relevant agreement to which it is a party, the realisable value of the Cover Pool or any part thereof or pending such realisation (if the Cover Pool or any part thereof cannot be sold) and our ability to make payments under the Covered Bonds may be adversely affected. For instance, if the Asset Monitor (or any Replacement Servicer or Delegate appointed by it) has failed to service the Mortgage Loans adequately, this may lead to higher incidents of non-payment or default by Borrowers. We are also reliant on the Swap Providers to provide us with the funds matching our obligations under the Covered Bonds, as described below.

In the event of a termination of the Asset Monitor's or any third party Account Bank's appointment, any delay or inability to appoint a substitute Asset Monitor or replacement Account Bank that has the requisite Transaction Account Bank Required Ratings or Reserve Account Bank Required Ratings or Custodian Bank Required Ratings may affect the realisable value of the Cover Pool or any part thereof and/or our ability to make payments under the Covered Bonds. Covered Bondholders will have no right to consent to or approve of any actions taken by the Asset Monitor under the Asset Monitor Agreement. In addition, the terms agreed with the replacement entity may not be as favourable as those agreed with the original party pursuant to the Transaction Documents.

The Trustee is not responsible for monitoring compliance with, nor the monitoring of, the Asset Coverage Test, the Pre-Maturity Test, the Amortisation Test or any other test, nor supervising the performance by any other party of its obligations under any Transaction Document.

We rely on third parties to perform our obligations under the Covered Bonds.

We have entered into agreements with a number of third parties who have agreed to perform services for us. In particular, but without limitation, the Asset Monitor has been appointed to calculate and/or monitor compliance with the Asset Coverage Test and the Amortisation Test and to provide services in respect of the management, maintenance and disposal of the Cover Pool following the occurrence of a Cause of Disposal Event; and following an Account Bank Termination Event in respect of us as Account Bank, the Cover Pool Cash Accounts will be held with a third party Account Bank. If a Servicer Replacement Event occurs, then the Asset Monitor may, as it deems appropriate in its sole discretion to ensure the continued servicing of the Mortgage Loans or to maintain the ratings of the Covered Bonds, request us to jointly appoint a Replacement Servicer to service the Mortgage Loans in the Cover Pool (or the Asset Monitor may appoint a Replacement Servicer on its own if we fail to take the requested action within a specified period). The ability of the Asset Monitor, any of its Delegates or any Replacement Servicer to fully perform the required services would depend, among other things, on its access to information, software and records available at the time. The Transaction Account Bank and Reserve Account Bank have been appointed to receive and hold monies in the Cover Pool Accounts and to operate and maintain those accounts in accordance with the Korean Covered Bond Laws, which includes segregating the amounts received from our other assets. In the event that any of those parties fails to perform its obligations under the relevant agreement to which it is a party, the realisable value of the Cover Pool or any part thereof or pending such realisation (if the Cover Pool or any part thereof cannot be sold) and our ability to make payments under the Covered Bonds may be adversely affected. For instance, if the Asset Monitor (or any Replacement Servicer or Delegate appointed by it) has failed to service the Mortgage Loans adequately, this may lead to higher incidents of non-payment or default by Borrowers. We are also reliant on the Swap Providers to provide us with the funds matching our obligations under the Covered Bonds, as described below.

In the event of a termination of the Asset Monitor's or any third party Account Bank's appointment, any delay or inability to appoint a substitute Asset Monitor or replacement Account Bank that has the requisite Transaction Account Bank Required Rating or Reserve Account Bank Required Rating may affect the realisable value of the Cover Pool or any part thereof and/or our ability to make payments under the Covered Bonds. Covered Bondholders will have no right to consent to or approve of any actions taken by the Asset Monitor under the Asset Monitor Agreement. In addition, the terms agreed with the replacement entity may not be as favourable as those agreed with the original party pursuant to the Transaction Documents.

The Trustee is not responsible for monitoring compliance with, nor the monitoring of, the Asset Coverage Test, the Pre-Maturity Test, the Amortisation Test or any other test, nor supervising the performance by any other party of its obligations under any Transaction Document.

If a Swap terminates, our ability to make payments under the Transaction Documents may be impaired.

We will enter into one or more Swaps to hedge against currency and/or interest rate risks in respect of amounts received and payable by us under the Covered Bonds (in each case prior to the termination of the Swap in accordance with the provisions of the relevant Swap Agreement). See "*Summary of the Principal Documents — Swap Agreements*" for a more detailed description of the Swap and Swap Agreements. There can be no assurance that any Swap entered into by us will fully hedge all currency risks to which we are exposed in connection with any issuance of Covered Bonds.

If we fail to make timely payments of amounts due under any Swap Agreement entered into with a Swap Provider (subject to any applicable grace period), then we will have defaulted under that Swap Agreement and the Swap(s) entered into with the relevant Swap Provider may be terminated. It should also be noted that if we fail to pay an amount under a Swap Agreement on the due date for payment (subject to any applicable grace period), an Issuer Event of Default will occur under the Conditions.

There are a number of other circumstances in which a Swap may terminate. Certain of these other circumstances are summarised under "*Summary of the Principal Documents — Swap Agreements.*" In the case of the occurrence of an event of default or a termination event under the relevant Swap Agreement, the Swap(s) entered into with the relevant Swap Provider under such Swap Agreement may be terminated. Further, a Swap Provider is only obliged to make payments to us under the Swap Agreement as long as and to the extent that we comply with its payment obligations (subject to any applicable grace periods) under the relevant Swap Agreement. If either (i) a Swap terminates, (ii) the Swap Provider is not obliged to make payments under the Swap Agreement due to an event of default in respect of us under the relevant Swap Agreement or (iii) the Swap Provider defaults in its obligations to make payments of amounts in the currency of the relevant Covered Bonds equal to the full amount to be paid to us on the payment date under a Swap, we will be exposed to changes in the currency rates of exchange for converting Won into the currency of the relevant Covered Bonds and to any changes in the relevant rates of interest. Following the termination of a Swap, unless a replacement swap is entered into, we may have insufficient funds to make payments under the Covered Bonds.

If a Swap terminates, then we may be obliged to make a Swap Termination Payment to the relevant Swap Provider. There can be no assurance that we will have sufficient funds available to make a Swap Termination Payment under the relevant Swap Agreement, nor can there be any assurance that we will be able to find a replacement swap provider which has sufficiently high ratings as may be required by any of the Rating Agencies and which agrees to enter into a replacement swap.

If we are obliged to pay a Swap Termination Payment under any Swap Agreement following an Issuer Event of Default, such termination payment (other than any termination payments resulting from a termination of the Swap following an event of default or termination event by the relevant Swap Provider under the relevant Swap Agreement) will (prior to the service of an Acceleration Notice) rank ahead of any principal or interest amounts due on the Covered Bonds and (following the service of an Acceleration Notice) rank *pari passu* with any principal or interest amounts due on the Covered Bonds. The obligation to pay a Swap Termination Payment may adversely affect our ability to meet our obligations under the Covered Bonds.

Claims of senior ranking creditors may adversely affect the funds available to redeem the Covered Bonds.

The Korean Covered Bond Laws provide that Covered Bondholders, Swap Providers, the Asset Monitor, the Trustee, the Agents and the Account Banks are all Priority Payment Right Holders, with a *pari passu*, priority claim over the assets in the Cover Pool. However, pursuant to the Establishment Deed, the Master Definitions

Agreement and the Swap Agreements, each Priority Payment Right Holder will agree that the payment claims of certain Priority Payment Right Holders will rank ahead of the claims of other Priority Payment Right Holders, in accordance with the applicable Cover Pool Priority of Payments. In particular, the claims of the Trustee, Agents, Asset Monitor, Account Banks and in certain cases termination payments due to Swap Providers (in relation to Swap Agreements relating to any Series of Covered Bonds, including those Series that may not have a Swap Agreement) will rank ahead of the claims of the Covered Bondholders following the service of an Issuer EOD Notice and/or the service of an Acceleration Notice on us. The subordination of the claims of Covered Bondholders may adversely affect the assets available to redeem the Covered Bonds. In particular, Swap Termination Payments due to Swap Providers could be substantial.

The Covered Bonds are subject to uncertainties in insolvency proceedings and concerning the validity and/or enforceability of subordination provisions.

There is uncertainty as to the validity and/or enforceability of a provision which (based on contractual and/or trust principles) subordinates certain payment rights of a creditor to the payment rights of other creditors of its counterparty upon the occurrence of insolvency proceedings relating to that creditor. In particular, recent cases have focused on provisions involving the subordination of a hedging counterparty's payment rights in respect of certain termination payments upon the occurrence of insolvency proceedings or other default on the part of such counterparty (so-called "flip clauses"). Such provisions are similar in effect to the terms which will be included in the Transaction Documents relating to the subordination of payments under the Cover Pool Priority of Payments. The UK Supreme Court has held that a flip clause as described above is valid under English law. However, the United States Bankruptcy Court has held that such a subordination provision is an unenforceable ipso facto clause under United States bankruptcy law and that any action to enforce such provision would violate the automatic stay which applies under such law in the case of a United States bankruptcy of the counterparty. The implications of this conflicting judgment are not yet known, particularly as the United States Bankruptcy Court approved, in December 2010, the settlement of the case to which the judgment relates, and the appeal was subsequently dismissed. However, in a more recent case involving similar collateralised debt obligations created by Lehman, the bankruptcy judge disagreed (Bankr. S.D.N.Y. 2016), concluding that even assuming the flip provisions should be treated as ipso facto clauses, they were nonetheless enforceable under the relevant safe harbour provision, which was affirmed on appeal in In re Lehman Bros. Holdings Inc and on August 11, 2020 affirmed in a per curiam opinion by the Second Circuit (2020 WL 4590247 (2d Cir. Aug. 11, 2020)). It is not certain whether Lehman Brothers Special Finance will obtain further review of this judgement from the Second Circuit en banc or the U.S. Supreme Court and accordingly, there remains uncertainty as to the enforceability of flip clauses in U.S. courts.

If our creditor (such as a Swap Provider) or a related entity becomes subject to insolvency proceedings in any jurisdiction outside England and Wales (including, but not limited to, the United States), and it is owed a payment by us, a question arises as to whether the insolvent creditor or any insolvency official appointed in respect of that creditor could successfully challenge the validity and/ or enforceability of subordination provisions included in the English law governed Transaction Documents (such as a provision of the Cover Pool Priority of Payments which refers to the ranking of the Swap Providers' payment rights). In particular, based on conflicting decisions of the United States courts referred to above, there is a risk that such subordination provisions would not be upheld under United States bankruptcy laws. Such laws may be relevant in certain circumstances with respect to a range of entities which may act as Swap Provider, including entities established in the United States and certain entities established outside the United States with assets or operations in the United States (although the scope of any such proceedings may be limited if the relevant non-United States entity is a bank with a licenced branch in a state within the United States). In general, if a subordination provision included in the Transaction Documents was successfully challenged under the insolvency laws of any relevant jurisdiction outside England and Wales and any relevant foreign judgment or order was recognised by the

English courts, there can be no assurance that such actions would not adversely affect the rights of the Covered Bondholders, the market value of the Covered Bonds and/or our ability or the Cover Pool assets to satisfy our obligations under the Covered Bonds.

Lastly, given the general relevance of the issues under discussion in the judgments referred to above and that the Transaction Documents will include terms providing for the subordination of payments under the Cover Pool Priority of Payments, there is a risk that the final outcome of the dispute in such judgments (including any recognition action by the English courts) may result in negative rating pressure in respect of the Covered Bonds. If any rating assigned to the Covered Bonds is lowered, the market value of the Covered Bonds may reduce.

Implementation of and/or changes to the Basel III framework may affect the capital requirements and/or the liquidity associated with a holding of the Covered Bonds for certain investors.

In Europe, the Unites States and elsewhere, there is significant focus on fostering greater financial stability through increased regulation of financial institutions, and their corresponding capital and liquidity positions. This has resulted in a number of regulatory initiatives which are currently at various stages of implementation and which may have an impact on the regulatory position for certain investors in covered bond exposures and/or on the incentives for certain investors to hold covered bonds, and may thereby affect the liquidity of such securities. Investors in the Covered Bonds are responsible for analyzing their own regulatory position and none of the Issuer, the Arranger or the Dealers makes any representation to any prospective investor or purchaser of the Covered Bonds regarding the treatment of their investment on the Issue Date or at any time in the future.

In particular, it should be noted that the Basel Committee on Banking Supervision ("**BCBS**") has approved significant changes to the Basel regulatory capital and liquidity framework (such changes being commonly referred to as Basel III). Basel III provides for a substantial strengthening of existing prudential rules, including new requirements intended to reinforce capital standards (with heightened requirements for global systemically important banks) and to establish a leverage ratio "backstop" for financial institutions and certain minimum liquidity standards (referred to as the LCR and the Net Stable Funding Ratio ("**NSFR**")). BCBS member countries agreed to implement Basel III from January 1, 2013, subject to transitional and phase-in arrangements for certain requirements (e.g. the LCR requirements refer to implementation from the start of 2015, with full implementation by January 2019, and the NSFR requirements refer to implementation from January 2018). As implementation of Basel III requires national legislation, the final rules and the timetable for its implementation in each jurisdiction, as well as the treatment of covered bonds (e.g. as LCR eligibility assets or not), may be subject to some level of national variation. It should also be noted that changes to regulatory capital requirements are coming for insurance and reinsurance undertakings through national initiatives, such as the Solvency II framework in Europe Prospective investors should therefore make themselves aware of the requirements described above (and any corresponding implementing rules of their regulator), where applicable to them, in addition to any other applicable regulatory requirements with respect to their investment in the Covered Bonds. No predictions can be made as to the precise effects of such matters on any investor or otherwise

The regulation or reform of certain benchmark rates may adversely affect the value of Floating Rate Covered Bonds linked to or referencing such benchmark rates.

The Euro Interbank Offered Rate ("**EURIBOR**") and other interest rate or other types of rates and indices which are deemed to be benchmarks are the subject of ongoing national and international regulatory discussions and proposals for reform. Some of these reforms are already effective whilst others are still to be implemented. These reforms may cause such benchmarks to perform differently than in the past, to disappear entirely, or have other consequences which cannot be predicted. Any such consequence could have a material adverse effect on any Floating Rate Covered Bonds linked to or referencing such a "benchmark".

Regulation (EU) No. 2016/1011 (the "**EU Benchmarks Regulation**") and Regulation (EU) No. 2016/1011 as it forms part of domestic law of the United Kingdom by virtue of the European Union (Withdrawal) Act 2018 (the "**UK Benchmarks Regulation**") apply to the provision of benchmarks, the contribution of input data to a benchmark and the use of a benchmark, within the EU and the UK, respectively. The EU Benchmark Regulation and UK Benchmark Regulation could have a material impact on any Floating Rate Covered Bonds linked to EURIBOR or another benchmark rate or index, in particular, if the methodology or other terms of the benchmark are changed in order to comply with the terms of the EU Benchmark Regulation or UK Benchmark Regulation, and such changes could (amongst other things) have the effect of reducing or increasing the rate or level, or affecting the volatility of the published rate or level, of the benchmark. More broadly, any of the international, national or other proposals for reform, or the general increased regulatory scrutiny of benchmarks, could increase the costs and risks of administering or otherwise participating in the setting of a benchmark and complying with any such regulations or requirements. Such factors may have the effect of discouraging market participants from continuing to administer or contribute to certain "benchmarks," trigger changes in the rules or methodologies used in certain "benchmarks" or lead to the discontinuance or unavailability of quotes of certain "benchmarks."

As an example of such benchmark reforms, on September 21, 2017, the European Central Bank announced that it would be part of a new working group tasked with the identification and adoption of a "risk free overnight rate," which can serve as a basis for an alternative to current benchmarks used in a variety of financial instruments and contracts in the euro area. On September 13, 2018, the working group on Euro risk-free rates recommended the new Euro short-term rate ("**€STR**") as the new risk-free rate for the euro area. The €STR was published for the first time on October 2, 2019. Although EURIBOR has been reformed in order to comply with the terms of the Benchmark Regulation, it remains uncertain as to how long it will continue in its current form, or whether it will be further reformed or replaced with €STR or an alternative benchmark.

Where the Interest Rate specified in the relevant Pricing Supplement is SOFR, if we determine that a Benchmark Transition Event and its related Benchmark Replacement Date has occurred, the then-current Benchmark will be replaced by a Benchmark Replacement (determined by us in accordance with the Terms and Conditions of the Covered Bonds) for all purposes relating to the relevant Floating Rate Covered Bonds in respect of all determinations on such date and for all determinations on all subsequent dates. We will have to exercise our discretion to determine (or to elect not to determine) a Benchmark Replacement and, if applicable, a Benchmark Replacement Adjustment, in a situation in which it is presented with a conflict of interest.

The use of a Benchmark Replacement may result in interest payments that are substantially lower than or that do not otherwise correlate over time with the payments that could have been made on the relevant Floating Rate Covered Bonds if the relevant benchmark remained available in its current form.

Any of the above changes or any other consequential changes to benchmarks as a result of EU, UK, or other international, national, or other proposals for reform or other initiatives or investigations, or any further uncertainty in relation to the timing and manner of implementation of such changes could have a material adverse effect on the trading market for, value of and return on any Covered Bonds linked to such benchmark. Investors should consult their own independent advisers and make their own assessment about the potential risks imposed by the Benchmark Regulation reforms or possible cessation or reform of certain reference rates in making any investment decision with respect to any Covered Bonds linked to or referencing a benchmark.

The market continues to develop in relation to risk-free rates as a reference rate for Floating Rate Covered Bonds.

Investors should be aware that the market continues to develop in relation to risk-free rates, such as the Secured Overnight Financing Rate ("**SOFR**"). This relates not only to the substance of the calculation and the development and adoption of market infrastructure for the issuance and trading of bonds referencing such rates, but also how widely such rates and methodologies might be adopted.

The market or a significant part thereof may adopt an application of SOFR that differs significantly from that set out in the Terms and Conditions as applicable to the Covered Bonds. Furthermore, the Issuer may in the future issue Covered Bonds referencing SOFR that differ materially in terms of interest determination when compared with the Covered Bonds. In addition, the manner of adoption or application of SOFR reference rates in the Eurobond markets may differ materially compared with the application and adoption of SOFR in other markets, such as the derivatives and loan markets. Covered Bondholders should carefully consider how any mismatch between the adoption of SOFR reference rates across these markets may impact any hedging or other financial arrangements which they may put in place in connection with any acquisition, holding or disposal of Covered Bonds referencing SOFR.

SOFR has a limited history.

Publication of SOFR began in April 2018 and it therefore has a limited history. The future performance of SOFR may therefore be difficult to predict based on the limited historical performance. The level of SOFR during the term of the Covered Bonds may bear little or no relation to the historical level of SOFR. Prior observed patterns, if any, in the behavior of market variables and their relation to SOFR such as correlations, may change in the future.

Furthermore, the Interest Rate is only capable of being determined at the end of the relevant Reference Period and immediately prior to the relevant Interest Payment Date. It may be difficult for Covered Bondholders to estimate reliably the amount of interest which will be payable on the Covered Bonds, and some investors may be unable or unwilling to trade such Covered Bonds without changes to their IT systems, both of which factors could adversely impact the liquidity of the Covered Bonds. Further, if the Covered Bonds become due and payable as a result of an Event of Default under Condition 10 (*Events of Default*), or are otherwise redeemed early on a date which is not an Interest Payment Date, the final Interest Rate payable in respect of the Covered Bonds shall be determined by reference to a shortened period ending immediately prior to the date on which the Covered Bonds become due and payable.

The administrator of SOFR may make changes that could change the value of SOFR or discontinue SOFR.

The New York Federal Reserve (or a successor), as administrator of SOFR, may make methodological or other changes that could change the value of SOFR, including changes related to the method by which SOFR is calculated, eligibility criteria applicable to the transactions used to calculate SOFR, or timing related to the publication of SOFR. In addition, the administrator may alter, discontinue or suspend calculation or dissemination of SOFR (in which case a fallback method of determining the interest rate on the Covered Bonds will apply). The administrator has no obligation to consider the interests of Covered Bondholders when calculating, adjusting, converting, revising or discontinuing SOFR.

Risks Relating to the Cover Pool

We may be unable to comply with overcollateralization rules.

The Korean Covered Bond Laws require the value of the assets in a cover pool to at all times exceed 105% of the total aggregate outstanding principal amount of all Covered Bonds issued under the Programme and any interest accrued on such Covered Bonds. The assets in the Cover Pool may not be sufficient to ensure that we will have sufficient cash flows to meet our obligations under the Covered Bonds, or that such collateral will have the intended effect. Failure to maintain sufficient assets in the Cover Pool could result in us being unable to issue further Covered Bonds or to refinance existing Covered Bonds.

The Asset Coverage Test and the Amortisation Test may not ensure the sufficiency of our assets and cash flows to meet our obligations under the Covered Bonds.

The Asset Coverage Test and the Amortisation Test are intended to test whether our assets and cash flows, including the Underlying Assets, Liquid Assets and Other Assets in the Cover Pool and cash flows in respect thereof, will be adequate to enable us to meet our obligations under the Covered Bonds prior to and following the service of an Issuer EOD Notice.

The Asset Coverage Test is met if the Adjusted Aggregate Loan Amount is at least equal to the KRW Equivalent of the aggregate outstanding principal amount of all Covered Bonds as of each Calculation Date. Prior to the earlier to occur of the service of an Issuer EOD Notice and the service of an Acceleration Notice, if a breach of the Asset Coverage Test occurs as of any Calculation Date (as tested on the relevant Test Date), the Asset Monitor will serve an Asset Coverage Test Breach Notice on us. If an Asset Coverage Test Breach Notice has been served and not revoked on or before the third Calculation Date after the service of such Asset Coverage Test Breach Notice on us, then an Issuer Event of Default shall occur and the Trustee shall be entitled (and, in certain circumstances, may be required) to serve an Issuer EOD Notice on us. Following service of an Issuer EOD Notice, any breach of the Amortisation Test or our failure to pay on the Covered Bonds (subject in each case to applicable grace periods) would give rise to a Covered Bond Event of Default and the Trustee shall be entitled (and, in certain circumstances, may be required) to serve an Acceleration Notice on us.

Pursuant to the Asset Monitor Agreement, following the service of an Issuer EOD Notice (but prior to the service of an Acceleration Notice on us), we must ensure that it is in compliance with the Amortisation Test on each Calculation Date. The Amortisation Test will be satisfied if the Amortisation Test Adjusted Aggregate Loan Amount is in an amount at least equal to the KRW Equivalent of the aggregate outstanding principal amount of all the Covered Bonds on such Calculation Date. The Amortisation Test is intended to test whether the assets of the Cover Pool fall below a certain threshold, and therefore whether the assets of the Cover Pool are sufficient to meet our obligations under the Covered Bonds.

If the value of the Cover Pool has not been maintained in accordance with the terms of the Asset Coverage Test or, if applicable, the Amortisation Test, then such failure may reduce the likelihood that the realisable value of the Cover Pool or any part thereof (both before and after the occurrence of an Issuer Event of Default) will be sufficient for us (or the Asset Monitor on its behalf) to make payments under the Covered Bonds. Mortgage Loans that are more than 90 days in arrears are given zero weighting for the purposes of the Asset Coverage Test and the Amortisation Test.

Prior to service of an Issuer EOD Notice or an Acceleration Notice, the Asset Monitor will, subject to receipt of the relevant information from us, test the calculations performed by us in respect of the Asset Coverage Test. Following service of an Issuer EOD Notice (but prior to service of an Acceleration Notice), the Asset Monitor will be required to perform calculations in respect of the Amortisation Test. In addition, the Asset Monitor will be required to assess our compliance with certain statutory obligations under the Korean Covered Bond Laws. See "*Summary of the Principal Documents — Asset Monitor Agreement.*"

Although the Cover Pool is expected to be realised for sufficient value to enable us to meet our obligations under the Covered Bonds, there can be no assurance that the Asset Coverage Test and the Amortisation Test or any other test will fully ensure the sufficiency of our assets and cash flows for such purposes.

We may not be able to obtain sufficient Pre-Maturity Liquidity Assets to remedy any breach of the Pre-Maturity Test.

If there is a breach of the Pre-Maturity Test in respect of a Series of Hard Bullet Covered Bonds prior to service of an Issuer EOD Notice on us, we may need to add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account, with the intention that the KRW Equivalent of the value of the Pre-Maturity Liquidity Assets (determined in accordance with the Korean Covered Bond Laws and subject to the application of valuation haircuts in accordance with Rating Agency criteria) will at least be equal to the Required Redemption Amount of all Series of Hard Bullet Covered Bonds which are scheduled to mature during the relevant Pre-Maturity Test Period. See "*Summary of the Principal Documents — Establishment Deed — Pre-Maturity Liquidity.*" We may not be able to obtain sufficient Pre-Maturity Liquidity Assets to credit to such accounts to remedy any breach of the Pre-Maturity Test by the required date and an Issuer Event of Default may occur as a result.

Changes to our lending criteria may lead to increased defaults by borrowers.

Each of the mortgage loans originated by us will have been originated in accordance with our lending criteria at the time of origination. Our lending criteria has generally considered the type of property, term of loan, age of applicant, the loan-to-value ratio, insurance policies, status and income of applicants and credit history and is expected to continue to do so. We retain the right to revise our lending criteria from time to time but would only do so to the extent that such a change would be acceptable to reasonable and prudent institutional mortgage lenders in the Korean market and having consideration of the Korean regulatory guidelines. If our lending criteria changes in a manner that affects the creditworthiness of the mortgage loans, that may lead to increased defaults by borrowers and may affect the realisable value of the Cover Pool, or part thereof, and our ability to make payments on the Covered Bonds.

There can be no assurance that timely payments will be made in the case of our bankruptcy.

Following the occurrence of a Cause of Disposal Event, namely the service of an Issuer EOD Notice or an Acceleration Notice on us, the Asset Monitor may take any action considered necessary, in accordance with the Korean Covered Bond Act and the Asset Monitor Agreement, to ensure that holders of the Covered Bonds receive timely payments on the Covered Bonds, including disposing of assets in the Cover Pool. The Asset Monitor's ability to apply the Cover Pool assets to pay the Priority Payment Right Holders following the service of an Issuer EOD Notice will depend on (a) the realisable value of the Mortgage Loans and related Collateral Security in the Cover Pool, (b) the amount of receivables generated by the Mortgage Loans in the Cover Pool and the timing thereof, (c) amounts received from Swap Providers and (d) the realisable value of Liquid Assets and Other Assets in the Cover Pool. The Asset Monitor will not have any other source of funds available to meet the Priority Payment Rights.

The Asset Monitor will use collections and proceeds of disposal from the Cover Pool to pay the Covered Bondholders and other Priority Payment Right Holders in accordance with the Cover Pool Priority of Payments set out in the Establishment Deed. However, the Asset Monitor may not be able to realise assets in the Cover Pool for sufficient values to satisfy obligations under the Covered Bonds and other Priority Payment Right Holders that rank in priority to or *pari passu* with amounts due on the Covered Bonds in accordance with the Cover Pool Priority of Payments.

Mortgage Loans in the Cover Pool may be subject to insolvency clawback risk.

Under the laws of Korea, the insolvency administrator appointed pursuant to insolvency proceedings (including rehabilitation proceedings and bankruptcy proceedings) commenced with respect to the issuer in Korea would be entitled to claw back the Mortgage Loans from the Cover Pool if certain conditions set forth in the relevant Korean insolvency laws, including, but not limited to, any of the following conditions, are satisfied: (1) we are aware that the transfer of the Mortgage Loans to the Cover Pool would be detrimental to its creditors at the time of the transfer; (2) such transfer which (a) is detrimental to our creditors or (b) relates to the provision of security or discharge of any obligation by us, occurs following our suspension of payment or commencement of a petition for rehabilitation proceedings or bankruptcy proceedings (the "**Suspension/Petition**"); or (3) such transfer which relates to the provision of security or discharge of any obligation by us occurs after or within sixty (60) days before the Suspension/Petition and, further, (i) such transfer does not pertain to our obligations and (ii) the method and the time of such transfer do not belong to our obligations. In addition, a creditor of ours may request the court to claw back the Mortgage Loans from the Cover Pool in accordance with the Korean Civil Code if certain conditions, including that we transfer the Mortgage Loans with the knowledge that the transfer would be detrimental to our creditors, are satisfied. Therefore, the possibility of our insolvency administrator or a creditor of ours seeking to clawback the relevant Mortgage Loans from the Cover Pool and into our general assets cannot be completely ruled out.

Under the Establishment Deed, we may not transfer the New Mortgage Loans to the Cover Pool unless we provide a solvency certificate.

Collections in respect of Mortgage Loans may be commingled with our other funds until collections are re-directed to the Transaction Account following a Transaction Account Bank Termination Event.

Until collections paid by the Borrowers in respect of the Mortgage Loans in the Cover Pool are redirected by the automatic debit banks and by the Korea Financial Telecommunications & Clearing Institute ("**KFTC**") to the Transaction Account (which is an account registered with the FSC as part of the Cover Pool) following the occurrence of a Transaction Account Bank Termination Event and the service of the KFTC Notices, any collections in respect of the Mortgage Loans will continue to be paid to our general collection account, which is not part of the Cover Pool. Such collections will be commingled with collections in respect of other loans originated by us and our other funds which are not part of the Cover Pool, until such collections are transferred by us into the Transaction Account on the Korean Business Day immediately following receipt of such collections. Any delay or failure of us or the Asset Monitor to send the KFTC Notices to the automatic debit banks and to KFTC following the occurrence of a Transaction Account Bank Termination Event could affect the amount available in the Cover Pool to pay the Covered Bondholders.

Changes in the servicer may result in delays in payments.

We will continue to service the Mortgage Loans in the Cover Pool and receive collections in relation to the Mortgage Loan Assets in the Cover Pool until the appointment of a Replacement Servicer. Under the Asset Monitor Agreement, following the occurrence of a Servicer Replacement Event, the Asset Monitor may, if it deems appropriate in its sole discretion to ensure continued servicing of the Mortgage Loans or to maintain the ratings of the Covered Bonds, request that we and the Asset Monitor jointly appoint a Replacement Servicer (or the Asset Monitor will be required to appoint such Replacement Servicer itself if no joint appointment is made within the specified period). There is no assurance that a Replacement Servicer who has sufficient experience of administering residential mortgages and who is willing and able to service the Mortgage Loans on the terms required by the Asset Monitor would be found. There is no assurance that any Replacement Servicer appointed will be able to perform the servicing duties that may be required by the Asset Monitor to ensure continued servicing of the Mortgage Loans and to maintain the ratings of the Covered Bonds.

There is no assurance that the Asset Monitor or any Replacement Servicer, when required, will be able to perform the collection services as well as us or in a timely manner. In particular, it may take time from the date of the appointment of the Replacement Servicer until the IT system of the Replacement Servicer is fully integrated with that of ours and such servicing and collection of amounts due from Obligors will require our cooperation or any bankruptcy administrator appointed in respect of us. There could be delays in the collection and management of payments due by Obligors in respect of the Mortgage Loans. Any such change of servicer of the Mortgage Loans could adversely affect the Asset Monitor's ability to apply the Cover Pool assets to pay the Priority Payment Right Holders following the service of an Issuer EOD Notice.

Management and disposal of the Cover Pool by the Asset Monitor are subject to certain limitations.

Following the occurrence of a Cause of Disposal Event, the Cover Pool will be managed by the Asset Monitor, who may dispose of assets in the Cover Pool to make payments to Covered Bondholders and other Priority Payment Right Holders. In connection with such duties, the Asset Monitor will, among other things, (i) notify Borrowers of the registration of the Mortgage Loans as part of the Cover Pool and of the Asset Monitor's rights to dispose of the Cover Pool if we fail to do so within 15 Korean Business Days following the occurrence of a Cause of Disposal Event, (ii) manage, maintain and/or dispose of the Cover Pool (including instructing us or any Replacement Servicer on servicing the Mortgage Loans and managing amounts receivable and payable in respect of the Cover Pool or the Cover Pool Priority of Payments) and (iii) (if an Account Bank is us) replace us as Account Bank of the relevant Cover Pool Cash Accounts with a third party Account Bank with the requisite ratings. The ability of the Asset Monitor to manage the Cover Pool and instruct us on servicing of the Mortgage Loans depends on the Asset Monitor having all the data it requires for such management. The Asset Monitor Agreement contains certain obligations on us to provide Data Files of the Mortgage Loans in the Cover Pool to the Asset within five Korean Business Days of a request by the Asset Monitor, and to provide full cooperation and assistance to the Asset Monitor or any of its Delegates or the Replacement Servicer to take certain action necessary for the management of the Cover Pool following the service of an Issuer EOD Notice, including actions relating to the transfer of data relating to the Cover Pool. Any delay or failure of us to provide all relevant data and any inaccuracy or incompleteness in such data may affect the Asset Monitor's ability to manage the Cover Pool.

In connection with any disposal of Mortgage Loans in the Cover Pool, the Asset Monitor may not make such disposal in respect of a Mortgage Loan until the relevant Obligor has been notified of the Asset Monitor's right of disposal. Any failure or delay of the Asset Monitor to make such notification may affect the timing at which the relevant Mortgage Loan may be disposed of and could affect the amount available in the Cover Pool to pay the Covered Bondholders and other creditors. In addition, if the relevant Obligor has a right to consent to any transfer of the claim under the relevant contract in respect of the Mortgage Loan, then the Asset Monitor must obtain such Obligor's consent, although it is one of the Mortgage Loan Warranties that no consent to the sale and assignment of the relevant Mortgage Loan is required to be given by the relevant borrower.

The Asset Monitor is required under the Korean Covered Bond Act and undertakes in the Asset Monitor Agreement that it will perform its duties in connection with the management, maintenance and (if it deems appropriate) disposal of the Cover Pool with the level of due care as is required of the Asset Monitor under the Korean Covered Bond Laws and exercise the standard of care necessary to protect the interests of the Priority Payment Right Holders, acting reasonably and in good faith for and on behalf of the Priority Payment Right Holders. However, the exact timing and the manner in which the Asset Monitor decides to perform its duties and in particular to dispose of all or part of the Cover Pool may affect the realisable value of the Cover Pool or any part thereof.

Certain factors may adversely affect the value of the Cover Pool realisable by the Asset Monitor.

The realisable value of the assets of the Cover Pool (which may affect the timing and quantum of payments on the Covered Bonds) may be adversely affected by:

- the extent of representations or warranties that we may give in respect of the assets (which may be none);

- default by Borrowers of amounts due on their Mortgage Loans; and

- changes to our lending criteria.

If the realisable value of the Cover Pool assets is less than the par value thereof, then such deficiency will adversely affect the level of overcollateralization available for Covered Bonds maturing at a later date.

The transfer of the Mortgage Loan Assets to the Cover Pool will not be perfected against the Obligors until a Cause of Disposal Event occurs, if at all.

Under Korean law, the registration of Mortgage Loan Assets as part of the Cover Pool by us will be perfected against third parties (other than the relevant Obligors) on the date the relevant Mortgage Loan Assets are registered with the FSC as part of the Cover Pool. In order to perfect the transfer to the Cover Pool against the Obligors, it is necessary to notify the Obligors of such transfer. No Perfection Notices will be sent to the Obligors until a Cause of Disposal Event occurs. As a consequence, the transfer of the Mortgage Loan Assets to the Cover Pool will not be perfected against the Obligors and the Obligors are entitled to continue to make payments to us under the Mortgage Loan Agreements and exercise against the Asset Monitor all defences (such as set-off rights) that are available against us in respect of their obligations under the Mortgage Loan Agreements. Any such exercise of rights may adversely affect the Asset Monitor's ability to pay the Priority Payment Right Holders following the service of an Issuer EOD Notice.

Set-off risk may adversely affect the value of the Cover Pool or any part thereof.

An underlying Obligor of any Mortgage Loan in the Cover Pool that has a deposit account with us will be able to set-off its deposit claims arising from such deposit account before notice to the underlying Obligor regarding the registration of the relevant Mortgage Loan as part of the Cover Pool with the FSC and the Asset Monitor's right to dispose of the Cover Pool. Set-off against us would not be affected by the fact that the deposit with us is subject to deposit insurance provided by Korea Deposit Insurance Corporation (the "KDIC"). As the deposit insurance payment to be paid by the KDIC is calculated by deducting from the deposit amount any debt (other than guarantee debt) owed by the depositor to us, the insurance payments from the KDIC will be an amount net of the loan outstanding. Therefore, the rights of the Covered Bondholders and other Priority Payment Right Holders in respect of the Cover Pool assets may be subject to the underlying Obligors' set-off rights against us which occur in relation to deposits made prior to notification to the underlying Obligors regarding the registration of the Cover Pool.

The exercise of set-off rights by the underlying Obligors may adversely affect the realisable value of the Cover Pool, which would have an impact on our ability to satisfy the Asset Coverage Test or Amortisation Test, as applicable, and/or our ability to make payments under the Covered Bonds. The Asset Coverage Test has been structured to mitigate the potential set-off risk, but there is no assurance that such risks will be completely accounted for.

The valuation on the properties underlying the Mortgage Loans may not be accurate.

Under our lending criteria, appraisals or valuation of the properties securing the Mortgage Loans take place through: (1) internal appraisals through one of our branch offices or the Collateral Valuation Department or (2) an independent appraisal conducted by an external appraiser.

We conduct internal appraisals of the relevant properties based on the information provided by the KB Property Index, which is based on internal and external surveys and research for property valuation in Korea, and, where available, the price information from the Ministry of Land, Infrastructure and Transport.

In the case of those Mortgage Loans for which an appraisal conducted by an external appraiser was used, such appraisal reflects the individual appraiser's judgment as to value, based on the market values of comparable homes sold within the recent past in comparable nearby locations and on the estimated replacement cost.

No assurance can be given that values of the properties underlying the Mortgage Loans have remained or will remain at the levels which existed on the dates of appraisal (or, where applicable, on the dates of appraisal updates) of the related Mortgage Loans.

The appraisal relates both to the land and to the structure; however, a significant portion of the appraised value of a property may be attributable to the value of the land rather than to the residence.

Due to the unique locations (for example, properties in scarcely populated areas) and special features of certain properties, identifying comparable properties in nearby locations may be difficult. The appraised values of such properties will be based to a greater extent on adjustments made by the appraisers to the appraised values of reasonably similar properties rather than on objectively verifiable sales data. As a result, such appraisals could be more likely to overvalue certain properties and therefore overstate the value of the collateral underlying the Cover Pool. If the market value of the properties underlying the Mortgage Loans is less than the appraised value of these properties, this may adversely affect our ability to make payments on the Covered Bonds, in circumstances where we are required to obtain payment from borrowers by a foreclosure sale of the properties underlying the relevant Mortgage Loans.

The Mortgage Loans are exposed to fluctuations in performance of the Korean real estate market, and a decline in the value of the collateral securing the Mortgage Loans and its inability to realise full collateral value may adversely affect our Mortgage Loans.

Our Mortgage Loan portfolio is exposed to fluctuations in performance of the Korean residential real estate market. Declines in demand for or falls in the price of residential real estate in Korea could have a significant impact on our business, reducing both our income from collections of interest and principal payments and the value of the properties securing our Mortgage Loans. In relation to the Mortgage Loans, such factors could reduce the liquidation proceeds and thereby ultimately result in less funds available to make payment of interest on and the repayment of principal of the Covered Bonds.

Although the maximum loan-to-value of the Mortgage Loans included in the Cover Pool is 70% at the time of origination, downturns in the real estate markets in Korea from time to time have resulted in declines in the value of the collateral securing some loans to levels below their outstanding principal balance. Future declines in real estate prices would reduce the value of the collateral securing the Mortgage Loans. If collateral values decline in the future to a sufficient extent, they may not be sufficient to cover amounts owing in respect of the relevant

Mortgage Loan. Following the occurrence of an Issuer Event of Default, cash collections from, and disposal proceeds of, the Mortgage Loans in the Cover Pool are the primary source of payment on the Covered Bonds.

In the event of a decline in real estate prices, losses sustained on the Mortgage Loans could result in losses being sustained on the Covered Bonds. In addition, any declines in the value of the real estate securing our mortgage loan portfolio could result in a deterioration in our asset quality and may require us to take additional loan loss provisions.

In Korea, the process of enforcing security on real estate assets generally requires a written petition to a court by the secured creditor. An application, when made, may be subject to delays and administrative requirements that may result in a decrease in the value realised with respect to the relevant secured asset. There can be no assurance that we will be able to realise the full value of the security as a result of, among other factors, delays in enforcement proceedings and defects, if any, in the perfection of our security interest, though it is a requirement that all the Mortgage Loans included in the Cover Pool have the benefit of fully perfected mortgages over real estate in Korea. Our failure to recover the expected value of the security could expose us to losses and may impact upon the payment of interest on, and the repayment of principal, of the Covered Bonds.

The Cover Pool consists of limited assets.

The Cover Pool consists mainly of Mortgage Loans which are secured on interests in residential property located in Korea and also claims which we hold, or may acquire, against Swap Providers and certain other Liquid Assets or Other Assets. All Mortgage Loans in the Cover Pool must comply with the Korean Covered Bond Laws, which, at the date of this offering circular, require a loan-to-value ratio (calculated as the ratio of the loan amount to the mortgage value of the property) of 70% or lower of the collateral property in the case of residential mortgage loans.

It should be noted that the value of our Cover Pool may decline in the event of a general downturn in the value of property in Korea (given that currently all of the mortgaged properties in the Cover Pool are in Korea), which could adversely affect our ability to perform our obligations under the Covered Bonds. In addition, the Covered Bondholders shall share the benefit of the statutory preference under the Korean Covered Bond Laws over the same Cover Pool with any other Covered Bondholders of us and other Priority Payment Right Holders, which could limit the amount of assets available to satisfy the claims of Covered Bondholders.

The Cover Pool is subject to geographic concentration risks.

Certain geographic regions of Korea from time to time will experience weaker regional economic conditions and housing markets or be directly or indirectly affected by natural disasters. Mortgage loans in such areas will experience higher rates of loss and delinquency than mortgage loans generally.

The ability of borrowers to make payments on the Mortgage Loans may also be affected by factors which do not necessarily affect property values, such as adverse economic conditions generally in particular geographic areas or industries, or affecting particular segments of the borrowing community (such as borrowers relying on commission income and self-employed borrowers). Such occurrences may accordingly affect the actual rates of delinquencies, foreclosures and losses with respect to the mortgage loans in the Cover Pool.

The Mortgage Loans may from time to time be concentrated in certain regions. Such concentration may present the risk considerations described above in addition to those generally present for similar securities without such concentration.

Borrowers may default on their obligations under their Mortgage Loans.

Borrowers may default on their obligations due under the Mortgage Loans for a variety of reasons. The Mortgage Loans are affected by credit, liquidity and interest rate risks. Various factors influence mortgage delinquency rates, prepayment rates, repossession frequency and the ultimate payment of interest and principal. Examples of such factors include changes in the national or international economic climate, regional economic or housing conditions, changes in tax laws, interest rates, inflation, the availability of financing, yields on alternative investments, political developments and government policies. Other factors in the Borrowers' individual, personal or financial circumstances may affect the ability of Borrowers to repay the Mortgage Loans. Loss of earnings, illness, divorce and other similar factors may lead to an increase in delinquencies by and bankruptcies of Borrowers, and could ultimately have an adverse impact on the ability of Borrowers to repay the Mortgage Loans. In addition, the ability of a Borrower to sell a property given as security for a Mortgage Loan at a price sufficient to repay the amounts outstanding under that Mortgage Loan will depend upon a number of factors, including the availability of buyers for that property, the value of that property and property values in general at the time.

We may change our lending criteria.

Each of the Mortgage Loans originated by us will have been originated in accordance with our lending criteria at the time of origination. It is expected that our lending criteria will generally consider type of property, term of loan, age of applicant, the loan-to-value ratio, status of applicants and credit history. We retain the right to revise our lending criteria from time to time. If the lending criteria change in a manner that affects the creditworthiness of the Mortgage Loans, such change may lead to increased defaults by Borrowers and may affect the realisable value of the Cover Pool, or part thereof, and the ability of the Asset Monitor to apply proceeds of the Cover Pool to make payments to Covered Bondholders.

There is no assurance that the characteristics of the New Mortgage Loans added to the Cover Pool after the Programme Date will be the same as those of the Mortgage Loans as of the Programme Date and limited description of the assets in the Cover Pool may be available.

The Covered Bondholders will only receive statistics or information in relation to the Mortgage Loans in the Investor Report and Asset Monitor Report to be published on our website on each Investor Report Date and Asset Monitor Report Date, respectively. Covered Bondholders will not receive additional information in relation to the Mortgage Loans and other assets included in the Cover Pool and it is expected that the constitution of the Cover Pool will change from time to time due to, for example, the addition and/or substitution of further Mortgage Loans by us to the Cover Pool from time to time or repayments or prepayments by Borrowers. Therefore, there is no assurance that the characteristics of such New Mortgage Loans will be the same as the Mortgage Loans forming part of the Initial Cover Pool. However, each Mortgage Loan will be required to meet the Eligibility Criteria and satisfy the Mortgage Loan Warranties set out in the Establishment Deed, although the Eligibility Criteria may also change in certain circumstances as described herein. See "*Summary of the Principal Documents — Establishment Deed.*" In addition, the Asset Coverage Test is intended to ensure that the Adjusted Aggregate Loan Amount is an amount equal to or in excess of the KRW Equivalent of the aggregate principal amount outstanding of the Covered Bonds for so long as Covered Bonds remain outstanding.

We, with the approval of the FSC, have appointed the Asset Monitor to monitor our compliance with the asset coverage requirement and the segregation requirement of the Korean Covered Bond Laws, and to calculate compliance with the Amortisation Test following the service of an Issuer EOD Notice, and the Asset Monitor shall provide a report on such monitoring and/or calculation to the FSC on a quarterly basis. Such report of the Asset Monitor will be available on our website.

Chapter 4 Proceedings could delay the enforcement of the Mortgage Loan Assets and Collateral Security.

A Chapter 4 Proceeding (as defined in "*Korean Legal Considerations — Insolvency Laws — Debtor Rehabilitation and Bankruptcy Act*") provides for individual debtor rehabilitation proceedings to individual debtors who earn wages or business income with debts of no more than a specified amount. Chapter 4 Proceedings are intended to assist individuals in financial difficulty by providing a court-sanctioned financial rehabilitation programme outside the Korean bankruptcy regime. Under a Chapter 4 Proceeding, a debtor may apply to the court to have certain of his or her debts rescheduled to allow future income to be used to repay those debts. Chapter 4 Proceedings will not directly affect the amount, timing or interest rate on the Mortgage Loan Assets but may affect the enforcement of security while the court considers the debtor's application for rehabilitation which may take up to a month. Further, once the court issues an order to commence a Chapter 4 Proceeding, any enforcement of security will be automatically suspended until a repayment plan is approved by the court or the Chapter 4 Proceeding is discontinued, whichever is earlier. If the approval of the repayment plan is delayed, the value and timing of proceeds of enforcement of the Mortgage Loan Asset granted by an Obligor or a third party who has applied for a Chapter 4 Proceeding could be adversely affected, which could adversely affect the Asset Monitor's ability to apply the Cover Pool assets to pay the Priority Payment Right Holders following the service of an Issuer EOD Notice. See also "*— Chapter 2 Proceedings could adversely affect the enforcement of the Mortgage Loan Assets and Collateral Security" below*.

Chapter 2 Proceedings could adversely affect the enforcement of the Mortgage Loan Assets and Collateral Security.

A Chapter 2 Proceeding (as defined in "*Korean Legal Considerations — Insolvency Laws — Debtor Rehabilitation and Bankruptcy Act*") is based on the former Corporate Reorganisation Act but expands the scope of eligible applicants to all types of legal entities, including corporations and unincorporated foundations or associations, as well as individuals. Eligible individuals may petition for a Chapter 4 Proceeding under the Debtor Rehabilitation and Bankruptcy Act as well. Under the Debtor Rehabilitation and Bankruptcy Act, an individual debtor may petition to the court for a Chapter 2 Proceeding if he or she is unable to repay his or her debts when they become due without having a material adverse effect on his or her business or if he or she may become bankrupt. Unlike a Chapter 4 Proceeding, in a Chapter 2 Proceeding, claims of secured creditors will be subject to the reorganisation plan approved by the court. While it is expected that claims of the secured creditors will receive preferential treatment relative to claims of unsecured creditors, there can be no assurance that, when an Obligor or a third party files for a Chapter 2 Proceeding, our claims in relation to the related Mortgage Loan Asset and Collateral Security will not be thereby adversely affected. This could in turn adversely affect the Asset Monitor's ability to apply the Cover Pool assets to pay the Priority Payment Right Holders following the service of an Issuer EOD Notice. See also "*— Chapter 4 Proceedings could delay the enforcement of the Mortgage Loan Assets and Collateral Security*" above.

Individual Work-out Plans could restrict our or the Asset Monitor's ability to recover amounts due and payable under the Mortgage Loans or to enforce the Mortgages to retain the full value of the proceeds of enforcement.

The Individual Work-out Plan Agreement (as defined in "*Korean Legal Considerations — Insolvency Laws — Individual Work-out Plans*") assists qualifying individuals who are in financial difficulty to avoid personal bankruptcy. The Individual Work-out Plan Agreement applies to sole practitioners and to individuals who have a bad credit history, who owe ₩1.5 billion or less to financial institutions and (i) whose income exceeds a specified minimum or (ii) who are determined by the Review Committee (as defined in "*Korean Legal Considerations — Insolvency Laws — Individual Work-out Plans*") to be able to repay their debts. In addition, under the concept of "pre-workout plans" for debtors whose delinquency period is less than the ninety-day period required to qualify for Individual Work-out Plans. If the Individual Work-out Plan is adopted by approval of creditor financial institutions representing more than 50% of the debtor's outstanding unsecured debt and 50% or more of the debtor's outstanding secured debt, the creditor financial institutions are bound by its terms. If an Individual Work-out Plan or Pre-Work-out Plan in respect of any Obligor takes effect, the Asset Monitor's ability to apply the Cover Pool assets to pay the Priority Payment Right Holders following the service of an Issuer EOD Notice may be adversely affected.

CAPITALIZATION AND INDEBTEDNESS

The following table shows the Bank's total liabilities and equity as of June 30, 2023. Except for the U.S. dollar amounts, this information has been derived from the Bank's unaudited consolidated interim financial statements as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included in this offering circular.

	As of June 30, 2023	
	(in billions of Won)	*(in millions of U.S. dollars)*[1]
Liabilities:		
Deposits	₩ 374,579	US$ 285,328
Financial liabilities designated at fair value through profit or loss	244	186
Financial liabilities at fair value through profit or loss	404	308
Derivative liabilities	4,406	3,356
Borrowings	23,093	17,590
Debt securities issued	30,607	23,315
Defined benefit liabilities	7	5
Provisions	399	304
Current tax liabilities	242	184
Deferred tax liabilities	14	11
Other liabilities	31,057	23,657
Total liabilities	₩ 465,052	US$ 354,244
Stockholder's equity:		
Capital stock, par value ₩5,000		
Authorized: 2,000,000,000 shares issued and outstanding: 1,585,615,506 fully paid common shares	₩ 7,928	US$ 6,039
Hybrid bonds	2,188	1,667
Capital surplus	403	307
Capital adjustments	2	2
Accumulated other comprehensive loss	(896)	(682)
Retained earnings	22,475	17,118
Total equity attributable to equity holder of Shinhan Bank	32,100	24,451
Non-controlling interests	12	10
Total stockholder's equity	32,112	24,461
Total capitalization[2]	₩ 497,164	US$ 378,705

Notes:

(1) The U.S. dollar amounts have been translated into Won at ₩1,312.8 to US$1.00, the Market Average Exchange Rate as announced by Seoul Money Brokerage Services, Ltd. on June 30, 2023.

(2) Represents the sum of total liabilities and stockholder's equity.

SELECTED FINANCIAL INFORMATION

The following tables set forth the Bank's selected financial data. The selected financial data set forth below as of and for the years ended December 31, 2020, 2021 and 2022 and as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 (excluding U.S. dollar amounts) have been derived from the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and the unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023, each prepared in accordance with K-IFRS and included elsewhere in this offering circular. The selected financial data set forth below should be read in conjunction with the audited consolidated financial statements, the unaudited interim consolidated financial statements and related notes, "*Management's Discussion and Analysis of Financial Condition and Results of Operations*" and other historical financial information included elsewhere in this offering circular. Our results of operations for the six months ended June 30, 2023 may not be indicative of our result of operations for any future interim period or for the full year 2023.

The audited consolidated financial statements exclude the trust account management business except money trusts for which the Bank provides guarantees as to principal or as to both principal and interest.

Consolidated Financial Information

	For the Six Months Ended June 30,		
	2022	2023	
	(in billions of Won)		*(in millions of U.S. dollars)*[1]
Statements of Comprehensive Income Information			
Interest income	₩ 5,883	₩ 9,818	US$ 7,479
Interest expense	(1,993)	(5,699)	(4,341)
Net interest income	3,890	4,119	3,138
Fees and commission income	654	633	482
Fees and commission expense	(150)	(157)	(119)
Net fees and commission income	504	476	363
Dividend income	14	42	32
Net gain on financial instruments at fair value through profit or loss	89	315	240
Net foreign currency transaction gain	124	123	93
Net gain on financial instruments designated at fair value through profit or loss	1	13	10
Net gain (loss) on disposal of financial asset at fair value through other comprehensive income	2	15	12
Provision for credit loss allowance	(301)	(449)	(342)
General and administrative expenses	(1,644)	(1,786)	(1,361)
Other operating expenses, net	(405)	(579)	(441)
Operating income	2,274	2,289	1,744
Net non-operating expenses	2	(30)	(24)
Share of profit (loss) of associates	—	—	—
Profit before income taxes	2,276	2,259	1,720
Income tax expense	(593)	(578)	(440)
Profit for the year	1,683	1,681	1,280
Items that are or may be reclassified subsequently to profit or loss:			
Foreign currency transaction differences for foreign operations	109	98	74
Unrealized net change in fair value of financial assets at fair value through other comprehensive loss	(892)	323	246
Share of other comprehensive loss of associates	(9)	6	5
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of defined benefit plans	148	(26)	(18)
Unrealized net change in fair value of financial assets at fair value through other comprehensive income (loss)	18	(37)	(29)
Total other comprehensive loss for the period, net of income tax	(626)	364	278
Total comprehensive income for the year	₩ 1,057	₩ 2,045	US$ 1,558

	For the Year Ended December 31,		
	2020	2021	2022
	(in billions of Won)		
Statements of Comprehensive Income Information			
Interest income	₩ 9,616	₩ 9,445	₩14,086
Interest expense	(3,688)	(2,833)	(5,881)
Net interest income	5,928	6,612	8,205
Fees and commission income	1,265	1,274	1,280
Fees and commission expense	(277)	(296)	(325)
Net fees and commission income	988	978	955
Dividend income	18	19	21
Net gain on financial instruments at fair value through profit or loss	168	334	11
Net foreign currency transaction gain	391	201	394
Net gain on financial instruments designated at fair value through profit or loss	—	—	3
Net gain (loss) on disposal of financial asset at fair value through other comprehensive income	208	67	(1)
Provision for credit loss allowance	(677)	(353)	(598)
General and administrative expenses	(3,203)	(3,361)	(3,702)
Other operating expenses, net	(907)	(910)	(1,125)
Operating income	2,914	3,587	4,163
Net non-operating expenses	(130)	(264)	(77)
Share of profit (loss) of associates	(1)	25	22
Profit before income taxes	2,783	3,348	4,108
Income tax expense	(705)	(853)	(1,062)
Profit for the year	2,078	2,495	3,046
Items that are or may be reclassified subsequently to profit or loss:			
Foreign currency transaction differences for foreign operations	(135)	208	(19)
Unrealized net change in fair value of financial assets at fair value through other comprehensive loss	(42)	(354)	(789)
Share of other comprehensive loss of associates	(3)	(3)	(10)
Items that will not be reclassified subsequently to profit or loss:			
Remeasurements of defined benefit plans	15	34	195
Unrealized net change in fair value of financial assets at fair value through other comprehensive income (loss)	(2)	17	(29)
Total other comprehensive loss for the period, net of income tax	(167)	(98)	(652)
Total comprehensive income for the year	₩ 1,911	₩ 2,397	₩ 2,394

Note:

(1) The U.S. dollar amounts have been translated into Won at ₩1,312.8 to US$1.00, the Market Average Exchange Rate as announced by Seoul Money Brokerage Services, Ltd. on June 30, 2023.

	As of December 31,			As of June 30,	
	2020	2021	2022	2023	
		(in billions of Won)			*(in millions of U.S. dollars)*[(1)]
Statements of Financial Position Information					
Assets					
Cash and due from banks	₩ 27,576	₩ 22,780	₩ 22,570	₩ 30,455	US$ 23,199
Securities at fair value through profit or loss	21,819	24,174	21,202	19,062	14,520
Derivative assets	4,576	3,001	4,904	3,813	2,904
Loans at amortized cost	297,905	325,933	344,299	341,390	260,047
Loans at fair value through profit or loss	844	894	973	780	594
Securities at fair value through other comprehensive income	39,360	48,301	48,771	48,021	36,579
Securities at amortized cost	20,178	21,325	28,380	30,059	22,897
Property and equipment	2,450	2,487	2,537	2,526	1,924
Intangible assets	540	543	636	1,086	828
Investments in associates	123	212	267	303	231
Investment properties	610	606	605	641	488
Defined benefit assets	8	109	530	451	344
Current tax assets	16	27	32	40	31
Deferred tax assets	248	253	438	180	137
Other assets	11,381	16,759	15,808	18,326	13,959
Non-current assets held for sale	41	31	29	31	23
Total assets	₩427,675	₩467,435	₩491,981	₩497,164	US$378,705
Liabilities					
Deposits	₩317,556	₩354,938	₩373,104	₩374,579	US$285,328
Financial liabilities designated at fair value through profit or loss	—	—	47	244	186
Financial liabilities at fair value through profit or loss	540	584	425	404	308
Derivative liabilities	4,195	2,853	5,780	4,406	3,356
Borrowings	20,555	20,962	24,213	23,093	17,590
Debt securities issued	34,516	37,626	33,186	30,607	23,315
Defined benefit liabilities	—	—	7	7	5
Provisions	346	405	369	399	304
Current tax liabilities	255	312	479	242	184
Deferred tax liabilities	19	18	14	14	11
Other liabilities	22,028	20,502	23,190	31,057	23,657
Total liabilities	₩400,010	₩438,200	₩460,814	₩465,052	US$354,244
Total equity	₩ 27,665	₩ 29,235	₩ 31,167	₩ 32,112	US$ 24,461
Total liabilities and equity	₩427,675	₩467,435	₩491,981	₩497,164	US$378,705

Note:

(1) The U.S. dollar amounts have been translated into Won at ₩1,312.8 to US$1.00, the Market Average Exchange Rate as announced by Seoul Money Brokerage Services, Ltd. on June 30, 2023.

Selected Ratios

Except as otherwise indicated, the following ratios are calculated using the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and the unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023.

Profitability Ratios

	For the Year Ended December 31,			For the Six Months Ended June 30,	
	2020	2021	2022	2022	2023
	(in percentages)				
Net income as a percentage of:					
Average total assets[(1)]	0.51	0.56	0.62	0.71	0.69
Average stockholders' equity[(1)]	7.72	8.76	10.10	11.46	10.48
Net interest spread[(2)]	1.54	1.59	1.79	1.76	1.73
Net interest margin[(3)]	1.59	1.62	1.85	1.80	1.85
Cost-to-income ratio[(4)]	53.50	50.10	47.41	41.92	44.16
Efficiency ratio[(5)]	87.03	83.91	86.19	86.65	84.43
Cost-to-average-assets ratio[(6)]	4.57	3.92	5.24	6.21	5.00
Equity-to-average-asset ratio	6.59	6.40	6.16	6.17	6.55

Notes:

(1) Based on the daily simple average balance of total assets or stockholders' equity. Total assets refer to total assets in the bank accounts.

(2) Net interest spread represents the difference between the yield on daily simple average interest-earning assets and cost of average interest-bearing liabilities.

(3) Net interest margin represents the ratio of net interest income to daily simple average interest-earning assets.

(4) Calculated as the ratio of general and administrative expenses to the sum of net interest income and net non-interest income (excluding general and administrative expenses).

(5) Efficiency ratio represents the ratio of non-interest expense to the sum of net interest income and non-interest income, a measure of efficiency for banks.

(6) Cost-to-average-assets ratio, a measure of cost of funding used by banks, represents the ratio of non-interest expense to average total assets.

Capital Ratios[(1)]

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in percentages)			
Total capital adequacy (BIS) ratio	18.47	18.18	17.77	18.39
Common equity Tier I capital adequacy ratio	14.92	14.72	14.07	14.63
Tier I capital adequacy ratio	15.88	15.57	15.01	15.76
Tier II capital adequacy ratio	2.59	2.61	2.76	2.62

Note:

(1) Computed on a consolidated basis pursuant to the guidelines set forth in the amended Detailed Regulation on the Supervision of the Banking Business implementing capital requirements of Basel III in Korea. See "*Supervision and Regulation — Principal Regulations Applicable to Banks — Capital Adequacy*."

Asset Quality Ratios

The following asset quality ratios are presented on a separate basis.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won, except percentages)			
Substandard and below loans[(1)]	₩ 986	₩ 806	₩ 767	₩ 847
Substandard and below loans as a percentage of total loans	0.37%	0.27%	0.25%	0.28%
Substandard and below loans as a percentage of total assets	0.23%	0.17%	0.16%	0.17%
Precautionary loans as a percentage of total loans[(2)]	0.35%	0.29%	0.34%	0.37%
Precautionary and below loans as a percentage of total loans[(2)]	0.72%	0.57%	0.59%	0.65%
Precautionary and below loans as a percentage of total assets[(2)]	0.45%	0.36%	0.37%	0.40%
Allowance for loan losses as a percentage of substandard and below loans	337.45%	416.27%	461.97%	416.55%
Allowance for loan losses as a percentage of precautionary and below loans[(2)]	173.64%	200.59%	196.42%	178.50%
Allowance for loan losses as a percentage of total loans	1.24%	1.14%	1.16%	1.15%
Substandard and below credits as a percentage of total credits[(3)]	0.36%	0.27%	0.25%	0.27%
Loans in Won as a percentage of deposits in Won	98.17%	99.05%	94.59%	92.88%

Notes:

(1) Substandard and below loans (other than loans provided from the Bank's trust accounts and confirmed guarantees and acceptances) are defined in accordance with the regulatory guidance in Korea. See "*Supervision and Regulation — Principal Regulations Applicable to Banks*."

(2) As defined by the FSC.

(3) Credits include loans provided from the Bank's trust accounts and confirmed guarantees and acceptances, as well as the total loan portfolio of the Bank's bank accounts.

MANAGEMENT'S DISCUSSION AND ANALYSIS OF FINANCIAL CONDITION AND RESULTS OF OPERATIONS

The following discussion and analysis should be read in conjunction with, and is qualified in its entirety by reference to, the historical consolidated financial statements and the notes thereto included elsewhere in this offering circular. Unless specified otherwise, all financial information set forth below is presented on a consolidated basis. The discussion contains forward-looking statements and reflects the Bank's current view with respect to future events and financial performance. Actual results may differ materially from those anticipated in these forward-looking statements as a result of certain factors such as those set forth under "Risk Factors" and elsewhere in this offering circular. Any discrepancies in any table between totals and the sums of the amounts listed are due to rounding.

Overview

The Bank is one of the leading commercial banks in Korea in terms of total assets, revenues, profitability and capital adequacy, among others. A flagship member of Shinhan Financial Group, one of the leading financial holding companies in Korea in terms of total assets, revenues, profitability and capital adequacy, among others, the Bank provides a wide range of commercial and other banking services to retail and corporate customers primarily in Korea and, to a lesser extent, in select overseas markets. The Bank is one of the largest lenders in Korea to small- and medium-sized enterprises. As of June 30, 2023, the Bank had 722 domestic branches and 14 overseas branches as well as 10 subsidiaries, each in Japan, the People's Republic of China, Vietnam, the United States, Canada, Germany, Cambodia, Kazakhstan, Mexico and Indonesia.

Most of the Bank's assets are located in, and the Bank generates most of its income from, Korea. Accordingly, the Bank's business and profitability are largely dependent on the general economic and social conditions in Korea, including interest rates, inflation, exports, personal expenditures and consumption, unemployment, demand for business products and services, debt service burden of households and businesses, the general availability of credit, the asset value of real estate and securities and other factors affecting the financial well-being of the Bank's corporate and retail customers. The Korean economy is closely integrated with, and is significantly affected by, developments in the global economy and financial markets. In recent years, the global economy and financial markets experienced adverse conditions and volatility, which also had an adverse impact on the Korean economy and in turn on the Bank's business and profitability. See "Risk Factors — Risks Relating to the Bank's Business — Difficult conditions and turbulence in the Korean and global economy and financial markets may adversely affect the Bank's business, asset quality, capital adequacy and earnings."

The Bank derives most of its income from interest earned on its corporate and retail loans, net of funding costs (which primarily consist of interest payable on customer deposits). Net interest income is largely a function of the average volume of loans and the net interest spread thereon.

In 2021, the average volume of retail loans increased by 8.5% from 2020, primarily as a result of continued increase in home rental long-term deposit loans. In 2021, the average volume of corporate loans increased by 10.8% from 2020, primarily as a result of policies to support small and medium sized enterprises amidst the prolonged COVID-19 pandemic.

In 2022, the average volume of retail loans increased by 3.9% from 2021, primarily as a result of an increase in home mortgage loans. In 2022, the average volume of corporate loans increased by 12.4% from 2021, primarily as a result of the policies to support small- and medium-sized enterprises amidst the prolonged COVID-19 pandemic as discussed above.

During the first half of 2023, the average volume of retail loans decreased by 2.8% from the first half of 2022, primarily as a result of a decrease in household credit loans (general fund lump-sum repayment loans) and collective loans. During the first half of 2023, the average volume of corporate loans increased by 6.1% from the first half of 2022, primarily as a result of an increase in corporate credit loans (working capital loans and loans for equipments).

From 2020 to 2021, both the average yield on interest-earning assets and the average rate on interest-bearing liabilities decreased, primarily as a result of decrease in the weighted average base interest rate from 0.71% in 2020 to 0.61% in 2021 resulting from decrease in base interest rate set by the Bank of Korea. The average balance increased for both interest-earning assets and interest-bearing liabilities. The Bank's net interest income increased by 11.5% from ₩5,928 billion in 2020 to ₩6,611 billion in 2021. Net interest income after provision for loan losses amounted to ₩5,284 billion and ₩6,265 billion in 2020 and 2021, respectively. The Bank's operating income increased by 23.1% from ₩2,914 billion in 2020 to ₩3,587 billion in 2021.

From 2021 to 2022, both the average yield on interest-earning assets and the average rate on interest-bearing liabilities increased, primarily as a result of continuous rise in benchmark interest rates set by the Bank of Korea during 2022. The average balance increased for both interest-earning assets and interest-bearing liabilities. The Bank's net interest income increased by 24.1% from ₩6,611 billion in 2021 to ₩8,205 billion in 2022. Net interest income after provision for loan losses amounted to ₩6,265 billion and ₩7,626 billion in 2021 and 2022, respectively. The Bank's operating income increased by 16.1% from ₩3,587 billion in 2021 to ₩4,163 billion in 2022.

From the six months ended June 30, 2022 to the six months ended June 30, 2023, both the average yield on interest-earning assets and the average rate on interest-bearing liabilities increased, primarily as a result of an increase in the base interest rate by the Bank of Korea during the years 2022 and 2023. The average balance increased for both interest-earning assets and interest-bearing liabilities. The Bank's net interest income increased by 5.9% from ₩3,890 billion for the six months ended June 30, 2022 to ₩4,118 billion for the six months ended June 30, 2023. Net interest income after provision for loan losses amounted to ₩3,592 billion and ₩3,679 billion for the six months ended June 30, 2022 and 2023, respectively. The Bank's operating income increased by 0.7% from ₩2,274 billion for the six months ended June 30, 2022 to ₩2,289 billion for the six months ended June 30, 2023.

Trends in the Korean Economy

The global economy experienced a slowdown in growth in the first half of 2023, and despite some indications that energy supply and demand is stabilizing and the pace of inflation is slowing down in certain countries, concerns of prolonged global recession remain. We expect continued volatility in the international financial market, as the U.S. Federal Reserve Board's target interest rate is expected to be higher than originally estimated after the announcement of the unemployment rate and price indicators in the U.S. that exceeded market expectations. Rapidly shifting U.S. dollar exchange rate and long-term market interest rates are also contributing to increasing volatility in the market. Major factors that are expected to affect the global economy and international financial markets include rate of global inflation, changes in monetary policy in major economies, relative strength of the U.S. dollar, the recovery of the Chinese economy, and other geopolitical risks. In addition, the collapse of major financial institutions such as Credit Suisse and Silicon Valley Bank has caused rising preference for safer assets and has increased skepticism about the viability of additional interest rates increases by the U.S. Federal Reserve Board.

The Korean economy's growth has slowed down in the first half of 2023, more so in comparison to some other major countries. This was largely due to slowdown in the IT sector (including semiconductor industry) leading to a decline in exports, and the recovery of consumption has also been sluggish. While the employment rate has remained relatively stable, its recovery from the effects of COVID-19 has been rather slow. Global economic slowdown has been negatively affecting Korea's exports, and domestic consumption is also expected to remain sluggish primarily to due rising inflation and interest rates. Interest rate fluctuations have been inflicting particularly negative impact on private consumption, capital expenditure and investment, leading to a decrease in asset prices. In response to these market changes, the Government has been adopting various stabilizing measures, many of which are deregulatory. The Government and the Bank of Korea also implemented emergency measures in response to the corporate debt liquidity crunch that occurred in the second half of 2022 in the aftermath of a default in the bonds issued by Gangwon Jungdo Development Corp. During the remaining part of 2023, it is expected that the Korean economy will continue its sluggish growth trend due to the global economic slowdown and rising interest rates.

While the U.S. Federal Reserve Board's quantitative tightening will continue to pressure the Government and Bank of Korea, domestic market conditions and concerns regarding exodus of foreign capital may make it difficult for the Bank of Korea to increase the base rates further in Korea. The Government is expected to prioritize price stability and to continue its tightening stance for a significant period of time, as the inflation rate is expected to remain higher than policy target levels and economic conditions remain uncertain. In August 2023, the Monetary Policy Committee of Korea announced that the base interest would remain at the current level of 3.50% after a series of raises from August 2021 to January 2023. Interest rate movements are uncertain and will depend, in part, on domestic and international economic conditions, employment rate, and price trends.

Interest Rates

Interest rate movements, in terms of magnitude and timing as well as their relative impacts on the Bank's assets and liabilities, have a significant impact on the Bank's net interest margins and profitability, particularly with respect to its financial products that are sensitive to such movements. For example, if the interest rates applicable to the Bank's loans (which are recorded as its assets) decrease at a faster pace or by a thicker margin, or increase at a slower pace or by a thinner margin, compared to the interest rates applicable to its deposits (which are recorded as its liabilities), the Bank's net interest margin will shrink and its profitability will be negatively affected. In addition, the relative size and composition of the Bank's variable rate loans and deposits (as compared to its fixed rate loans and deposits) may also impact the Bank's net interest margin. Furthermore, the difference in the average repricing frequency of the Bank's interest-earning assets (primarily loans) compared to its interest-bearing liabilities (primarily deposits) may also impact the Bank's net interest margin. For example, since the Bank's deposits currently have a longer term, on average, than that of its loans, the Bank's deposits are on average less sensitive to movements in the base interest rates on which the Bank's deposits and loans tend to be pegged, and therefore, an increase in the base interest rates tend to increase the net interest margin of the Bank while a decrease in the base interest rates tend to have the opposite effect. While the Bank continually manages its assets and liabilities to minimize its exposure to interest rate volatility, such efforts by the Bank may not mitigate the impact of interest rate volatility in a timely or effective manner.

The interest rate charged to customers by the Bank is based, in part, on the "cost of funds index", or COFIX, which is published by the Korean Federation of Banks. COFIX is computed based on the weighted average interest of select funding products (including time deposits, housing and other installment savings deposits, repos, discounted bills and senior non-convertible financial debentures) of eight major Korean banks (comprised of the Bank, Kookmin Bank, Woori Bank, KEB Hana Bank, Nonghyup Bank, Industrial Bank of Korea, Citibank Korea and Standard Chartered Bank Korea). Each bank then independently determines the interest rate applicable to its respective customers by adding a spread to the COFIX based on the difference between the COFIX and such bank's general funding costs, administration fees, the customer's credit score, the maturity of the loan and other customer-specific premiums and discounts based on the customer relationship with such bank. These interest rates are typically adjusted on a monthly basis.

The following table shows certain benchmark Won-denominated borrowing interest rates as of the dates indicated.

	Corporate Bond Rates(1)	Treasury Bond Rates(2)	Certificate of Deposit Rates(3)	COFIX Balance-Based(4)	New COFIX Balance-Based(5)	COFIX New Borrowing-Based(6)
December 31, 2018 ………	2.29	1.82	1.93	1.95	—	1.96
June 30, 2019 …………….	1.80	1.47	1.78	2.00	—	1.85
December 31, 2019 ………	1.78	1.36	1.53	1.81	1.55	1.63
June 30, 2020 …………….	1.57	0.85	0.79	1.55	1.26	1.06
December 31, 2020 ………	1.39	0.97	0.66	1.21	0.96	0.90
June 30, 2021 …………….	1.81	1.45	0.67	1.02	0.81	0.82
December 31, 2021 ………	2.41	1.80	1.28	1.19	0.94	1.55
June 30, 2022 …………….	4.36	3.55	2.02	1.68	1.31	1.98
December 31, 2022 ………	4.67	3.73	3.98	3.19	2.65	4.34
June 30, 2023 …………….	4.47	3.57	3.75	3.76	3.14	3.56

Source: Korea Financial Investment Association

Notes:

(1) Measured by the yield on three-year AA- rated corporate bonds.

(2) Measured by the yield on three-year treasury bonds.

(3) Measured by the yield on certificates of deposit (with maturity of 91 days).

(4) Measured based on the weighted average of the borrowing rates for the monthly ending balances of the funding made by the commercial banks that are subject of the COFIX reporting.

(5) New COFIX on Outstanding Balance (the "**New COFIX**") is a new benchmark COFIX introduced since July 2019. The New COFIX also takes into account other deposits such as inter-bank time deposits and non-resident deposits and other funding sources such as subordinated bonds and convertible bonds in calculating the weighted average of the borrowing rates for the monthly ending balances of the funding made by the commercial banks that are subject of the COFIX reporting.

(6) Measured based on the weighted average of the borrowing rates for new funding for each month made by the commercial banks that are subject of the COFIX reporting.

Critical Accounting Policies

The preparation of the Bank's financial statements requires management to make judgments, involving significant estimates and assumptions, in the application of certain accounting policies about the effects of matters that are inherently uncertain. These estimates and assumptions, which may materially affect the reported amounts of certain assets, liabilities, revenues and expenses, are based on information available to the Bank as of the date of the financial statements, and changes in this information over time could materially impact amounts reported in the financial statements as a result of the use of different estimates and assumptions. Certain accounting policies, by their nature, have a greater reliance on the use of estimates and assumptions, and could produce results materially different from those originally reported.

Based on the sensitivity of financial statement amounts to the methods, estimates and assumptions underlying reported amounts, the Bank has identified the following significant accounting policies that involve critical accounting estimates. These policies require subjective or complex judgments, and as such could be subject to revision as new information becomes available. The Bank's significant accounting policies are described in more detail in Note 2 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2021 and 2020 and as of and for the years ended December 31, 2022 and 2021 and Note 2 to the Bank's the unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

Recent Accounting Changes

There are no new or amended standards or interpretations that have yet to been adopted but are expected to have a significant impact on the Bank's consolidated financial statements. Details are described in Note 2 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2021 and 2020 and as of and for the years ended December 31, 2022 and 2021 and in Note 2 to the Bank's unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

Basis of Measurement

The consolidated financial statements have been prepared on the historical cost basis except for the following material items in the consolidated statements of financial position:

- derivative financial instruments that are measured at fair value;
- financial instruments at fair value through profit or loss ("**FVTPL**") that are measured at fair value;
- financial instruments at fair value through other comprehensive income ("**FVOCI**") that are measured at fair value;
- share-based payment arrangements that are measured at fair value;
- changes in fair value attributable to the risk being hedged for financial instruments designated as hedged items in qualifying fair value hedge relationships are recognized in profit or loss; and
- liabilities for defined benefit plans that are recognized as net of the total present value of defined benefit obligations less the fair value of plan assets.

Expected Credit Loss on Financial Assets

As for financial assets at amortized cost and financial assets at FVOCI, the expected credit loss is evaluated at the end of each period and recognized as loss allowances.

Subsequent to initial recognition, loss allowance is classified in three stages depending on the extent of significant increase in credit risk, as set out in the table below.

Stage	Category	Description
Stage 1	Credit risk has not increased significantly since initial recognition	12-month expected credit losses: Expected credit loss resulting from potential default of financial instruments occurring over 12 months from the end of reporting period
Stage 2	Credit risk has increased significantly since initial recognition	Lifetime expected credit losses: Expected credit loss resulting from all potential default of financial instruments occurring over the expected life
Stage 3	Credit-impaired financial assets	

For financial assets whose credit is impaired at initial recognition, the cumulative change in lifetime expected credit loss is only recognized as loss allowance. In this context, 'lifetime' refers to the expected life of a financial asset until its contractual maturity date.

Forward looking information. The Bank determines material increase on credit risk and estimates expected credit loss on a forward looking basis. The components used to measure expected credit loss are assumed to have certain relationships with the economic cycle and macroeconomic variables. Forward looking information is reflected in the expected credit loss estimation through the relationship analysis between the macroeconomic variables and credit risk measuring factors.

The prolonged COVID-19 pandemic continues to have a negative impact on the global economy. The Bank uses forward-looking information of estimate expected credit loss in accordance with K-IFRS No. 1109 'Financial Instruments'. Due to changes in forward- looking information due to increased domestic and foreign economic uncertainty such as inflation and rising market interest rates and the prolongation of COVID-19, the default rate forecast as of December 31, 2022 was re-estimated using updated forward-looking information on key variables for calculating the forecast default rate, such as GDP growth rate, private consumption growth rate, and unemployment rate. As of June 30, 2023, the forward-looking information used by the Bank to estimate expected credit losses is the same as that applied at the end of December 31, 2022.

Financial assets at amortized cost. The expected credit loss on financial assets at amortized cost is recognized as the difference between the present value of the contractual cash flow and the present value of the expected cash flow. Expected cash flow is estimated separately for each individually material financial asset. The financial assets that are not individually material are included in a group of assets with a similar credit risk, and expected credit loss is estimated collectively.

Expected credit losses of financial assets measured as amortized cost are presented net of loss allowance, and the allowance is derecognized together with the asset when it is determined to be unrecoverable. When a loan previously written-off is subsequently collected, it is recognized as an increase in loss allowance. At each reporting date, the Bank recognizes in profit or loss the amount of the change in lifetime expected credit losses.

Financial assets at fair value at other comprehensive income. The expected credit loss on financial assets at fair value at other comprehensive income is calculated using the same method as that on financial assets at amortized cost. However, the changes in loss allowance are recognized as other comprehensive income. As for disposal and repayment, the loss allowance is reclassified from other comprehensive income to profit or loss.

Financial Guarantee Contract

Financial guarantees are contracts that require the Bank to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument. Financial guarantee liabilities are recognized initially at their fair value, and the initial fair value is amortized over the life of the financial guarantee. The financial guarantee liability is subsequently carried at the higher of this amortized amount and the present value of any expected payment when a payment under the guarantee has become probable. Financial guarantees are included other liabilities.

Defined Benefit Plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Bank's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method. The discount rate is the yield at the reporting date on high-quality corporate bonds that have maturity dates approximating the terms of the Bank's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Bank recognizes service cost and net interest on the net defined benefit liability (asset) in profit or loss and remeasurements of the net defined benefit liability (asset) in other comprehensive income.

Average Balance and Volume and Rate Analysis

Average Balance Sheet and Related Interest

The following tables show the Bank's average balances and interest rates, as well as the net interest spread, net interest margin and asset liability ratio, for the years ended December 31, 2020, 2021 and 2022 and the six months ended June 30, 2022 and 2023.

	For the Six Months Ended June 30,					
	2022			2023		
	Average Balance(1)	Interest Income/ Expense	Yield/ Rate	Average Balance(1)	Interest Income/ Expense	Yield/ Rate
	(in billions of Won, except percentages)					
Interest-earning assets:						
Due from banks	₩ 5,584	₩ 28	1.01%	₩ 6,513	₩ 168	5.20%
Loans at amortized cost(2):						
Retail loans	144,977	2,331	3.24	140,930	3,315	4.74
Corporate loans	181,653	2,665	2.96	192,680	4,739	4.96
Public and other loans	3,374	54	3.20	3,851	99	5.19
Loans to banks	4,634	31	1.37	7,363	185	5.06
Total loans at amortized cost	334,638	5,081	3.06	344,824	8,338	4.88
Loans at FVTPL	432	5	2.23	586	13	4.52
Securities:						
Securities at FVTPL	23,630	149	1.27	19,369	250	2.61
Securities at FVOCI	49,706	356	1.45	47,343	559	2.38
Securities at amortized cost	21,909	240	2.21	29,290	441	3.04
Total securities	95,245	745	1.58	96,002	1,250	2.63
Other interest-earning assets	—	24	—	—	47	—
Total interest-earning assets	₩435,899	₩5,883	2.72%	₩447,925	₩9,816	4.42%

	For the Six Months Ended June 30,					
	2022			2023		
	Average Balance(1)	Interest Income/ Expense	Yield/ Rate	Average Balance(1)	Interest Income/ Expense	Yield/ Rate
	(in billions of Won, except percentages)					
Non-interest-earning assets:						
Cash and due from banks	₩ 17,650			₩ 16,799		
Derivative assets	3,469			4,219		
Securities at FVOCI	1,148			1,176		
Property and equipment and intangible assets	3,101			3,616		
Other non-interest-earning assets	18,742			20,008		
Total non-interest-earning assets	₩ 44,109			₩ 45,818		
Total assets	₩480,008	₩5,883		₩493,743	₩9,816	
Interest-bearing liabilities:						
Deposits:						
Demand deposits	₩ 64,323	₩ 99	0.31%	₩ 59,484	₩ 269	0.91%
Time and savings deposits	269,464	1,293	0.97	291,124	4,024	2.79
Other deposits	17,588	124	1.42	12,808	234	3.68
Total interest-bearing deposits	351,375	1,516	0.87	363,416	4,527	2.51
Financial liabilities designated at FVTPL	13	—	—	131	3	4.89
Borrowings	23,971	121	1.01	27,542	446	3.27
Debt securities issued	35,770	314	1.77	31,218	628	4.06
Other interest-bearing liabilities	6,507	42	1.31	5,084	94	3.77
Total interest-bearing liabilities	₩417,636	₩1,993	0.96%	₩427,391	₩5,698	2.69%
Non-interest-bearing liabilities:						
Non-interest-bearing deposits	₩ 5,674			₩ 4,548		
Derivatives liabilities	3,647			4,792		
Other non-interest-bearing liabilities	23,443			24,672		
Total non-interest-bearing liabilities	₩ 32,764			₩ 34,012		
Total liabilities	₩450,400	₩1,993		₩461,403	₩5,698	
Stockholder's equity	₩ 29,610	₩ —		₩ 32,342	₩ —	
Total liabilities and equity	₩480,010	₩1,993		₩493,745	₩5,698	
Net interest spread(3)			1.76%			1.73%
Net interest margin(4)			1.80%			1.85%
Average asset liability ratio(5)			104.37%			104.80%

	For the Year Ended December 31,								
	2020			2021			2022		
	Average Balance[1]	Interest Income/ Expense	Yield/ Rate	Average Balance[1]	Interest Income/ Expense	Yield/ Rate	Average Balance[1]	Interest Income/ Expense	Yield/ Rate
	(in billions of Won, except percentages)								
Interest-earning assets:									
Due from banks	₩ 6,174	₩ 65	1.04%	₩ 5,875	₩ 35	0.59%	₩ 6,980	₩ 149	2.14%
Loans at amortized cost[2]:									
Retail loans	127,630	3,751	2.94	138,500	3,777	2.73	143,873	5,224	3.63
Corporate loans	150,399	4,262	2.83	166,696	4,248	2.55	187,318	6,554	3.50
Public and other loans	3,453	99	2.87	3,520	95	2.70	3,481	128	3.67
Loans to banks	5,639	72	1.28	6,055	47	0.78	6,136	159	2.59
Total loans at amortized cost	287,121	8,184	2.85	314,771	8,167	2.59	340,808	12,065	3.54
Loans at FVTPL	425	9	2.25	439	8	1.90	439	13	3.07
Securities:									
Securities at FVTPL	21,610	255	1.18	23,045	209	0.91	22,433	388	1.73
Securities at FVOCI	37,965	597	1.57	42,150	540	1.28	49,367	822	1.67
Securities at amortized cost	20,212	452	2.24	20,916	444	2.12	24,037	591	2.46
Total securities	79,787	1,304	1.63	86,111	1,193	1.39	95,837	1,801	1.88
Other interest-earning assets	—	53	—	—	42	—	—	57	—
Total interest-earning assets	₩373,507	₩9,615	2.57%	₩407,196	₩9,445	2.32%	₩444,064	₩14,085	3.17%
Non-interest-earning assets:									
Cash and due from banks	₩ 14,165			₩ 16,664			₩ 17,592		
Derivative assets	3,021			3,158			4,764		
Securities at FVOCI	597			677			1,222		
Property and equipment and intangible assets	3,064			2,956			3,086		
Other non-interest-earning assets	14,064			14,709			18,658		
Total non-interest-earning assets	₩ 34,911			₩ 38,164			₩ 45,322		
Total assets	₩408,418	₩9,615		₩445,360	₩9,445		₩489,386	₩14,085	
Interest-bearing liabilities:									
Deposits:									
Demand deposits	₩ 48,078	₩ 159	0.33%	₩ 62,339	₩ 204	0.33%	₩ 64,764	₩ 306	0.47%
Time and savings deposits	240,693	2,473	1.03	254,123	1,790	0.70	276,256	3,856	1.40
Other deposits	8,473	120	1.42	11,142	101	0.91	17,012	335	1.97
Total interest-bearing deposits	297,244	2,752	0.93	327,604	2,095	0.64	358,032	4,497	1.26

	For the Year Ended December 31,								
	2020			2021			2022		
	Average Balance[1]	Interest Income/ Expense	Yield/ Rate	Average Balance[1]	Interest Income/ Expense	Yield/ Rate	Average Balance[1]	Interest Income/ Expense	Yield/ Rate
	(in billions of Won, except percentages)								
Financial liabilities designated at FVTPL	—	—	—	—	—	—	30	1	4.34
Borrowings	19,088	204	1.07	20,660	138	0.67	25,243	405	1.60
Debt securities issued	35,340	691	1.96	35,081	563	1.60	36,212	860	2.37
Other interest-bearing liabilities	4,602	41	0.88	5,652	38	0.67	6,178	118	1.91
Total interest-bearing liabilities	₩356,274	₩3,688	1.04%	₩388,997	₩2,834	0.73%	₩425,695	₩ 5,881	1.38%
Non-interest-bearing liabilities:									
Non-interest-bearing deposits	₩ 3,970			₩ 4,885			₩ 5,425		
Derivatives liabilities	2,466			2,793			5,200		
Other non-interest-bearing liabilities	18,779			20,200			22,905		
Total non-interest-bearing liabilities	₩ 25,215			₩ 27,878			₩ 33,530		
Total liabilities	₩381,489	₩3,688		₩416,875	₩2,834		₩459,225	₩ 5,881	
Stockholder's equity	₩ 26,929	₩ —		₩ 28,487	₩ —		₩ 30,163	₩ —	
Total liabilities and equity	₩408,418	₩3,688		₩445,362	₩2,834		₩489,388	₩ 5,881	
Net interest spread[3]			1.54%			1.59%			1.79%
Net interest margin[4]			1.59%			1.62%			1.85%
Average asset liability ratio[5]			104.84%			104.68%			104.32%

Notes:

(1) Based on average daily balances.

(2) Impaired loans are included in the respective average loan balances. Interest income on such impaired loans is recognized by using the original effective interest rate, which also is used in measuring loan losses.

(3) The difference between the average rate of interest earned on interest-earning assets and the average rate of interest paid on interest-bearing liabilities.

(4) The ratio of net interest income to the average balance of interest-earning assets.

(5) The ratio of the average balance of interest-earning assets to the average balance of average interest-bearing liabilities.

Analysis of Changes in Net Interest Income — Volume and Rate Analysis

The following tables provide an analysis of changes in interest income, interest expense and net interest income between changes in volume and changes in rates for (i) the six months ended June 30, 2023 compared to the six months ended June 30, 2022, (ii) 2022 compared to 2021 and (iii) 2021 compared to 2020.

Volume and rate variances have been calculated on the movement in average balances and the change in the interest rates on average interest-earning assets and average interest-bearing liabilities in proportion to absolute volume and rate change. The variance caused by the change in both volume and rate has been allocated in proportion to the absolute volume and rate change.

	From Six Months ended June 30, 2022 to Six Months ended June 30, 2023 Interest Increase (Decrease) Due to Change in		
	Volume	Rate	Change
	(in billions of Won)		
Increase (decrease) in interest income			
Due from banks	₩ 24	₩ 116	₩ 140
Loans at amortized cost:			
Retail loans	(95)	1,079	984
Corporate loans	271	1,803	2,074
Public and other loans	12	33	45
Loans to banks	68	86	154
Total loans at amortized cost	256	3,001	3,257
Loans at FVTPL	3	5	8
Securities:			
Securities at FVTPL	(55)	156	101
Securities at FVOCI	(28)	231	203
Securities at amortized cost	111	90	201
Total securities	28	477	505
Other interest-earning assets	—	23	23
Total interest income	₩311	₩3,622	₩3,933
Increase (decrease) in interest expense			
Deposits:			
Demand deposits	₩(22)	₩ 192	₩ 170
Time and savings deposits	299	2,432	2,731
Other deposits	(87)	197	110
Total interest-bearing deposits	190	2,821	3,011
Financial liabilities designated at FVTPL	3	—	3
Borrowings	58	267	325
Debt securities issued	(92)	406	314
Other interest-bearing liabilities	(27)	79	52
Total interest expense	₩132	₩3,573	₩3,705
Net increase in net interest income	₩179	₩ 49	₩ 228

	From 2021 to 2022 Interest Increase (Decrease) Due to Change in		
	Volume	Rate	Change
	(in billions of Won)		
Increase (decrease) in interest income			
Due from banks	₩ 24	₩ 90	₩ 114
Loans at amortized cost:			
Retail loans	195	1,252	1,447
Corporate loans	721	1,585	2,306
Public and other loans	(1)	34	33
Loans to banks	2	110	112
Total loans at amortized cost	917	2,981	3,898
Loans at FVTPL	—	5	5
Securities:			
Securities at FVTPL	(11)	190	179
Securities at FVOCI	120	162	282
Securities at amortized cost	77	70	147
Total securities	186	422	608
Other interest-earning assets	—	15	15
Total interest income	₩1,127	₩3,513	₩4,640
Increase (decrease) in interest expense			
Deposits:			
Demand deposits	₩ 11	₩ 91	₩ 102
Time and savings deposits	309	1,757	2,066
Other deposits	115	119	234
Total interest-bearing deposits	435	1,967	2,402
Financial liabilities designated at FVTPL	1	—	1
Borrowings	73	194	267
Debt securities issued.	27	270	297
Other interest-bearing liabilities	10	70	80
Total interest expense	₩ 546	₩2,501	₩3,047
Net increase in net interest income	₩ 581	₩1,012	₩1,593

	From 2020 to 2021 Interest Increase (Decrease) Due to Change in		
	Volume	Rate	Change
	(in billions of Won)		
Increase (decrease) in interest income			
Due from banks	₩ (2)	₩ (28)	₩ (30)
Loans at amortized cost:			
Retail loans	296	(270)	26
Corporate loans	415	(429)	(14)
Public and other loans	2	(6)	(4)
Loans to banks	3	(28)	(25)
Total loans at amortized cost	₩716	₩ (733)	₩ (17)
Loans at FVTPL	—	(1)	(1)
Securities:			
Securities at FVTPL	13	(59)	(46)
Securities at FVOCI	54	(111)	(57)
Securities at amortized cost	15	(23)	(8)
Total securities	₩ 82	₩ (193)	₩(111)
Other interest-earning assets	—	(11)	(11)
Total interest income	₩796	₩ (966)	₩(170)
Increase (decrease) in interest expense			
Deposits:			
Demand deposits	₩ 47	₩ (2)	₩ 45
Time and savings deposits	95	(778)	(683)
Other deposits	24	(43)	(19)
Total interest-bearing deposits	₩166	₩ (823)	₩(657)
Borrowings	10	(76)	(66)
Debt securities issued.	(4)	(124)	(128)
Other interest-bearing liabilities	7	(10)	(3)
Total interest expense	₩179	₩(1,033)	₩(854)
Net increase in net interest income	₩617	₩ 67	₩ 684

Operating Results

Six Months ended June 30, 2023 Compared to Six Months ended June 30, 2022

Net Interest Income

The following table shows, for the periods indicated, the principal components of the Bank's net interest income.

	For the Six Months Ended June 30,		
	2022	2023	% Change
	(in billions of Won, except percentages)		
Interest income:			
Cash and due from banks	₩ 28	₩ 168	500.0%
Securities at FVTPL	149	250	67.8
Loans at amortized cost	5,081	8,338	64.1
Loans at FVTPL	5	13	160.0
Securities at FVOCI	356	559	57.0
Securities at amortized cost	240	441	83.8
Other interest income	24	47	95.8
Total interest income	₩ 5,883	₩ 9,816	66.9%
Interest expense:			
Deposits	₩(1,516)	₩(4,527)	198.6%
Financial liabilities designated at FVTPL	—	(3)	N/M
Borrowings	(121)	(446)	268.6
Debt securities issued	(314)	(628)	100.0
Other interest expense	(42)	(94)	123.8
Total interest expense	₩(1,993)	₩(5,698)	185.9%
Net interest income	₩ 3,890	₩ 4,118	5.9%
Net interest margin(1)	1.80%	1.85%	

N/M = not meaningful.

Note:

(1) The ratio of net interest income to average interest-earning assets. See "*Average Balance and Volume and Rate Analysis — Average Balance Sheet and Related Interest.*"

Interest income. Interest income increased by 66.9% to ₩9,816 billion for the six months ended June 30, 2023 from ₩5,883 billion for the six months ended June 30, 2022, due primarily to a 64.1% increase in interest income on loans at amortized cost to ₩8,338 billion for the six months ended June, 30 2023 from ₩5,081 billion for the six months ended June 30, 2022, largely as a result of an increase in the weighted average base interest rate resulting from increase in base interest rate set by the Bank of Korea during 2022 and 2023, as well as an increase in the average balance of loans. The average lending rate on the Bank's loans increased to 4.88% for the six months ended June 30, 2023 from 3.06% for the six months ended June 30, 2022, principally due to an increase in average lending rates for retail loans resulting from the higher average market interest rate for 2023 compared to 2022 as discussed above. The average balance of the Bank's loans at amortized cost increased by 3.0% to ₩344,824 billion for the six months ended June 30, 2023 from ₩334,638 billion for the six months ended June 30, 2022, principally due to an increase in corporate loans.

More specifically, the increase in interest income was due to the following:

- a 42.2% increase in interest on retail loans to ₩3,315 billion for the six months ended June 30, 2023 from ₩2,331 billion for the six months ended June 30, 2022, primarily due to an increase in the average lending rate for retail loans to 4.74% in 2023 from 3.24% in 2022, which was partially offset by a 2.8% decrease in the average balance of retail loans to ₩140,930 billion for the six months ended June 30, 2023 from ₩144,977 billion for the six months ended June 30, 2022. The average lending rate for retail loans increased primarily as a result of the general increase in market interest rates largely driven by increases in the base interest rate by the Bank of Korea in 2022 as discussed above. The base interest rate set by the Bank of Korea affects the market interest rate for certificates of deposit, which in turn largely determines the Bank's lending rates for a substantial majority of the Bank's retail loans. The average balance of retail loans decreased primarily as a result of a decrease in household credit loans (general fund lump-sum repayment loans) and collective loans.

- a 77.8% increase in interest on corporate loans to ₩4,739 billion for the six months ended June 30, 2023 from ₩2,665 billion for the six months ended June 30, 2022, primarily due to an increase in the average lending rate for corporate loans to 4.96% for the six months ended June 30, 2023 from 2.96% for the six months ended June 30, 2022, as well as a 6.1% increase in the average balance of corporate loans to ₩192,680 billion as of June 30, 2023 from ₩181,653 billion as of June 30, 2022. The average lending rate for corporate loans increased primarily as a result of the general increase in market interest rates largely driven by the increase in the base interest rate by the Bank of Korea in 2022 and 2023 as discussed above. The average balance of corporate loans increased principally due to an increase in corporate credit loans(working capital loans and loans for equipments).

Interest expense. Interest expense increased by 185.9% to ₩5,698 billion for the six months ended June 30, 2023 from ₩1,993 billion for the six months ended June 30, 2022 due primarily to a 198.6% increase in interest expense on deposits to ₩4,527 billion for the six months ended June 30, 2023 from ₩1,516 billion for the six months ended June 30, 2022 and, to a lesser extent, a 100.0% increase in interest expenses on debt securities issued to ₩628 billion for the six months ended June 30, 2023 from ₩314 billion for the six months ended June 30, 2022.

Interest expense on deposits increased primarily due to an increase in the average interest rate payable on deposits (the ratio of interest expense to average balance of deposits) by 164 basis points to 2.51% for the six months ended June 30, 2023 from 0.87% for the six months ended June 30, 2022, notwithstanding a 3.43% increase in the average balance of deposits to ₩363,416 billion as of June 30, 2023 from ₩351,375 billion as of June 30, 2022. The increase in the average interest rate payable on deposits resulted mainly from an increase in the average interest rate payable on time and savings deposits to 2.79% for the six months ended June 30, 2023 from 0.97% for the six months ended June 30, 2022, which was largely a result of higher average market interest rates for 2023 compared to 2022 as described above. The increase in the average balance of deposits was primarily due to a 8.04% increase in the average balance of time and savings deposits to ₩291,124 billion as of June 30, 2023 from ₩269,464 billion as of June 30, 2022.

Interest expense on debt securities issued increased primarily as a result of an increase in the average interest rate payable on debt securities issued to 4.60% for the six months ended June 30, 2023 from 1.77% for the six months ended June 30, 2022. The increase in the average interest rate payable on debt securities issued was primarily due to higher average market interest rates for 2023 compared to 2022 as described above.

Net interest margin. Net interest margin represents the ratio of net interest income to the average balance of interest-earning assets. The Bank's overall net interest margin increased by 5 basis points to 1.85% for the six months ended June 30, 2023 from 1.80% for the six months ended June 30, 2022, primarily due to an increase in the base interest rate by the Bank of Korea during the years 2022 and 2023. Net interest spread, which represents the difference between the average rate of interest earned on interest-earning assets and the average rate of interest paid on interest-bearing liabilities, decreased by 3 basis points to 1.73% for the six months ended June 30, 2023 from 1.76% for the six months ended June 30, 2022, as the 170 basis point increase in the average rate of interest receivable on interest-earning assets to 4.42% for the six months ended June 30, 2023 from 2.72% for the six months ended June 30, 2022 was outpaced by the 173 basis point increase in the average rate of interest payable on interest-bearing liabilities to 2.69% for the six months ended June 30, 2023 from 0.96% for the six months ended June 30, 2022. The increase in the average rate of interest receivable on interest-earning assets was outpaced by the increase in the average rate of interest payable on interest-bearing liabilities due to differences in average repricing frequency and relative maturity profiles of interest-earning assets and interest-bearing liabilities. The average volume of interest-earning assets increased by 2.8% to ₩447,925 billion for the six months ended June 30, 2023 from ₩ 435,899 billion for the six months ended June 30, 2022 largely as a result of an increase in the volume of corporate loans and securities at amortized cost. The average volume of interest-bearing liabilities increased by 2.3% to ₩427,391 billion for the six months ended June 30, 2023 from ₩417,636 billion for the six months ended June 30, 2022 largely as a result of an increase in time deposits due to the increase in interest rates and uncertainty in the financial market.

Fees and Commission Income (Expense), Net

The following table shows, for the periods indicated, the principal components of the Bank's net fees and commission income.

	For the Six months ended June 30,		
	2022	**2023**	**% Change**
	(in billions of Won, except percentages)		
Fees and commission income:			
Credit placement fees	₩ 33	₩ 38	15.2%
Commission received as electronic charge receipt	74	73	(1.4)
Brokerage fees	34	26	(23.5)
Commission received as agency	126	133	5.6
Investment banking fees	64	36	(43.8)
Commission received in foreign exchange activities	109	109	—
Asset management fees from trust accounts	94	90	(4.3)
Guarantee fees	46	48	4.3
Others	74	80	8.1
Total fees and commission income	₩ 654	₩ 633	(3.2)%
Fees and commission expense:			
Credit-related fees	₩ (18)	₩ (20)	11.1%
Brand-related fees	(23)	(23)	—
Service-related fees	(24)	(23)	(4.2)
Trading and brokerages fees	(5)	(5)	—
Commission paid in foreign exchange activities	(27)	(31)	14.8
Others	₩ (53)	₩ (55)	3.8
Total fees and commission expense	₩(150)	₩(157)	4.7
Net fees and commission income	₩ 504	₩ 476	(5.6)%

Net fees and commission income decreased by 5.6% to ₩476 billion for the six months ended June 30, 2023 from ₩504 billion for the six months ended June 30, 2022, primarily as a result of a 43.8% decrease in investment banking fees to ₩36 billion for the six months ended June 30, 2023 from ₩64 billion for the six months ended June 30, 2022 and a 23.5% decrease in brokerage fees to ₩26 billion for the six months ended June 30, 2023 from ₩34 billion for the six months ended June 30, 2022, which was partially offset by a 5.6% increase in commission received as agency to ₩133 billion for the six months ended June 30, 2023 from ₩126 billion for the six months ended June 30, 2022. Investment banking fees decreased largely due to a decrease in advisory and commission fees, and purchase agreement fees related to asset liquidity. Brokerage fees decreased largely as a result of a decrease in fees on indirect investment securities. Commission received as agency increased primarily due to an increase in Shinhan Card related business agency fee.

Non-interest Income (Expense), Net

The following table sets forth for the periods indicated the components of the Bank's net non-interest income (expense).

	For the Six months ended June 30,		
	2022	**2023**	**% Change**
	(in billions of Won, except percentages)		
Dividend income	₩ 14	₩ 42	200.0%
Gain on financial instruments at FVTPL	89	315	253.9
Net foreign currencies transaction gain	124	123	(0.8)
Net gain on financial instruments designated at FVTPL	1	13	1,200.0
Net gain on disposal of financial assets at FVOCI	2	15	650.0
Provision for credit loss allowance	(301)	(449)	49.2
General and administrative expenses	(1,644)	(1,786)	8.6
Other operating expenses, net	(405)	(579)	43.0
Net non-operating loss	2	(30)	N/M
Share of profit (loss) of associates	₩ —	₩ —	—
Total net non-interest expense	₩(2,118)	₩(2,336)	10.3%

N/M = not meaningful.

Net non-interest expense increased by 10.3% to ₩2,336 billion for the six months ended June 30, 2023 from ₩2,118 billion for the six months ended June 30, 2022, due primarily to a 8.6% increase in general and administrative expenses to ₩1,786 billion for the six months ended June 30, 2023 from ₩1,644 billion for the six months ended June 30, 2022, as well as a 49.2% increase in provision for credit loss allowance to ₩449 billion in for the six months ended June 30, 2023 from ₩301 billion for the six months ended June 30, 2022, which was partially offset by a 253.9% increase in gain on financial instruments at FVTPL to ₩315 billion for the six months ended June 30, 2023 from ₩89 billion for the six months ended June 30, 2022. General and administrative expenses increased primarily due to an increase in service costs, advertising and promotional expenses and education taxes. Provision for credit loss allowance increased primarily due to an increase in loan balances and an increase in the rate of provisions due to economic uncertainty. The increase in gain on financial instruments at FVTPL was primarily due to an increase in valuation and disposal losses of bonds, gold deposits, and other financial instruments in first half of 2022 due to a sharp rise in interest rates, compared to the first half of 2023.

Provision for Credit Loss Allowance

The following table sets forth for the periods indicated the provision for credit loss allowance by type of financial asset.

	For the Six months ended June 30,		
	2022	2023	% Change
	(in billions of Won, except percentages)		
Loans:			
Retail	₩142	₩102	(28.2)%
Corporate	151	332	119.9
Credit cards	2	6	200.0
Others	3	(1)	N/M
Subtotal	298	439	47.3
Securities[1]	(3)	(5)	66.7
Others	₩ 6	₩ 15	150.0
Provision for credit loss allowance	₩301	₩449	49.2%

N/M = not meaningful.

Note:

(1) Consist of securities at FVOCI and securities at amortized cost.

Provision for credit loss allowance increased by 49.2% to ₩449 billion for the six months ended June 30, 2023 from ₩301 billion for the six months ended June 30, 2022, primarily due to a 119.9% increase in provision for credit loss allowance for corporate loan to ₩332 billion for the six months ended June 30, 2023 from ₩151 billion for the six months ended June 30, 2022, which was partially offset by a 28.2% decrease in provision for credit loss allowance for retail loans to ₩102 billion for the six months ended June 30, 2023 from ₩142 billion for the six months ended June 30, 2022. Provision for credit loss allowance for corporate loans increased in the first half of 2023 primarily due to additional expected losses for some borrowers in light of termination of financial support programs related to COVID-19 and domestic and foreign economic uncertainty and also in part due to an increase in corporate loans.

Income Tax Expense

Income tax expense decreased by 2.5% to ₩578 billion for the six months ended June 30, 2023 from ₩593 billion for the six months ended June 30, 2022 primarily as a result of a decrease in profit before income tax by 0.7% to ₩2,259 billion for the six months ended June 30, 2023 from ₩2,276 billion for the six months ended June 30, 2022 and a decrease in corporate tax rate by 1.1% in 2023 compared to 2022.

Profit for the Period

As a result of the foregoing, the Bank's profit for the period decreased by 0.1% to ₩1,681 billion for the six months ended June 30, 2023 from ₩1,683 billion for the six months ended June 30, 2022.

Other Comprehensive Income (Loss) for the Period

	For the Six months ended June 30,		
	2022	**2023**	**% Change**
	(in billions of Won, except percentages)		
Items that are or may be reclassified subsequently to profit or loss			
Foreign currency translation differences for foreign operations	₩ 109	₩ 98	(10.1)%
Unrealized net change in fair value of financial assets at FVOCI	(892)	323	N/M
Share of other comprehensive loss of associates	(9)	6	N/M
Items that will not be reclassified subsequently to profit or loss			
Remeasurement of defined benefit plans	148	(26)	N/M
Unrealized net change in fair value of financial assets at FVOCI	18	(37)	N/M
Total other comprehensive income (loss), net of income tax	₩(626)	₩364	N/M%

N/M = not meaningful.

We recognized total other comprehensive income of ₩364 billion for the six months ended June 30, 2023 compared to total other comprehensive loss of ₩626 billion for the six months ended June 30, 2022, principally due to an increase in net gain on unrealized net change in fair value of financial assets at FVOCI, which was partially offset by an increase in net loss on remeasurement of defined benefit plans. Net gain on unrealized net change in fair value of financial assets at FVOCI was ₩323 billion for the six months ended June 30, 2023 compared to loss on unrealized net change in fair value of financial assets at FVOCI of ₩892 billion for the six months ended June 30, 2022, primarily due to fluctuations in interest rates and stock prices during 2022 to 2023. Net loss on remeasurement of defined benefit plans was ₩26 billion for the six months ended June 30, 2023 compared to gain on remeasurement of defined benefit plans of ₩148 billion for the six months ended June 30, 2022, primarily due to a decrease in actuarial gains from changed financial assumptions.

2022 Compared to 2021

Net Interest Income

The following table shows, for the periods indicated, the principal components of the Bank's net interest income.

	Year Ended December 31,		
	2021	2022	% Change
	(in billions of Won, except percentages)		
Interest income:			
Cash and due from banks	₩ 35	₩ 149	325.7%
Securities at FVTPL	209	388	85.6
Loans at amortized cost	8,167	12,065	47.7
Loans at FVTPL	8	13	62.5
Securities at FVOCI	540	822	52.2
Securities at amortized cost	444	591	33.1
Other interest income	42	58	35.7
Total interest income	₩ 9,445	₩14,086	49.1%
Interest expense:			
Deposits	₩(2,095)	₩ (4,497)	114.7%
Financial liabilities designated at FVTPL	—	(1)	N/M
Borrowings	(138)	(405)	193.5
Debt securities issued	(563)	(860)	52.8
Other interest expense	(38)	(118)	210.5
Total interest expense	₩(2,834)	₩ (5,881)	107.5%
Net interest income	₩ 6,611	₩ 8,205	24.1%
Net interest margin(1)	1.62%	1.85%	

N/M = not meaningful.

Note:

(1) The ratio of net interest income to average interest-earning assets. See "*Average Balance and Volume and Rate Analysis — Average Balance Sheet and Related Interest*."

Interest income. Interest income increased by 49.1% to ₩14,086 billion in 2022 from ₩9,445 billion in 2021, due primarily to a 47.7% increase in interest income on loans at amortized cost to ₩12,065 billion in 2022 from ₩8,167 billion in 2021, largely as a result of an increase in the weighted average base interest rate to 2.03% in 2022 from 0.61% in 2021 resulting from increase in base interest rate set by the Bank of Korea, as well as an increase in the average balance of loans. The average lending rate on the Bank's loans increased to 3.54% in 2022 from 2.59% in 2021, principally due to an increase in average lending rates for retail loans resulting from the higher average market interest rate for 2022 compared to 2021 as discussed above. The average balance of the Bank's loans at amortized cost increased by 8.3% to ₩340,808 billion in 2022 from ₩314,771 billion in 2021, principally due to increases in the average balances of retail loans and corporate loans as further described below.

More specifically, the increase in interest income was due to the following:

- a 38.3% increase in interest on retail loans to ₩5,224 billion in 2022 from ₩3,777 billion in 2021, primarily due to an increase in the average lending rate for retail loans to 3.63% in 2022 from 2.73% in 2021 as well as a 3.9% increase in the average balance of retail loans to ₩143,873 billion in 2022 from ₩138,500 billion in 2021. The average lending rate for retail loans increased primarily as a result of the general increase in market interest rates largely driven by increases in the base interest rate set by the Bank of Korea in 2022 as discussed above. The base interest rate set by the Bank of Korea affects the market interest rate for certificates of deposit, which in turn largely determines the Bank's lending rates for a substantial majority of the Bank's retail loans. The average balance of retail loans increased primarily as a result of new loans placed during 2022 despite the growth rates of new loans declined in the second half of the year as compared to the same period of the previous year.

- a 54.3% increase in interest on corporate loans to ₩6,554 billion in 2022 from ₩4,248 billion in 2021, primarily due to an increase in the average lending rate for corporate loans to 3.50% in 2022 from 2.55% in 2021, as well as a 12.4% increase to the average balance of corporate loans to ₩187,318 billion in 2022 from ₩166,696 billion in 2021. The average lending rate for corporate loans increased primarily as a result of the general increase in market interest rates largely driven by the increase in the base interest rate set by the Bank of Korea in 2022 as discussed above. The average balance of corporate loans increased principally due to the policies to support small- and medium-sized enterprises amidst the prolonged COVID-19 pandemic and their efforts to secure funds.

Interest expense. Interest expense increased by 107.5% to ₩5,881 billion in 2022 from ₩2,834 billion in 2021 due primarily to a 114.7% increase in interest expense on deposits to ₩4,497 billion in 2022 from ₩2,095 billion in 2021 and, to a lesser extent, a 52.8% increase in interest expenses on debt securities issued to ₩860 billion in 2022 from ₩563 billion in 2021.

Interest expense on deposits increased primarily due to an increase in the average interest rate payable on deposits (the ratio of interest expense to average balance of deposits) by 62 basis points to 1.26% in 2022 from 0.64% in 2021, and a 9.29% increase in the average balance of deposits to ₩358,032 billion in 2022 from ₩327,604 billion in 2021. The increase in the average interest rate payable on deposits resulted mainly from an increase in the average interest rate payable on time and savings deposits to 1.40% in 2022 from 0.70% in 2021, which was largely a result of higher average market interest rates for 2022 compared to 2021 as described above. The increase in the average balance of deposits was primarily due to a 8.71% increase in the average balance of time and savings deposits to ₩276,256 billion in 2022 from ₩254,123 billion in 2021, which was largely a result of an increase in benchmark interest rates during the second half of 2022 that results in an increase in deposit interest rates and, in turn, deposit amounts.

Interest expense on debt securities issued increased primarily as a result of an increase in the average interest rate payable on debt securities issued to 2.37% in 2022 from 1.60% in 2021. The increase in the average interest rate payable on debt securities issued was primarily due to higher average market interest rates for 2022 compared to 2021 as described above.

Net interest margin. Net interest margin represents the ratio of net interest income to the average balance of interest-earning assets. The Bank's overall net interest margin increased by 23 basis points to 1.85% in 2022 from 1.62% in 2021, primarily due to an increase in net interest income based on increase in the weighted average base interest rate to 2.03% in 2022 from 0.61% in 2021 resulting from increase in base interest rate set by the Bank of Korea, which outpaced an increase in the average volume of interest-earning assets. Net interest spread, which represents the difference between the average rate of interest earned on interest-earning assets and the average rate of interest paid on interest-bearing liabilities, increased by 20 basis points to 1.79% in 2022 from 1.59% in 2021, as the 85 basis point increase in the average rate of interest receivable on interest-earning assets to 3.17% in 2022 from 2.32% in 2021 outpaced the 65 basis point increase in the average rate of interest payable on interest-bearing liabilities to 1.38% in 2022 from 0.73% in 2021. The increase in the average rate of interest receivable on interest-earning assets outpaced the increase in the average rate of interest payable on interest-bearing liabilities due to differences in average repricing frequency and relative maturity profiles of interest-earning assets and interest-bearing liabilities. The average volume of interest-earning assets increased by 9.1% to ₩444,064 billion in 2022 from ₩407,196 billion in 2021 largely as a result of an increase in the volume of retail and corporate loans. The average volume of interest-bearing liabilities increased by 9.4% to ₩425,695 billion in 2022 from ₩388,997 billion in 2021 largely as a result of Government and local government policies, such as funding supports, designed to increase liquidity amidst the prolonged COVID-19 pandemic.

Fees and Commission Income (Expense), Net

The following table shows, for the periods indicated, the principal components of the Bank's net fees and commission income.

	Year Ended December 31,		
	2021	**2022**	**% Change**
	(in billions of Won, except percentages)		
Fees and commission income:			
Credit placement fees	₩ 63	₩ 57	(9.5)%
Commission received as electronic charge receipt	150	149	(0.7)
Brokerage fees	93	62	(33.3)
Commission received as agency	269	263	(2.2)
Investment banking fees	88	102	15.9
Commission received in foreign exchange activities	199	224	12.6
Asset management fees from trust accounts	184	178	(3.3)
Guarantee fees	87	97	11.5
Others	141	148	5.0
Total fees and commission income	₩1,274	₩1,280	0.5%
Fees and commission expense:			
Credit-related fees	₩ (37)	₩ (36)	(2.7)%
Brand-related fees	(42)	(46)	9.5
Service-related fees	(45)	(47)	4.4
Trading and brokerages fees	(8)	(10)	25.0
Commission paid in foreign exchange activities	(43)	(55)	27.9
Others	₩ (121)	₩ (131)	8.3
Total fees and commission expense	₩ (296)	₩ (325)	9.8
Net fees and commission income	₩ 978	₩ 955	(2.4)%

Net fees and commission income decreased by 2.4% to ₩955 billion in 2022 from ₩978 billion in 2021, primarily as a result of a 33.3% decrease in brokerage fees to ₩62 billion in 2022 from ₩93 billion in 2021 and a 27.9% increase in commission paid in foreign exchange activities to ₩55 billion in 2022 from ₩43 billion in 2021, which was partially offset by a 12.6% increase in commission received in foreign exchange activities to ₩224 billion in 2022 from ₩199 billion in 2021. Brokerage fees decreased largely due to a decrease in fees on indirect investment securities. Commission paid in foreign exchange activities increased largely as a result of an increase in foreign exchange trading commission. Commission received in foreign exchange activities increased primarily due to an increase in credit placement fee on loans denominated in foreign currencies.

Non-interest Income (Expense), Net

The following table sets forth for the periods indicated the components of the Bank's net non-interest income (expense).

	Year Ended December 31,		
	2021	**2022**	**% Change**
	(in billions of Won, except percentages)		
Dividend income	₩ 19	₩ 21	10.5%
Gain on financial instruments at FVTPL	334	11	(96.7)
Net foreign currencies transaction gain	201	394	96.0
Net gain on financial instruments designated at FVTPL	—	3	N/M
Net gain on disposal of financial assets at FVOCI	67	(1)	N/M
Provision for credit loss allowance	(353)	(598)	69.4
General and administrative expenses	(3,361)	(3,702)	10.1
Other operating expenses, net	(910)	(1,125)	23.6
Net non-operating loss	(264)	(77)	(70.8)
Share of profit (loss) of associates	₩ 25	₩ 22	(12.0)
Total net non-interest expense	₩(4,242)	₩(5,052)	19.1%

N/M = not meaningful.

Net non-interest expense increased by 19.1% to ₩5,052 billion in 2022 from ₩4,242 billion in 2021, due primarily to a 10.1% increase in general and administrative expenses, as well as a 96.7% decrease in gain on financial instruments at FVTPL to ₩11 billion in 2022 from ₩334 billion in 2021, which was partially offset by a 96.0% increase in net foreign currency transaction gain to ₩394 billion in 2022 from ₩201 billion in 2021. General and administrative expenses increased primarily due to salary increase, recruitment of new employees, management performance bonus payment and an increase in advertising expenses. The decrease in gain on financial instruments at FVTPL was primarily due to an increase in losses on sale and valuation of debt securities resulting from the rise in the benchmark interest rates. Net foreign currency transactions gain increased primarily due to the strengthening of the U.S. dollar, against the Korean won.

Provision for Credit Loss Allowance

The following table sets forth for the periods indicated the provision for credit loss allowance by type of financial asset.

	Year Ended December 31,		
	2021	2022	% Change
	(in billions of Won, except percentages)		
Loans:			
Retail	₩123	₩267	117.1%
Corporate	223	300	34.5
Credit cards	2	6	200.0
Others	(2)	6	N/M
Subtotal	346	579	67.3
Securities[(1)]	20	(3)	N/M
Others	(13)	22	N/M
Provision for credit loss allowance	₩353	₩598	69.4%

N/M = not meaningful.

Note:

(1) Consist of securities at FVOCI and securities at amortized cost.

Provision for credit loss allowance increased by 69.4% to ₩598 billion in 2022 from ₩353 billion in 2021, primarily due to a 117.1% increase in provision for credit loss allowance for retail loans to ₩267 billion in 2022 from ₩123 billion in 2021, as well as a 34.5% increase in provision for credit loss allowance for corporate loan to ₩300 billion in 2022 from ₩223 billion in 2021. Provision for credit loss allowance for retail loans increased in 2022 primarily due to a revised method in evaluating forward-looking information to estimate provision for credit loss allowance for prolonged COVID-19 and economic uncertainties (such as adding “Worst” scenario in addition to “Upside”, “Central” and “Downside” scenarios). Provision for credit loss allowance on corporate loans increased to reflect the impact of potential insolvency. The historical default rate has remained relatively stable due, in part, to various government support measures in response to COVID-19, although economic indicators have worsened since 2020 due to the economic contraction caused by the COVID-19. Given this situation, to reflect the impact of potential insolvency, borrowers in moratorium of interest payments or moratorium of repayment (i.e. financial relief programs) were classified into Stage2, which in turn required the Bank to recognize additional provision for credit loss allowance on corporate loans.

Income Tax Expense

Income tax expense increased by 24.5% to ₩1,062 billion in 2022 from ₩853 billion in 2021 primarily as a result of an increase in profit before income tax by 22.7% to ₩4,108 billion in 2022 from ₩3,348 billion in 2021.

Profit for the Period

As a result of the foregoing, the Bank's profit for the period increased by 22.1% to ₩3,046 billion in 2022 from ₩2,495 billion in 2021.

Other Comprehensive Income (Loss) for the Period

	Year Ended December 31,		
	2021	**2022**	**% Change**
	(in billions of Won, except percentages)		
Items that are or may be reclassified subsequently to profit or loss			
Foreign currency translation differences for foreign operations	₩ 208	₩ (19)	N/M%
Unrealized net change in fair value of financial assets at FVOCI	(354)	(789)	122.9
Share of other comprehensive loss of associates	(3)	(10)	233.3
Items that will not be reclassified subsequently to profit or loss			
Remeasurement of defined benefit plans	34	195	473.5
Unrealized net change in fair value of financial assets at FVOCI	17	(29)	N/M
Total other comprehensive income (loss), net of income tax	₩ (98)	₩(652)	565.3%

N/M = not meaningful.

Other comprehensive loss increased by 565.3% to ₩652 billion in 2022 from ₩98 billion in 2021 primarily due to an increase in net loss on unrealized net change in fair value of financial assets at FVOCI , as well as an increase in net loss on foreign currency translation differences for foreign operations, which was partially offset by an increase in remeasurement of defined benefit plans. Net loss on unrealized net change in fair value of financial assets at FVOCI increased by 122.9% to ₩789 billion in 2022 from ₩354 billion in 2021 primarily due to fluctuations in interest rates and stock prices during 2022. The change in foreign currency translation differences for foreign operations in 2022 was primarily due to the strengthening of the U.S. dollar against the Korean won. Net gain on remeasurement of defined benefit plans increased by 473.5% to ₩195 billion in 2022 from ₩34 billion in 2021 primarily due to an increase in actuarial gains from changed financial assumptions.

2021 Compared to 2020

Net Interest Income

The following table shows, for the periods indicated, the principal components of the Bank's net interest income.

	Year Ended December 31,		
	2020	2021	% Change
	(in billions of Won, except percentages)		
Interest income:			
Cash and due from banks	₩ 65	₩ 35	(46.2)%
Securities at FVTPL	255	209	(18.0)
Loans at amortized cost	8,184	8,167	(0.2)
Loans at FVTPL	9	8	(11.1)
Securities at FVOCI	597	540	(9.5)
Securities at amortized cost	452	444	(1.8)
Other interest income	53	42	(20.8)
Total interest income	9,615	9,445	(1.8)%
Interest expense:			
Deposits	(2,752)	(2,095)	(23.9)%
Borrowings	(204)	(138)	(32.4)
Debt securities issued	(691)	(563)	(18.5)
Other interest expense	(41)	(38)	(7.3)
Total interest expense	₩(3,688)	₩(2,834)	(23.2)%
Net interest income	₩ 5,927	₩ 6,611	11.5%
Net interest margin(1)	1.59%	1.62%	

Note:

(1) The ratio of net interest income to average interest-earning assets. See "*Average Balance and Volume and Rate Analysis — Average Balance Sheet and Related Interest*."

Interest income. Interest income decreased by 1.8% to ₩9,445 billion in 2021 from ₩9,615 billion in 2020, due primarily to a 8.5% decrease in interest income on securities to ₩1,193 billion in 2021 from ₩1,304 billion in 2020, largely as a result of a decrease in the weighted average base interest rate from 0.71% in 2020 to 0.61% in 2021 resulting from decrease in base interest rate set by the Bank of Korea, notwithstanding an increase in the average balance of securities. The average lending rate on securities decreased to 1.39% in 2021 from 1.63% in 2020, principally due to a decrease in average lending rates for securities at amortized cost resulting from the lower average market interest rate for 2021 compared to 2020 as discussed above. The average balance of the securities increased by 7.9% to ₩86,111 billion in 2021 from ₩79,787 billion in 2020, principally due to an increase in the average balance of government bonds.

More specifically, the decrease in interest income was due to the following:

- a 9.5% decrease in interest on securities at FVOCI to ₩540 billion in 2021 from ₩597 billion in 2020, primarily due to a decrease in the average lending rate for securities at FVOCI to 1.28% in 2021 from 1.57% in 2020, notwithstanding a 11.0% increase in the average balance of securities at FVOCI to ₩42,150 billion in 2021 from ₩37,965 billion in 2020. Despite increases to the base interest rate by the Bank of Korea in August and November of 2021, the average lending rate for securities at FVOCI decreased primarily due to a decrease in the weighted average base interest rate resulting from decrease in base interest rate set by the Bank of Korea. The base interest rate set by the Bank of Korea greatly influences the market interest rate of financial instruments, which determines the interest rate of financial assets invested by Bank. The average balance of securities at FVOCI increased primarily as a result of an increase in the average balance of government bonds.

- a 18.0% decrease in interest on securities at FVTPL to ₩209 billion in 2021 from ₩255 billion in 2020, primarily due to a decrease in the average lending rate for securities at FVTPL 0.91% to in 2021 from 1.18% in 2020, notwithstanding a 6.6% increases to the average balance of securities at FVTPL to ₩23,045 billion in 2021 from ₩21,610 billion in 2020. Despite increases in the base interest rate by the Bank of Korea in August and November of 2021, the average lending rate for securities at FVTPL decreased primarily due to a decrease in the weighted average base interest rate resulting from decrease in base interest rate set by the Bank of Korea. The average balance of securities at FVTPL increased principally due to an increase in the average balance of CMA assets.

Interest expense. Interest expense decreased by 23.2% to ₩2,834 billion in 2021 from ₩3,688 billion in 2020 due primarily to a 23.9% decrease in interest expense on deposits to ₩2,095 billion in 2021 from ₩2,752 billion in 2020 and, to a lesser extent, a 18.5% decrease in interest expenses on debt securities issued to ₩563 billion in 2021 from ₩691 billion in 2020.

Interest expense on deposits decreased primarily due to a decrease in the average interest rate payable on deposits (the ratio of interest expense to average balance of deposits) by 29 basis points to 0.64% in 2021 from 0.93% in 2020, notwithstanding a 10.2% increase in the average balance of deposits to ₩327,604 billion in 2021 from ₩297,244 billion in 2020. The decrease in the average interest rate payable on deposits resulted mainly from a decrease in the average interest rate payable on time and savings deposits to 0.70% in 2021 from 1.03% in 2020, which was largely a result of lower average market interest rates for 2021 compared to 2020 as described above. The increase in the average balance of deposits was primarily due to a 5.58% increase in the average balance of time and savings deposits to ₩254,123 billion in 2021 from ₩240,693 billion in 2020, which was largely a result of Government and local government policies, such as funding support, designed to increase liquidity amidst the prolonged COVID-19 pandemic.

Interest expense on debt securities issued decreased primarily as a result of a decrease in the average interest rate payable on debt securities issued to 1.60% in 2021 from 1.96% in 2020. The decrease in the average interest rate payable on debt securities issued was primarily due to lower average market interest rates for 2021 compared to 2020 as described above.

Net interest margin. Net interest margin represents the ratio of net interest income to the average balance of interest-earning assets. The Bank's overall net interest margin increased by 3 basis points to 1.62% in 2021 from 1.59% in 2020, primarily due to an increase in the average volume of interest-earning assets, despite a decrease in the weighted average base interest rate from 0.71% in 2020 to 0.61% in 2021 resulting from decrease in base interest rate set by the Bank of Korea. Net interest spread, which represents the difference between the average rate of interest earned on interest-earning assets and the average rate of interest paid on interest-bearing liabilities, increased by 5 basis points to 1.59% in 2021 from 1.54% in 2020, as the 31 basis point decrease in the average rate of interest payable on interest-bearing liabilities to 0.73% in 2021 from 1.04% in 2020 outpaced the 25 basis point decrease in the average rate of interest receivable on interest-earning assets to 2.32% in 2021 from 2.57% in 2020. The decrease in the average rate of interest payable on interest-bearing liabilities outpaced the decrease in the average rate of interest receivable on interest-earning asset due to differences in average repricing frequency and relative maturity profiles of interest-earning assets and interest-bearing liabilities. The average volume of interest-earning assets increased by 9.0% to ₩407,196 billion in 2021 from ₩373,507 billion in 2020 largely as a result of an increase in the volume of retail and corporate loans. The average volume of interest-bearing liabilities increased by 9.2% to ₩388,997 billion in 2021 from ₩356,274 billion in 2020 largely as a result of Government and local government policies, such as funding support, designed to increase liquidity amidst the prolonged COVID-19 pandemic.

Fees and Commission Income (Expense), Net

The following table shows, for the periods indicated, the principal components of the Bank's net fees and commission income.

	Year Ended December 31,		
	2020	**2021**	**% Change**
	(in billions of Won, except percentages)		
Fees and commission income:			
Credit placement fees	₩ 83	₩ 63	(24.1)%
Commission received as electronic charge receipt	143	150	4.9
Brokerage fees	89	93	4.5
Commission received as agency	297	269	(9.4)
Investment banking fees	92	88	(4.3)
Commission received in foreign exchange activities	185	199	7.6
Asset management fees from trust accounts	167	184	10.2
Guarantee fees	81	87	7.4
Others	128	141	10.2
Total fees and commission income	₩1,265	₩1,274	0.7%
Fees and commission expense:			
Credit-related fees	₩ (45)	₩ (37)	(17.8)%
Brand-related fees	(42)	(42)	—
Service-related fees	(46)	(45)	(2.2)
Trading and brokerages fees	(8)	(8)	—
Commission paid in foreign exchange activities	(42)	(43)	2.4
Others	₩ (94)	₩ (121)	28.7
Total fees and commission expense	₩ (277)	₩ (296)	6.9
Net fees and commission income	₩ 988	₩ 978	(1.0)%

Net fees and commission income decreased by 1.0% to ₩978 billion in 2021 from ₩988 billion in 2020, primarily as a result of a 9.4% decrease in commission received as agency to ₩269 billion in 2021 from ₩297 billion in 2020 and a 28.7% increase in fees and commission expense on others to ₩121 billion in 2021 from ₩94 billion in 2020, which was partially offset by a 10.2% increase in asset management fees income to ₩184 billion in 2021 from ₩167 billion in 2020. Commission received as agency decreased largely due to a decrease in trust accounts amidst volatile market conditions and incidents such as those involving Lime Asset and Discovery Asset products. Fees and commission expense on others increased largely as a result of an increase in fees from indirect investment securities. Asset management fees income increased primarily due to an increase in both money market trusts and pension trusts.

Non-interest Income (Expense), Net

The following table sets forth for the periods indicated the components of the Bank's net non-interest income (expense).

	Year Ended December 31,		
	2020	2021	% Change
	(in billions of Won, except percentages)		
Dividend income	₩ 18	₩ 19	5.6%
Gain on financial instruments at FVTPL	168	334	98.8
Net foreign currencies transaction gain	391	201	(48.6)
Net gain on disposal of financial assets at FVOCI	208	67	(67.8)
Provision for credit loss allowance	(677)	(353)	(47.9)
General and administrative expenses	(3,203)	(3,361)	4.9
Other operating expenses, net	(907)	(910)	0.3
Net non-operating loss	(130)	(264)	103.1
Share of profit (loss) of associates	₩ (1)	₩ 25	N/M
Total net non-interest expense	₩(4,133)	₩(4,242)	2.6%

N/M = not meaningful.

Net non-interest expense increased by 2.6% to ₩4,242 billion in 2021 from ₩4,133 billion in 2020, due primarily to a 48.6% decrease in net foreign currency transaction gain, as well as a 4.9% increase in general and administrative expenses to ₩3,361 billion in 2021 from ₩3,203 billion in 2020, which was partially offset by a 47.9% decrease in provision for credit loss allowance to ₩353 billion in 2021 from ₩677 billion in 2020. Net foreign currency transaction gain decreased primarily due to increasing foreign exchange rate of the U.S. dollar against Won. The increase in general and administrative expenses was primarily due to an increase in expense for termination benefits. Provision for credit loss allowance remained relatively low in 2021 primarily due to a significant increase in provision for credit loss allowance in 2020 resulting from the Bank's proactive measures in responding to changes in the financial environment, such as the spread of COVID-19, by more accurately calculating the default rate forecast based on estimation of loss given default data utilizing updated forward-looking information and macroeconomic variables.

Provision for Credit Loss Allowance

The following table sets forth for the periods indicated the provision for credit loss allowance by type of financial asset.

	Year Ended December 31,		
	2020	2021	% Change
	(in billions of Won, except percentages)		
Loans:			
Retail	₩168	₩123	(26.8)%
Corporate	461	223	(51.6)
Others	15	—	(100.0)
Subtotal	644	346	(46.3)
Securities[1]	6	20	233.3
Others	27	(13)	N/M
Provision for credit loss allowance	₩677	₩353	(47.9)%

N/M = not meaningful.

Note:

(1) Consist of securities at FVOCI and securities at amortized cost.

Provision for credit loss allowance decreased by 47.9% to ₩353 billion in 2021 from ₩677 billion in 2020, primarily due to a 51.6% decrease in provision for credit loss allowance for corporate loans to ₩223 billion in 2021 from ₩461 billion in 2020, as well as reversal of provision for credit loss allowance for others came to ₩13 billion in 2021, compared to provision for credit loss allowance for others of ₩27 billion in 2020. Provision for credit loss allowance for corporate loans remained relatively low in 2021 primarily due to a significant increase in provision for credit loss allowance in 2020 mainly as the Bank re-estimated the probability of default reflecting forward-looking information and increased the number of borrowers subject to individual assessment of probability of default as part of the Bank's proactive measures in responding to changes in the financial environment, such as the spread of COVID-19, as well as a decrease in the proportion of unsecured corporate loans which are generally subject to higher loss given default rates compared to secured corporate loans. Provision for credit loss allowance for others decreased mainly due to a decrease in the aggregate amount of lines of unutilized credit resulting from a decrease in the volume of retail loans.

Income Tax Expense

Income tax expense increased by 21.0% to ₩853 billion in 2021 from ₩705 billion in 2020 primarily as a result of an increase in profit before income tax by 20.3% to ₩3,348 billion in 2021 from ₩2,783 billion in 2020.

Profit for the Period

As a result of the foregoing, the Bank's profit for the period increased by 20.1% to ₩2,495 billion in 2021 from ₩2,078 billion in 2020.

Other Comprehensive Income (Loss) for the Period

	Year Ended December 31,		
	2020	2021	% Change
	(in billions of Won, except percentages)		
Items that are or may be reclassified subsequently to profit or loss			
Foreign currency translation differences for foreign operations	₩(135)	₩ 208	N/M%
Unrealized net change in fair value of financial assets at FVOCI	(42)	(354)	742.9
Share of other comprehensive loss of associates	(3)	(3)	—
Items that will not be reclassified subsequently to profit or loss			
Remeasurement of defined benefit plans	15	34	126.7
Unrealized net change in fair value of financial assets at FVOCI	(2)	17	N/M
Share of other comprehensive income of associates	—	—	—
Total other comprehensive income (loss), net of income tax	₩(167)	₩ (98)	(41.3)%

N/M = not meaningful.

Other comprehensive loss decreased by 41.3% to ₩98 billion in 2021 from ₩167 billion in 2020 primarily due to net gain on foreign currency translation differences for foreign operations, which was ₩208 billion in 2021 compared to net loss on foreign currency translation differences of ₩135 billion in 2020, as well as an increase in net gain on remeasurement of defined benefit plans, which was partially offset by a decrease in unrealized net change in fair value of financial assets at FVOCI. The change in foreign currency translation differences for foreign operations in 2021 was primarily due to an increase in foreign currency exchange rates amid weaker valuation of the Won. Net gain on remeasurement of defined benefit plans increased by 126.7% to ₩34 billion in 2021 from ₩15 billion in 2020 primarily due to fluctuations in interest rates and stock prices. Net loss on unrealized net change in fair value of financial assets at FVOCI increased by 742.9% to ₩354 billion in 2021 from ₩42 billion in 2020 primarily due to an increase in actuarial loss resulting from changes in demographics and financial assumptions.

Business Segment

The principal business segments of the Bank are currently as follows:

- retail banking, which primarily focuses on making loans to or receiving deposits from individual customers (including high net-worth individuals and families) and, to a lesser extent, not-for-profit institutions such as hospitals, airports and schools;

- corporate banking, which primarily focuses on making loans to or receiving deposits from for-profit corporations, including small- and medium-sized enterprises, and providing investment banking services to corporate clients;

- international banking, which primarily focuses on management of overseas subsidiaries and branch operations and other international businesses; and

- other banking, which consists of treasury business (including internal asset and liability management and other non-deposit funding activities), securities investing and trading and derivatives trading, as well as administration of the overall banking operations.

The following table sets forth the operating income (expense) by segment for the years ended December 31, 2020, 2021 and 2022 and the six months ended June 30, 2022 and 2023.

	Year Ended December 31,			Six Months Ended June 30,		% Change		
	2020	2021	2022	2022	2023	2020/2021	2021/2022	1H 2022/ 1H 2023
	(in billions of Won, except percentages)							
Retail banking	₩ 665	₩1,056	₩ 2,662	₩ 979	₩1,129	58.8%	152.1%	15.3%
Corporate banking	1,990	2,402	3,177	1,465	1,625	20.7	32.3	10.9
International banking	427	534	679	335	556	25.1	27.2	66.0
Other banking services	(159)	(412)	(2,428)	(509)	(956)	159.1	489.3	87.8
Consolidation adjustment[1]	(9)	7	73	4	(65)	N/M	942.9	N/M
Total operating income	₩2,914	₩3,587	₩ 4,163	₩2,274	₩2,289	23.1%	16.1%	0.7%

N/M = not meaningful.

Note:

(1) Consolidation adjustment consists of adjustments for inter-segment transactions.

Retail Banking

The retail banking segment primarily consists of banking and other services provided by the Bank's retail banking branches to the branch customers, which principally consist of individuals and households. The retail banking products principally consist of mortgage and home equity loans and other retail loans, deposits and other savings products and fees earned from the sale of investment and bancassurance products.

The table below provides the income statement data for the retail banking segment for the years ended December 31, 2020, 2021 and 2022 and the six months ended June 30, 2022 and 2023.

	Year Ended December 31,			Six Months Ended June 30,		% Change		
	2020	2021	2022	2022	2023	2020/2021	2021/2022	1H 2022/ 1H 2023
	(in billions of Won, except percentages)							
Net interest income (expense)	₩ 2,319	₩ 2,673	₩ 4,574	₩ 1,908	₩ 2,177	15.3%	71.1%	14.1%
Net fees and commission income (expense)	413	382	340	175	173	(7.5)	(11.0)	(1.1)
Net other income (expense)	(2,067)	(1,999)	(2,252)	(1,104)	(1,221)	(3.3)	12.7	10.6
Operating income (expense)	₩ 665	₩ 1,056	₩ 2,662	₩ 979	₩ 1,129	58.8%	152.1%	15.3%

Comparison of Six Months Ended June 30, 2023 to Six Months Ended June 30, 2022

Operating income for retail banking increased by 15.3% to ₩1,129 billion for the six months ended June 30, 2023 from ₩979 billion for the six months ended June 30, 2022.

Net interest income for retail banking increased by 14.1% to ₩2,177 billion for the six months ended June 30, 2023 from ₩1,908 billion for the six months ended June 30, 2022 due to an increase in the Bank's net interest margin which was partially offset by a decrease in the average volume of retail loans to ₩140,930 billion for the six months ended June 30, 2023 from ₩144,977 billion for the six months ended June 30, 2022. The average lending rate of retail loans increased due to an increase in the base interest rate by the Bank of Korea during the years 2022 and 2023. The average volume of retail loans decreased due to a decrease in household credit loans (general fund lump-sum repayment loans) and collective loans.

Net fees and commission income decreased by 1.1% to ₩173 billion for the six months ended June 30, 2023 from ₩175 billion for the six months ended June 30, 2022, primarily due to an increase in the proportion of online banking transactions, for which the Bank generally charges lower fees and commissions.

Net other expense increased by 10.6% to ₩1,221 billion for the six months ended June 30, 2023 from ₩1,104 billion for the six months ended June 30, 2022 primarily due to additional expected losses for some borrowers in light of termination of financial support programs related to COVID-19 and domestic and foreign economic uncertainty.

Comparison of 2022 to 2021

Operating income for retail banking increased by 152.1% to ₩2,662 billion in 2022 from ₩1,056 billion in 2021.

Net interest income for retail banking increased by 71.1% to ₩4,574 billion in 2022 from ₩2,673 billion in 2021 due to an increase in the average volume of retail loans to ₩143,873 billion in 2022 from ₩138,500 billion in 2021 as well as an increase in the Bank's net interest margin. The average volume of retail loans increased largely due to an increase in home mortgage loans. The increase in the Bank's net interest margin was largely due an increase in the weighted average base interest rate to 2.03% in 2022 from 0.61% in 2021 resulting from increase in base interest rate set by the Bank of Korea.

Net fees and commission income decreased by 11.0% to ₩340 billion in 2022 from ₩382 billion in 2021 despite an increase in the overall volume of transactions, primarily due to an increase in the proportion of online banking transactions, for which the Bank generally charges lower fees and commissions.

Net other expense increased by 12.7% to ₩2,252 billion in 2022 from ₩1,999 billion in 2021 primarily due to a decrease in net income related to specified money trust of individual customers.

Comparison of 2021 to 2020

Operating income for retail banking increased by 58.8% to ₩1,056 billion in 2021 from ₩665 billion in 2020.

Net interest income for retail banking increased by 15.3% to ₩2,673 billion in 2021 from ₩2,319 billion in 2020 due to an increase in the average volume of retail loans to ₩138,500 billion in 2021 from ₩127,630 billion in 2020 as well as an increase in the Bank's net interest margin. The average volume of retail loans increased largely due to an increase in home mortgage loans. The increase in the Bank's net interest margin was largely due to the increase in average volume of interest-earning assets as described above outpacing the decrease in yield rate of interest-earning assets.

Net fees and commission income decreased by 7.5% to ₩382 billion in 2021 from ₩413 billion in 2020 despite an increase in the overall volume of transactions, primarily due to an increase in the proportion of online banking transactions, for which the Bank generally charges lower fees and commissions.

Net other expense decreased by 3.3% to ₩1,999 billion in 2021 from ₩2,067 billion in 2020.

Corporate Banking

The corporate banking segment primarily consists of banking and other services provided by the Bank's corporate banking branches to their corporate customers, most of which are small- and medium-sized enterprises and large corporations, including members of the *chaebol* groups, such as general lending and providing overdrafts and other credit facilities.

The table below provides the income statement data for the corporate banking segment for the years ended December 31, 2020, 2021 and 2022 and the six months ended June 30, 2022 and 2023.

	Year Ended December 31,			**Six Months Ended June 30,**		**% Change**		
	2020	**2021**	**2022**	**2022**	**2023**	**2020/2021**	**2021/2022**	**1H 2022/ 1H 2023**
	(in billions of Won, except percentages)							
Net interest income (expense)	₩2,295	₩2,515	₩3,421	₩1,524	₩1,737	9.6%	36.0%	14.0%
Net fees and commission income (expense)	477	493	471	245	226	3.4	(4.5)	(7.8)
Net other income (expense)	(782)	(606)	(715)	(304)	(338)	(22.5)	18.0	11.2
Operating income (expense)	₩1,990	₩2,402	₩3,177	₩1,465	₩1,625	20.7%	32.3%	10.9%

Comparison of Six Months Ended June 30, 2023 to Six Months Ended June 30, 2022

Operating income for corporate banking increased by 10.9% to ₩1,625 billion for the six months ended June 30, 2023 from ₩1,465 billion for the six months ended June 30, 2022.

Net interest income increased by 14.0% to ₩1,737 billion for the six months ended June 30, 2023 from ₩1,524 billion for the six months ended June 30, 2022, primarily due to a 6.1% increase in the average balance of corporate loans to ₩192,680 billion for the six months ended June 30, 2023 from ₩181,653 billion for the six months ended June 30, 2022, as well as an increase in the average lending rate for corporate loans to 4.96% for the six months ended June 30, 2023 from 2.96% for the six months ended June 30, 2022 as discussed above. The average volume of corporate loans increased largely as a result of an increase in corporate credit loans (working capital loans and loans for equipments).

Net fees and commission income decreased by 7.8% to ₩226 billion for the six months ended June 30, 2023 from ₩245 billion for the six months ended June 30, 2022 primarily due to a decrease in brokerage fees.

Net other expense increased by 11.2% to ₩338 billion for the six months ended June 30, 2023 from ₩304 billion for the six months ended June 30, 2022, primarily due to additional expected losses for some borrowers in light of termination of financial support programs related to COVID-19 and domestic and foreign economic uncertainty.

Comparison of 2022 to 2021

Operating income for corporate banking increased by 32.3% to ₩3,177 billion in 2022 from ₩2,402 billion in 2021.

Net interest income increased by 36.0% to ₩3,421 billion in 2022 from ₩2,515 billion in 2021, primarily due to a 12.4% increase in the average balance of corporate loans to ₩187,318 billion in 2022 from ₩166,696 billion in 2021, as well as an increase in the average lending rate for corporate loans to 3.50% in 2022 from 2.55% in 2021 as discussed above. The average volume of corporate loans increased largely as a result of the policies to support small- and medium-sized enterprises amidst the prolonged COVID-19 pandemic as discussed above.

Net fees and commission income decreased by 4.5% to ₩471 billion in 2022 from ₩493 billion in 2021 primarily due to a decrease in brokerage fees resulting from a decrease in fees on indirect investment securities.

Net other expense increased by 18.0% to ₩715 billion in 2022 from ₩606 billion in 2021, primarily due to a decrease in gains on sale and valuation of equity securities at fair value through profit or loss.

Comparison of 2021 to 2020

Operating income for corporate banking increased by 20.7% to ₩2,402 billion in 2021 from ₩1,990 billion in 2020.

Net interest income increased by 9.6% to ₩2,515 billion in 2021 from ₩2,295 billion in 2020, primarily due to a 10.8% increase in the average balance of corporate loans to ₩166,696 billion in 2021 from ₩150,399 billion in 2020, notwithstanding a decrease in the average lending rate for corporate loans to 2.55% in 2021 from 2.83% in 2020 as discussed above. The average volume of corporate loans increased largely as a result of policies to support small and medium sized enterprises amidst the prolonged COVID-19 pandemic as discussed above.

Net fees and commission income increased by 3.4% to ₩493 billion in 2021 from ₩477 billion in 2020 primarily due to an increase in brokerage fees.

Net other expense decreased by 22.5% to ₩606 billion in 2021 from ₩782 billion in 2020, primarily due to an increase in gains on sale and valuation of equity securities at fair value through profit or loss.

International Banking

The international banking segment primarily consists of the results of operations of the Bank's overseas subsidiaries and branches such as inter-segment lending and borrowing.

The table below provides the income statement data for the international banking segment for the years ended December 31, 2020, 2021 and 2022 and the six months ended June 30, 2022 and 2023.

	Year Ended December 31,			Six Months Ended June 30,		% Change		
	2020	**2021**	**2022**	**2022**	**2023**	**2020/2021**	**2021/2022**	**1H 2022/ 1H 2023**
	(in billions of Won, except percentages)							
Net interest income (expense)	₩ 773	₩ 865	₩1,063	₩ 491	₩553	11.9%	22.9%	12.6%
Net fees and commission income (expense)	99	103	120	57	64	4.0	16.5	12.3
Net other income (expense)	(445)	(434)	(504)	(213)	(61)	(2.5)	16.1	(71.4)
Operating income (expense)	₩ 427	₩ 534	₩ 679	₩ 335	₩556	25.1%	27.2%	66.0%

Comparison of Six Months Ended June 30, 2023 to Six Months Ended June 30, 2022

Operating income for international banking increased by 66.0% to ₩556 billion for the six months ended June 30, 2023 from ₩335 billion for the six months ended June 30, 2022.

Net interest income increased by 12.6% to ₩553 billion for the six months ended June 30, 2023 from ₩491 billion for the six months ended June 30, 2022 primarily due to an increase in interest rates in Vietnam and Indonesia.

Net fees and commission income increased by 12.3% to ₩64 billion for the six months ended June 30, 2023 from ₩57 billion for the six months ended June 30, 2022 primarily due to an increase in loan handling charges in Japan.

Net other expense decreased by 71.4% to ₩61 billion for the six months ended June 30, 2023 from ₩213 billion for the six months ended June 30, 2022 primarily due to a decrease in evaluation losses of bonds and equity securities held by overseas subsidiaries and branches.

Comparison of 2022 to 2021

Operating income for international banking increased by 27.2% to ₩679 billion in 2022 from ₩534 billion in 2021.

Net interest income increased by 22.9% to ₩1,063 billion in 2022 from ₩865 billion in 2021 primarily due to an increase in the average balance of loans extended by the Bank's overseas subsidiaries, especially in Japan and Vietnam and the strengthening of the Vietnamese Dong against the Korean Won.

Net fees and commission income increased by 16.5% to ₩120 billion in 2022 from ₩103 billion in 2021 primarily due to an increase in credit placement fees in Japan resulting from new corporate loans.

Net other expense increased by 16.1% to ₩504 billion in 2022 from ₩434 billion in 2021 primarily due to an increase in employee benefits expenses and rental fees resulting from opening new branches in Vietnam and the strengthening of the Vietnamese Dong against the Korean Won.

Comparison of 2021 to 2020

Operating income for international banking increased by 25.1% to ₩534 billion in 2021 from ₩427 billion in 2020.

Net interest income increased by 11.9% to ₩865 billion in 2021 from ₩773 billion in 2020 primarily due to an increase in the average balance of loans extended by the Bank's overseas subsidiaries, especially in China and Vietnam.

Net fees and commission income increased by 4.0% to ₩103 billion in 2021 from ₩99 billion in 2020 primarily due to an increase in credit placement fees in Japan.

Net other expense decreased by 2.5% to ₩434 billion in 2021 from ₩445 billion in 2020 primarily due to a decrease in employee benefits expenses resulting from the Bank's operations in Japan.

Other Banking Services

This segment primarily consists of the Bank's treasury business (including internal asset and liability management and other non-deposit funding activities), trading of, and investment in, debt securities and, to a lesser extent, equity securities for its own accounts, derivative trading activities, as well as managing back-office functions.

The table below provides the components of operating expense for the other banking services segment for the years ended December 31, 2020, 2021 and 2022 and the six months ended June 30, 2022 and 2023.

	Year Ended December 31,			**Six Months Ended June 30,**		**% Change**		
	2020	**2021**	**2022**	**2022**	**2023**	**2020/2021**	**2021/2022**	**1H 2022/ 1H 2023**
	(in billions of Won, except percentages)							
Net interest income (expense)	₩ 538	₩ 550	₩ (857)	₩ (35)	₩(345)	2.2%	N/M%	885.7%
Net fees and commission income (expense)	5	7	33	31	17	40.0	371.4	(45.2)
Net other income (expense)	(702)	(969)	(1,604)	(505)	(628)	38.0	65.5	24.4
Operating income (expense)	₩(159)	₩(412)	₩(2,428)	₩(509)	₩(956)	159.1%	489.3%	87.8%

N/M = not meaningful.

Comparison of Six Months Ended June 30, 2023 to Six Months Ended June 30, 2022

Operating expense for the other banking segment increased by 87.8% to ₩956 billion for the six months ended June 30, 2023 from ₩509 billion for the six months ended June 30, 2022.

Net interest expense came to ₩345 billion for the six months ended June 30, 2023, shifting from net interest income of ₩35 billion for the six months ended June 30, 2022, primarily due to an increase in interest expenses on borrowings and debt securities issued.

Net fees and commission income decreased by 45.2% to ₩17 billion for the six months ended June 30, 2023 from ₩31 billion for the six months ended June 30, 2022, primarily due to a decrease fees on trust accounts.

Net other expense increased by 24.4% to ₩628 billion for the six months ended June 30, 2023 from ₩505 billion for the six months ended June 30, 2022, primarily due to an increase in other expense including personnel expenses due to organizational restructuring.

Comparison of 2022 to 2021

Operating expense for the other banking segment increased by 489.3% to ₩2,428 billion in 2022 from ₩412 billion in 2021.

Net interest expense came to ₩857 billion in 2022, shifting from net interest income of ₩550 billion in 2021, primarily due to an increase in interest expenses on borrowings and debt securities issued.

Net fees and commission income increased by 371.4% to ₩33 billion in 2022 from ₩7 billion in 2021, primarily due to an increase in commission received as electronic charge receipt regarding the retirement pensions.

Net other expense increased by 65.5% to ₩1,604 billion in 2022 from ₩969 billion in 2021, primarily due to an increase in advertising expenses for the Bank's new mobile delivery application and New Sol.

Comparison of 2021 to 2020

Operating expense for the other banking segment increased by 159.1% to ₩412 billion in 2021 from ₩159 billion in 2020.

Net interest income increased by 2.2% to ₩550 billion in 2021 from ₩538 billion in 2020 primarily due to an increase in interest income on securities resulting from an increase in securities under management.

Net fees and commission income increased by 40.0% to ₩7 billion in 2021 from ₩5 billion in 2020, primarily due to an increase in trust management fees.

Net other expense increased by 38.0% to ₩969 billion in 2021 from ₩702 billion in 2020, primarily due to a decrease in net foreign currency transaction gain.

Financial Condition

Assets

The following tables set forth, as of the dates indicated, the principal components of the Bank's assets.

	As of December 31,			As of June 30,	% Change		
	2020	2021	2022	2023	December 31, 2020/ December 31, 2021	December 31, 2021/ December 31, 2022	December 31, 2022/ June 30, 2023
	(in billions of Won, except percentages)						
Cash and due from banks	₩ 27,576	₩ 22,780	₩ 22,570	₩ 30,455	(17.4)%	(0.9)%	34.9%
Securities at fair value through profit or loss	21,819	24,174	21,202	19,062	10.8	(12.3)	(10.1)
Derivative assets	4,576	3,001	4,904	3,813	(34.4)	63.4	(22.2)
Loans at amortized cost	297,905	325,933	344,299	341,390	9.4	5.6	(0.8)
Loans at fair value through profit or loss	844	894	973	780	5.9	8.8	(19.8)
Securities at fair value through other comprehensive income	39,360	48,301	48,771	48,021	22.7	1.0	(1.5)
Securities at amortized cost	20,178	21,325	28,380	30,059	5.7	33.1	5.9
Property and equipment	2,450	2,487	2,537	2,526	1.5	2.0	(0.4)
Intangible assets	540	543	636	1,086	0.6	17.1	70.8
Investment in associates	123	212	267	303	72.4	25.9	13.5
Investment properties	610	606	605	641	(0.7)	(0.2)	6.0
Defined benefit assets	8	109	530	451	1,262.5	386.2	(14.9)
Current tax assets	16	27	32	40	68.8	18.5	25.0
Deferred tax assets	248	253	438	180	2.0	73.1	(58.9)
Other assets	11,381	16,759	15,808	18,326	47.3	(5.7)	15.9
Non-current assets held for sale	41	31	29	31	(24.4)	(6.5)	6.9
Total assets	₩427,675	₩467,435	₩491,981	₩497,164	9.3%	5.3%	1.1%

Comparison of June 30, 2023 to December 31, 2022

The Bank's assets increased by 1.1% to ₩497,164 billion as of June 30, 2023 from ₩491,981 billion as of December 31, 2022, principally due to an increase in loans at amortized cost an increase in securities at amortized cost and an increase in derivatives assets.

The Bank's Cash and due from banks increased by 34.9% to ₩30,455 billion as of June 30, 2023 from ₩22,570 billion as of December 31, 2022, due primarily to an increase in reserve deposits with the Bank of Korea.

The Bank's loans at amortized cost decreased by 0.8% to ₩341,390 billion as of June 30, 2023 from ₩344,299 billion as of December 31, 2022, due primarily to a decrease in retail loans and interbank loans in foreign currencies, which was partially offset by an increase in corporate loans as explained above.

The Bank's securities at amortized cost increased by 5.9% to ₩30,059 billion as of June 30, 2023 from ₩28,380 billion as of December 31, 2022, due primarily to an increase in government bonds and monetary stabilization bonds.

For further information on the Bank's assets, see "Description of Assets and Liabilities."

Comparison of December 31, 2022 to December 31, 2021

The Bank's assets increased by 5.3% to ₩491,981 billion as of December 31, 2022 from ₩467,435 billion as of December 31, 2021, principally due to an increase in loans at amortized cost an increase in securities at amortized cost and an increase in derivatives assets.

The Bank's loans at amortized cost increased by 5.6% to ₩344,299 billion as of December 31, 2022 from ₩325,933 billion as of December 31, 2021, due primarily to an increase in corporate loans and, to a lesser extent an increase in retail loans as explained above.

The Bank's securities at amortized cost increased by 33.1% to ₩28,380 billion as of December 31, 2022 from ₩21,325 billion as of December 31, 2021, due primarily to an increase in government bonds and financial institution bonds.

The Bank's derivative assets increased by 63.4% to ₩4,904 billion as of December 31, 2022 from ₩3,001 billion as of December 31, 2021, due primarily to an increase in the balance of currency swaps, and to a lesser extent an increase in the balance of currency forwards.

For further information on the Bank's assets, see "*Description of Assets and Liabilities*."

Comparison of December 31, 2021 to December 31, 2020

The Bank's assets increased by 9.3% to ₩467,435 billion as of December 31, 2021 from ₩427,675 billion as of December 31, 2020, principally due to an increase in loans at amortized cost as well as, to a lesser extent, an increase in securities at fair value through other comprehensive income and other assets.

The Bank's loans at amortized cost increased by 9.4% to ₩325,933 billion as of December 31, 2021 from ₩297,905 billion as of December 31, 2020, due primarily to an increase in corporate loans and, to a lesser extent an increase in retail loans as explained above.

The Bank's securities at fair value through other comprehensive income increased by 22.7% to ₩48,301 billion as of December 31, 2021 from ₩39,360 billion as of December 31, 2020, due primarily to an increase in government bonds and monetary stabilization bonds.

The Bank's other assets increased by 47.3% to ₩16,759 billion as of December 31, 2021 from ₩11,381 billion as of December 31, 2020, due primarily to an increase in accounts receivables for spot exchange in foreign currency, and to a lesser extent an increase in accounts receivables on other derivatives.

For further information on the Bank's assets, see "*Description of Assets and Liabilities*."

Liabilities and Equity

The following tables set forth, as of the dates indicated, the principal components of the Bank's total liabilities.

	As of December 31,			As of June 30,	% Change		
	2020	2021	2022	2023	December 31, 2020/ December 31, 2021	December 31, 2021/ December 31, 2022	December 31, 2022/ June 30, 2023
	(in billions of Won, except percentages)						
Deposits	₩317,556	₩354,938	₩373,104	₩374,579	11.8%	5.1%	0.4%
Financial liabilities designated at fair value through profit or loss	—	—	47	244	—	N/M	419.1
Financial liabilities at fair value through profit or loss	540	584	425	404	8.1	(27.2)	(4.9)
Derivative liabilities	4,195	2,853	5,780	4,406	(32.0)	102.6	(23.8)
Borrowings	20,555	20,962	24,213	23,093	2.0	15.5	(4.6)
Debt securities issued	34,516	37,626	33,186	30,607	9.0	(11.8)	(7.8)
Defined benefit liabilities	—	—	7	7	—	N/M	—
Provisions	346	405	369	399	17.1	(8.9)	8.1
Current tax liabilities	255	312	479	242	22.4	53.5	(49.5)
Deferred tax liabilities	19	18	14	14	(5.3)	(22.2)	—
Other liabilities	22,028	20,502	23,190	31,057	(6.9)	13.1	33.9
Total liabilities	₩400,010	₩438,200	₩460,814	₩465,052	9.5%	5.2%	0.9%
Total equity	₩ 27,665	₩ 29,235	₩ 31,167	₩ 32,112	5.7%	6.6%	3.0%
Total liabilities and equity	₩427,675	₩467,435	₩491,981	₩497,164	9.3%	5.3%	1.1%

N/M = not meaningful.

Comparison of June 30, 2023 to December 31, 2022

The Bank's total liabilities increased by 0.9% to ₩465,052 billion as of June 30, 2023 from ₩460,814 billion as of December 31, 2022, primarily due to an increase in deposits and an increase in other liabilities.

The Bank's deposits increased by 0.4% to ₩374,579 billion as of June 30, 2023 from ₩373,104 billion as of December 31, 2022, primarily due to an increase in time and savings deposits and demand deposits.

The Bank's other liabilities increased by 33.9% to ₩31,057 billion as of June 30, 2023 from ₩23,190 billion as of December 31, 2022, primarily due to an increase in payable amounts related to swap transactions.

Total equity increased by 3.0% to ₩32,112 billion as of June 30, 2023 from ₩31,167 billion as of December 31, 2022, primarily due to an increase in retained earnings from profit for the period.

Comparison of December 31, 2022 to December 31, 2021

The Bank's total liabilities increased by 5.2% to ₩460,814 billion as of December 31, 2022 from ₩438,200 billion as of December 31, 2021, primarily due to an increase in deposits as well as, to a lesser extent, an increase in borrowings.

The Bank's deposits increased by 5.1% to ₩373,104 billion as of December 31, 2022 from ₩354,938 billion as of December 31, 2021, primarily due to an increase in time and savings deposits and demand deposits.

The Bank's borrowings increased by 15.5% to ₩24,213 billion as of December 31, 2022 from ₩20,962 billion as of December 31, 2021, primarily due to an increase in borrowings from banks denominated in foreign currencies, and to a lesser extent, an increase in on-lending borrowings (i.e. policy funding).

Total equity increased by 6.6% to ₩31,167 billion as of December 31, 2022 from ₩29,235 billion as of December 31, 2021, primarily due to an increase in retained earnings from profit for the year.

Comparison of December 31, 2021 to December 31, 2020

The Bank's total liabilities increased by 9.5% to ₩438,200 billion as of December 31, 2021 from ₩400,010 billion as of December 31, 2020, primarily due to an increase in deposits as well as, to a lesser extent, an increase in debt securities issued.

The Bank's deposits increased by 11.8% to ₩354,938 billion as of December 31, 2021 from ₩317,556 billion as of December 31, 2020, primarily due to an increase in time and savings deposits and demand deposits.

The Bank's debt securities issued increased by 9.0% to ₩37,626 billion as of December 31, 2021 from ₩34,516 billion as of December 31, 2020, primarily due to an increase in bonds denominated in Won, and to a lesser extent, an increase in bonds in foreign currency issued in the overseas market.

Total equity increased by 5.7% to ₩29,235 billion as of December 31, 2021 from ₩27,665 billion as of December 31, 2020, primarily due to an increase in retained earnings from profit for the year.

Liquidity and Capital Resources

The Bank is exposed to liquidity risk arising from the funding of its lending, trading and investment activities and in the management of trading positions. The goal of liquidity management is for the Bank to be able, even under adverse conditions, to meet all of its liability repayments on time and fund all investment opportunities. For an explanation of how the Bank manages its liquidity risk, see "*Risk Management — Market Risk Management — Market Risk Management for Non-trading Activities — Liquidity Risk Management*." In the Bank's opinion, the working capital is sufficient for its present requirements.

The following table sets forth the Bank's capital resources as of the dates indicated.

	As of December 31,			As of June 30,	
	2020	2021	2022	2023	2023
		(in billions of Won)			(in millions of U.S. dollars)
Deposits	₩317,556	₩354,938	₩373,104	₩374,578	US$285,327
Long-term debt	39,793	39,422	35,729	33,269	25,342
Call money	1,655	1,444	1,200	2,041	1,555
Borrowings from the Bank of Korea	5,208	5,150	4,999	4,198	3,197
Other short-term borrowings	8,415	12,574	15,474	14,192	10,811
Stockholders' equity(1)	9,913	9,913	10,415	10,514	8,009
Total	₩382,540	₩423,441	₩440,921	₩438,792	US$334,241

Note:

(1) Includes capital stock, share premium, and hybrid bonds issued.

Due to the Bank's history as a traditional commercial bank, its primary source of funding has historically been and continues to be customer deposits. Deposits amounted to ₩317,556 billion, ₩354,938 billion, ₩373,104 billion and ₩374,578 billion as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively, which represented 83.0%, 83.8%, 84.6% and 85.4%, respectively, of the Bank's total funding as of such dates. Historically, except in limited circumstances, largely due to the lack of alternative investment opportunities for individuals and households in Korea, especially in light of a low interest rate environment and volatile stock market conditions, a substantial portion of such customer deposits were rolled over upon maturity, and accordingly provided a stable source of funding for the Bank. However, in the face of attractive alternative investment opportunities such as during a bullish run of the stock market, customers may transfer a significant amount of bank deposits to alternative investment products in search of higher returns, which may result in temporary difficulties in finding sufficient funding on commercial terms favorable to the Bank.

While the Bank generally has not faced, and currently is not facing, liquidity difficulties in any material respect, if the Bank is unable to obtain the funding it needs on terms commercially acceptable to it for an extended period of time for reasons of Won devaluation or otherwise, the Bank may not be able to ensure its financial viability, meet regulatory requirements, implement its strategies or compete effectively.

As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, ₩6,816 billion, ₩7,610 billion, ₩7,308 billion and ₩7,095 billion, or 2.1%, 2.1%, 2.0% and 1.9%, respectively, of the Bank's total deposits in Won were deposits made by litigants in connection with legal proceedings in Korean courts. Court deposits carry interest rates which are generally lower than market rates.

In addition, the Bank obtains funding through borrowings and the issuances of debt and equity securities. The Bank's borrowings consist mainly of borrowings from financial institutions, the Government and Government-affiliated funds. Call money, which is available in both Won and foreign currencies, is obtained from the domestic call loan market, a short-term loan market for loans with maturities of less than one month. The Bank also receives from time to time capital contributions from Shinhan Financial Group. For example, in December 2008, the Bank received a capital contribution of ₩800 billion from Shinhan Financial Group to improve the Bank's capital adequacy amid concerns regarding the then-growing global credit crisis. The Bank has not received any capital contribution from Shinhan Financial Group since December 2008.

The Bank depends on long-term debt as a significant source of funding, principally in the form of corporate debt securities. Since 1999, the Bank has actively issued and continues to issue long-term debt securities with maturities of over one year in the Korean fixed-income market. The Bank has maintained the rating of AAA, the highest rating available, in the domestic fixed-income market since 1999. The Bank's interest rates on long-term debt securities are in general 20 to 30 basis points higher than the interest rates offered on its deposits. However, since long-term debt is not subject to premiums paid for deposit insurance and the Bank of Korea reserves, the funding costs on long-term debt securities are generally on par with the Bank's funding costs on deposits. In addition, the Bank may also issue long-term debt securities denominated in foreign currency in the overseas market. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the Bank's long-term debt (net of current portion) amounted to ₩39,793 billion, ₩39,422 billion, ₩35,729 billion and ₩33,269 billion, respectively, of which ₩9,885 billion, ₩10,303 billion, ₩14,367 billion and ₩14,258 billion, respectively, were denominated in foreign currencies, principally U.S. dollars.

Credit ratings affect the cost and other terms upon which the Bank is able to obtain funding. Domestic and international rating agencies regularly evaluate the Bank, and their ratings of the Bank's long-term debt are based on a number of factors, including the Bank's financial strength as well as conditions affecting the financial services industry generally.

Given the Bank's relatively high debt rating in the fixed-income market in Korea, the Bank believes that it will be able to obtain replacement funding through the issuance of long-term debt securities. However, there can be no assurance that the Bank will maintain its current credit ratings if, among other reasons, the global or Korean economy were to face another downturn, there are any changes in the Bank's corporate governance or the business of the Bank significantly deteriorates. The Bank's failure to maintain current credit ratings and outlooks could increase the cost of its funding, limit its access to capital markets and other borrowings, and require the Bank to post additional collateral in financial transactions, any of which could adversely affect its liquidity, net interest margins and profitability.

Secondary funding sources also include call money, borrowings from the Bank of Korea and other short- term borrowings, which amounted to ₩15,278 billion, ₩19,168 billion, ₩21,673 billion and ₩20,431 billion, as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively, each representing 4.0%, 4.5%, 4.9% and 4.7%, respectively, of the Bank's total funding as of such dates.

Contractual Obligations, Commitments and Guarantees

In its ordinary course of business, the Bank makes certain contractual cash obligations and commitments which extend for several years. As the Bank is able to obtain liquidity and funding through various sources as described in "— *Liquidity and Capital Resources*" above, the Bank does not believe that these contractual cash obligations and commitments will have a material effect on its liquidity or capital resources.

Contractual Cash Obligations

The following table sets forth the Bank's contractual cash obligations as of June 30, 2023.

	As of June 30, 2023 Payments Due by Period[1]						
	Less than 1 Month	1-3 Months	3-6 Months	6-12 Months	1-5 Years	More than 5 Years	Total
	(in billions of Won)						
Deposits	₩197,640	₩46,036	₩59,214	₩57,757	₩19,679	₩2,086	₩382,412
Borrowings	6,511	3,482	3,208	4,324	4,894	1,370	23,789
Debt securities issued	3,996	3,642	5,023	6,272	11,229	2,492	32,654
Lease liability	30	30	42	63	217	54	436
Total	₩208,177	₩53,190	₩67,487	₩68,416	₩36,019	₩6,002	₩439,291

Note:

(1) Reflects all estimated contractual interest payments due on the Bank's interest-bearing deposits, borrowings and debt securities issued, and the estimated contractual interest payments on borrowings and debt securities that are on a floating rate basis as of June 30, 2023 were computed as if the interest rate used on the last applicable date (for example, the interest payment date for such floating rate loans immediately preceding the determination date) were the interest rate applicable throughout the remainder of the term.

Commitments and Guarantees

In the normal course of the Bank's banking activities, the Bank makes various commitments and guarantees to meet the financing needs of its customers. Commitments and guarantees are usually in the form of, among others, commitments to extend credit, commercial letters of credit, standby letter of credit and performance guarantees. The contractual amount of these financial instruments represents the maximum possible loss amount if the counterparty draws down the commitment or the Bank should fulfill its obligation under the guarantee and the counterparty fails to perform under the contract. For further details, see "*Description of Assets and Liabilities — Credit-Related Commitments and Guarantees*" and Note 39 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 33 to the Bank's unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

The following table sets forth, on a consolidated basis, the Bank's commitments and guarantees as of June 30, 2023.

	As of June 30, 2023 Commitment Expiration by Period			
	Less than 1 Year	1-5 Years	More than 5 Years	Total
	(in billions of Won)			
Commitments to extend credit[(1)]	₩ 79,410	₩14,917	₩18,463	₩112,790
Commercial letters of credit[(2)]	3,317	110	—	3,427
Financial guarantees[(3)]	2,585	1,219	28	3,832
Performance guarantees[(4)]	4,678	4,167	17	8,862
Liquidity facilities to special purpose entities[(5)]	1,047	313	78	1,438
Acceptances[(6)]	576	4	—	580
Endorsed bills[(7)]	9,865	—	—	9,865
Others	2,231	286	2,256	4,773
Total	₩103,709	₩21,016	₩20,842	₩145,567

Notes:

(1) Commitments to extend credit represent unfunded portions of authorizations to extend credit in the form of loans. The commitments expire on fixed dates and a customer is required to comply with predetermined conditions to draw funds under the commitments. Commitments to extend credit, including credit lines, are in general subject to provisions that allow the Bank to withdraw such commitments in the event there are material adverse changes affecting an obligor.

(2) Commercial letters of credit are undertakings on behalf of customers authorizing third parties to draw drafts on the Bank up to a stipulated amount under specific terms and conditions. These are generally short-term and collateralized by the underlying shipments of goods to which they relate.

(3) Financial guarantees are contracts that require the Bank to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the terms of a debt instrument. Financial guarantee liabilities are recognized initially at their fair value, and the initial fair value is amortized over the life of the financial guarantee. The financial guarantee liability is subsequently carried at the higher of this amortized amount and the present value of any expected payment when a payment under the guarantee has become probable. Financial guarantees are included within other liabilities.

(4) Performance guarantees are issued to guarantee customers' tender bids on construction or similar projects or to guarantee completion of such projects in accordance with contractual terms. They are also issued to support a customer's obligation to supply products, commodities, maintenance or other services to third parties.

(5) Liquidity facilities to special purpose entities represent irrevocable commitments to provide contingent credit lines including commercial paper purchase agreements to special purpose entities for which the Bank serves as the administrator.

(6) Acceptances represent guarantees by the Bank to pay a bill of exchange drawn on a customer. The Bank expects most acceptances to be presented, but reimbursement by the customer is normally immediate.

(7) Endorsed bills represent notes transferred to third parties by the Bank. The Bank is obligated to fulfill the duty of payment if the person primarily liable does not honor the bill on the due date.

SHINHAN BANK

Introduction

The Bank is one of the leading commercial banks in Korea in terms of total assets, revenues, profitability and capital adequacy, among others. A flagship member of Shinhan Financial Group, one of the leading financial holding companies in Korea in terms of same metrics, the Bank provides a wide range of commercial and other banking services to retail and corporate customers primarily in Korea and, to a lesser extent, in select overseas markets. The Bank is one of the largest lenders in Korea to small- and medium-sized enterprises. As of June 30, 2023, the Bank had 722 domestic branches and 14 overseas branches as well as 10 subsidiaries, each in Japan, the People's Republic of China, Vietnam, the United States, Canada, Germany, Cambodia, Kazakhstan, Mexico and Indonesia.

Former Shinhan Bank was established in 1982 as the first privately funded commercial bank in Korea. Chohung Bank was established in 1897 and was the oldest financial institution in Korea. Former Shinhan Bank and Chohung Bank were merged in 2006 and the new bank was named "Shinhan Bank."

As of June 30, 2023, the total assets, net loans at amortized cost (after deducting allowance for loan losses) and deposits of the bank accounts of the Bank were ₩497,164 billion, ₩341,390 billion and ₩374,579 billion. As of December 31, 2022, the total assets, net loans at amortized cost (after deducting allowance for loan losses) and deposits of the bank accounts of the Bank were ₩491,981 billion, ₩344,299 billion and ₩373,104 billion. As of December 31, 2021, the total assets, net loans at amortized cost (after deducting allowance for loan losses) and deposits of the bank accounts of the Bank were ₩467,435 billion, ₩325,933 billion and ₩354,938 billion, respectively. As of December 31, 2020, the total assets, net loans at amortized cost (after deducting allowance for loan losses) and deposits of the bank accounts of the Bank were ₩427,675 billion, ₩297,905 billion and ₩317,556 billion, respectively. For 2020, 2021, 2022 and the first half of 2023, the Bank's profit for the period was ₩2,078 billion, ₩2,495 billion, ₩3,046 billion and ₩1,681 billion, respectively.

The Bank's registration number with the Companies Registry in Korea is 110111-0012809. The Bank has its headquarters at 20, Sejong-Daero 9-Gil, Jung-Gu, Seoul, Korea, 04513.

Financial Holding Company Structure

In September 2001, former Shinhan Bank formed a financial holding company, Shinhan Financial Group, pursuant to the Financial Holding Company Act of Korea. Former Shinhan Bank's shares were exchanged for those of Shinhan Financial Group. As part of this share exchange, former Shinhan Bank also transferred its holding in Shinhan Capital Co., Ltd. to Shinhan Financial Group. Under the new structure, effective July 1, 2002, former Shinhan Bank became a wholly owned subsidiary of Shinhan Financial Group. For more information on the financial holding company structure, see "*Shinhan Financial Group*."

Strategy

At the outset of the global financial crisis of 2008-2009, the Bank strengthened its business fundamentals and focused on competitive sustainability, primarily through enhanced risk management and programs designed to heighten customer retention. The Bank believes that these proactive steps have been instrumental to its ability to successfully withstand the short-term challenges created by the crisis. However, the Bank believes that a unique mix of challenges and opportunities has arisen in the aftermath of the crisis.

While the immediate ripple effects from the global financial crisis have somewhat subsided, the global economy, and in turn the Korean economy, continues to face an environment of uncertainty marked by generally low growth among businesses and continuing volatility in global financial markets. The Bank believes that this environment has engendered negative popular sentiment against major financial service providers in general, as evidenced by "Occupy Wall Street" and similar movements in major urban centers around the world and greater calls for regulatory scrutiny and restrictions in relation to financial activities. In addition, advances in mobile and other technologies are renewing challenges for financial service providers to continually re-examine their existing business models. Combined, these developments require that the Bank continue to seek opportunities to foster customer trust, enhance the Bank's social capital and quickly adapt to the constant changes in the Bank's business environment. Accordingly, as a general strategic objective, the Bank is striving to re-create itself to meet these challenges and capitalize on opportunities presented by the new business environment through selectively identifying new growth opportunities, strengthening risk management, efficient use of resources and encouraging more personalized interaction with its customers.

More specifically, the Bank believes that the global financial crisis has engendered a new business environment with the following defining features: (i) stricter financial regulations, (ii) less tolerance for risk in financial products, (iii) demand for reduced debt levels, (iv) greater market acceptability of a business model based on stable growth even if this would result in relatively low levels of return, (v) political demand for greater social responsibility and accountability of financial institutions, and (vi) widespread recognition of the growing importance of emerging markets, particularly in Asia, in the world economy.

In order to best position itself amid the uncertainties that have arisen in the aftermath of the global financial crisis and capture future opportunities, the Bank plans to continue to increase its valued growth through innovation, diversify its revenue streams, improve its asset quality and strengthen risk management measures, maximize synergy among the subsidiaries of the Shinhan Financial Group, lock in and enlarge its customer base and strengthen its foundation to compete globally.

More specifically, the Bank's strategic priorities include the following:

Increase valued growth through innovation. The Bank is continually focused on enhancing its valued growth, which is imbedded in the Bank's culture, which places top priority on fostering innovation and creativity in its products and services. The Bank believes that innovative products and services create value for its customers and enhances its brand value. The Bank believes that such values contribute to sustaining its long-term growth and securing a stable revenue base. One of the most innovative products introduced by the Bank included the "Gold Riche gold installment," which was the first product in Korea to allow customers to invest in gold at a lower transaction cost without physical transfer of gold. In addition, the Bank has been widely recognized for its innovative services. As recent examples, the Bank received the "Korean Innovation Frontier Award" for its new customer services and products from 2017 through 2019. In 2019, the Bank was also recognized for "Best Robo-Advisor Services" by the Asian Banker.

Diversify revenue streams through select new business opportunities. The Bank plans to selectively take advantage of new business opportunities created by regulatory changes and new industry trends. In particular, the Bank plans to (i) actively increase its market share in the retirement pension market in light of the aging population in Korea and the recent mandatory adoption of retirement pensions for Korean companies, (ii) strategically provide integrated global wealth management services to its existing and potential client base; (iii) leverage opportunities in investment banking by further integrating commercial banking and investment banking activities and (iv) bolster new business development capabilities in the "fintech", "green" and other growth industries.

Further improve asset quality and strengthen risk management measures. The Bank believes that ensuring strong asset quality through effective credit risk management is critical to maintaining stable growth and profitability and risk management will continue to be one of its key focus areas. One of the Bank's highest priorities is to improve asset quality and more effectively price its lending products to take into account inherent credit risk in its loan portfolio. To this end, the Bank plans to take maximum advantage of Shinhan Financial Group's further upgraded overall group-wide risk management system, including improvement in detection and preemption of potential problem loans and assessing and developing innovative contingency plans for global risk management. In addition, the Bank has upgraded its credit risk assessment model and data platform for its foreign branches to promote optimum growth and support the foreign branches' efforts to improve certain areas of their risk management capabilities.

Maximize synergy among subsidiaries of Shinhan Financial Group. The Bank intends to use the financial holding structure of Shinhan Financial Group to enhance its competitiveness by:

- becoming a one-stop financial services destination by offering a comprehensive range of products and services of the subsidiaries of Shinhan Financial Group to the Bank's customers;

- enabling the Bank to share customer information with other subsidiaries of Shinhan Financial Group, including Shinhan Card, the largest credit card provider in Korea, which is not otherwise permitted outside a financial holding company structure, thereby enhancing the Bank's cross-selling and risk management capabilities;

- enhancing its ability to reduce costs in areas such as back-office processing and procurement; and

- implementing overseas expansion plans and strengthening global sales and marketing capabilities in collaboration with other Shinhan Financial Group entities.

In order to support this strategy, the Bank is implementing specific initiatives including the enhancement of its group-wide integrated customer relationship management system to facilitate the sharing of customer information and the integration of various customer loyalty programs among the group of companies under Shinhan Financial Group.

Lock in and enlarge customer base. In anticipation of the likely increase in competition for customers in the Korean financial sector as a result of further economic recovery and potential further consolidation among major commercial banks in Korea, the Bank plans to take proactive measures to enhance loyalty among existing customers as well as to enlarge its high-quality, credit worthy customer base. In particular, the Bank plans to (i) instill a customer-oriented culture and standardize and improve customer management processes in all key areas of its operations, (ii) identify and target active retail customers through marketing and business strategies tailored to each customer segment, (iii) strengthen and diversify direct and indirect marketing channels to increase further interaction with customers, (iv) focus on high net worth customers by offering enhanced wealth management services, (v) offer a more diversified range of fund investment products and (vi) integrate and reinforce marketing efforts to bring in additional public and government entities as new customers.

Strengthen foundation to compete globally. To further strengthen its foundation to position itself as a leading global bank, the Bank plans to (i) build on its existing global networking relationships to establish profit centers overseas by designing ways to improve profitability and productivity, making further capital investments in overseas subsidiaries and maintaining its focus on organic growth while selectively pursuing acquisitions in markets where it is difficult to obtain local banking licenses through greenfield entry, (ii) improve competitive positioning in the core overseas target markets of the People's Republic of China, Vietnam and Indonesia, and further differentiate itself in other markets, such as the United States, Japan, India, Kazakhstan and Cambodia in which the Bank currently has a presence, and (iii) enhance support structure for global business capabilities through organizational restructuring, process improvements and recruitment of core talent.

Business Overview

The Bank's Principal Activities

The Bank takes deposits from its retail and corporate customers, which provide the Bank with funding necessary to offer a variety of banking services. The Bank provides comprehensive banking services, principally consisting of four business segments. In January 2019, the Bank reclassified the SOHO segment from retail banking to corporate banking in order to streamline its credit management process. The Bank's SOHO business, previously conducted under the retail banking segment, has been transferred to the corporate segment. The Bank had previously managed loans extended to SOHOs under our retail banking segment, but as a result of this change, loans extended to SOHOs are now managed together with other corporate loans as SOHOs, although operated by individuals or households, have separate corporate entities. For further details, see Note 5 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 4 to the Bank's unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

The following is a brief description of each business segment of the Bank:

- retail banking, which primarily focuses on making loans to or receiving deposits from individual customers (including high net-worth individuals and families) and, to a lesser extent, not-for-profit institutions such as hospitals, airports and schools;

- corporate banking, which primarily focuses on making loans to or receiving deposits from for-profit corporations, including small- and medium-sized enterprises, and providing investment banking services to corporate clients;

- international banking, which primarily focuses on management of overseas subsidiaries and branch operations and other international businesses; and

- other banking, which consists of treasury business (including internal asset and liability management and other non-deposit funding activities), securities investing and trading and derivatives trading, as well as administration of the overall banking operations.

The Bank's principal activities are not subject to any material seasonal trends. While the Bank has a number of overseas branches and subsidiaries, substantially all of its assets are located, and substantially all of its revenues are generated, in Korea.

Deposit-Taking Activities

The Bank offers many deposit products that target different customer segments with features tailored to each segment's financial and other profiles. The deposit products offered by the Bank consist principally of the following:

Demand deposits. Demand deposits do not accrue interest or accrue interest at a lower rate than time or savings deposits and allow the customer to deposit and withdraw funds at any time. If interest-bearing, demand deposits have interest accruing at a fixed or variable rate depending on the period and the amount of deposit. Demand deposits constituted 18.2%, 19.3%, 18.0% and 17.4% of the Bank's total deposits as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively. Demand deposits paid average interest of 0.33%, 0.33%, 0.47% and 0.45% in 2020, 2021, 2022 and the first half of 2023, respectively.

Time and savings deposits. Time deposits generally require the customer to maintain a deposit for a fixed term during which the deposit accrues interest at a fixed rate or a variable rate based on certain financial indexes, including the "cost of funds index", or COFIX. If the deposit is withdrawn prior to the end of the fixed term, the customer is paid a lower interest rate than that originally offered. The term typically ranges from one month to five years. Savings deposits allow customer to deposit and withdraw funds at any time and accrue interest at an adjustable interest rate, which is typically lower than the rate applicable to time or installment deposits. Time and savings deposits constituted 79.9%, 76.1%, 78.0% and 79.5% of the Bank's total deposits as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively, and paid average interest of 1.03%, 0.70%, 1.40% and 1.38% in 2020, 2021, 2022 and the first half of 2023, respectively.

Other deposits. Other deposits consist mainly of certificates of deposit. Certificates of deposit typically have maturities from 30 days to two years. Interest rates on certificates of deposit are determined based on the length of the deposit and prevailing market interest rates. Certificates of deposit are sold at a discount to their face value, reflecting the interest payable on the certificates of deposit. Certificates of deposit constituted 1.9%, 4.6%, 4.0% and 3.1% of the Bank's total deposits as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively, and paid average interest of 1.42%, 0.91%, 1.97% and 1.83% in 2020, 2021, 2022 and the first half of 2023, respectively.

The Bank also offers deposits which provide the customer with preferential rights to housing subscriptions under the Housing Law and Rules on Housing Supply (the "**Housing Law**") and eligibility for mortgage and home equity loans. As a result of an amendment to the Housing Law in June 2015, new subscriptions to housing subscription savings accounts, housing subscription time deposits accounts and housing subscription installment savings accounts became no longer available after September 1, 2015. Instead, general housing subscription savings accounts (which combine all of the functions of the aforementioned three accounts) presently remain available to all. The contribution period is from the subscription date to the date on which the account holder is selected as the purchaser of a house, and the required monthly contribution amount is from a minimum of ₩20,000 to a maximum of ₩500,000. The interests accrued on general housing subscription savings accounts are paid in lump sum upon termination of the account, and such interests shall be calculated at the interest rate determined and announced by the Ministry of Land, Infrastructure and Transport. Those who have a general housing subscription savings account and meet certain other criteria are granted a preferential subscription right for the purchase of a house. In the case of privately funded houses, the aggregate amount of contributions made to the account must be at least the applicable deposit threshold amount for the location and area of the relevant house (from ₩2 million up to ₩15 million). It is impossible to change the account holder name of a general housing subscription savings account except in the case of inheritance by the death of the original account holder. For information on the Bank's deposits in Won based on the principal types of deposit products the Bank offers, see "*Description of Assets and Liabilities — Funding — Deposits*."

The rate of interest payable on the Bank's deposit products may vary significantly, depending on average funding costs, the rate of return on its interest-earning assets, prevailing market interest rates among financial institutions and other major financial indicators.

The Bank also offers court deposit services for litigants in Korean courts, which involve providing effectively an escrow service for litigants involved in certain types of legal or other proceedings. Chohung Bank historically was a dominant provider of such services since 1958, and following the Bank's acquisition of Chohung Bank, the Bank continues to hold a dominant market share in these services. Such deposits typically carry interest rates lower than the market rates (by approximately 0.5% per annum) and amounted to ₩6,816 billion, ₩7,610 billion, ₩7,308 billion and ₩7,095 billion as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively.

The Monetary Policy Committee of the Bank of Korea imposes a reserve requirement on Won currency deposits at commercial banks at rates ranging from 0% to 7%, based generally on maturity and the type of deposit instrument. See "*Supervision and Regulation — Principal Regulations Applicable to Banks — Liquidity*."

The Depositor Protection Act provides for a deposit insurance system under which the Korea Deposit Insurance Corporation guarantees repayment of eligible bank deposits to depositors up to ₩50 million per depositor and ₩50 million per insured under the defined contribution retirement pension per bank. See "*Supervision and Regulation — Principal Regulations Applicable to Banks — Deposit Insurance System*."

Retail Banking Services

Overview

Retail banking services include mortgage and home equity lending and retail lending as well as demand, savings and fixed deposit-taking, checking account services, electronic banking and automatic teller machines ("**ATM**") services, bill paying services, payroll and check-cashing services, currency exchange and wire fund transfer. The Bank believes that providing modern and efficient retail banking services is important to maintaining its public profile and as a source of fee-based income. Accordingly, the Bank believes that its retail banking services and products will become increasingly important in the coming years as the domestic banking sector further develops and becomes more complex.

Retail banking has been and will continue to remain one of the Bank's core businesses. The Bank's strategy in retail banking is to provide prompt and comprehensive services to retail customers through increased automation and improved customer service, as well as a streamlined branch network focused on sales. The retail segment places an emphasis on targeting high net-worth individuals. The retail loans of the Bank before allowance for loan losses and deferred loan origination costs and fees amounted to ₩140,092 billion as of June 30, 2023.

Retail Lending Activities

The Bank offers various retail loan products, consisting principally of loans to individuals and households. The Bank's retail loans products target different segments of the population with features tailored to each segment's financial profile and other characteristics, including customer's occupation, age, loan purpose, collateral requirements and the duration of the customer's relationship with the Bank. Retail loans consist principally of the following:

Mortgage and home equity loans, which are mostly comprised of mortgage loans that are used to finance home purchases and are generally secured by the housing unit being purchased; and

Other retail loans, which are loans made to customers for any purpose other than mortgage and home equity loans and the terms of which vary based primarily upon the characteristics of the borrower and which are either unsecured or secured or guaranteed by deposits or by a third party. Other retail loans also include advance loans extended on an unsecured basis to retail borrowers the use of proceeds for which is restricted to financing of home purchases prior to the completion of the construction.

As of June 30, 2023, the Bank's mortgage and home equity loans and other retail loans accounted for 58.6% and 41.4% of the Bank's total retail loans, respectively.

For secured loans, the Bank's policy is to lend up to 40% to 100% of the appraisal value of the collateral, after taking into account the value of any lien or other security interest that has priority over its security interest (other than petty claims). For mortgage and home equity loans, the Bank's general policy is to lend up to 40% to 85% of the appraisal value of the collateral, but subject to the maximum loan-to-value ratio, debt-to-income ratio and debt service ratio requirements for mortgage loans implemented by the Government. The loan-to-value ratio of secured loans, including mortgage and home equity loans, is updated on a monthly basis using the most recent appraisal value of the collateral, and maximum loan-to-value ratios are further adjusted based on factors such as the location of the secured property, nature and purpose of the loans and level of competition in the market. Since January 11, 2019, maximum loan-to-value ratios are determined and may be adjusted in increments of 1% (as opposed to increments of 5%, which was the case prior to January 11, 2019), allowing the Bank to set more precise and tailored maximum loan-to-value ratios for its secured loans.

As of June 30, 2023, the loan-to-value ratio of mortgage and home equity loans of the Bank was 44.3%. As of June 30, 2023, substantially all of its mortgage and home equity loans were secured by residential property.

Under the Regulation on the Supervision of the Banking Business and the Detailed Regulation on the Supervision of the Banking Business, the Bank is subject to, when extending mortgage and home equity loans, the maximum loan-to-value ratio of 70% (irrespective of the location of the property, subject to certain exceptions) and the maximum debt-to-income ratio of 60% (only in respect of housing units located in the greater Seoul metropolitan area, subject to certain exceptions).

The regulations on mortgage and home equity loans are susceptible to the changes of housing market cycles and have been revised from time to time. From 2017 to 2022, the Government led by President Moon Jae-in announced and implemented a series of robust polices aimed at taming speculation and deterring the rise of housing prices. However, since the second half of 2022, the Government led by President Yoon Suk Yeol has announced and implemented a series of policies to ease the demand-side regulations in the real estate market in order to prevent housing prices from crashing due to the recent hike in interest rates. For example, the Government has released most areas from "speculative areas", "overheated speculative areas" and "adjustment targeted areas" (collectively, the "**regulated areas**") where tighter loan-to-value ratios and debt-to-income ratios are applicable to mortgage or home equity loans, with only Gangnam-Gu, Seocho-Gu, Songpa-Gu and Yongsan-Gu in the greater Seoul metropolitan area currently remaining as the regulated areas, removed the application of stricter loan-to-value ratio to new loans secured by high-price houses located in the regulated areas and allowed the extension of new loans secured by houses located in the regulated areas to households that already own one or more houses.

The Government also increased the loan-to-value ratio applicable to the regulated areas (i) up to 50% of the appraised value of the houses, except that such maximum loan-to-value ratio is 70% for low-income households that (1) have a combined (in case of married couple) annual income of no more than ₩90 million, (2) do not currently own any housing and (3) are using the loan to purchase low-price housing valued at ₩900 million or less (₩800 million or less in case of houses located in "adjustment targeted areas") and (ii) up to 80% of the appraised value of the houses, for new loans to a first-time home buyer with a maximum residential mortgage loan amount of ₩600 million or less. The regulations on the debt-to-income ratio remained largely unchanged, with the debt-to-income ratio applicable to houses being (i) 60% for those that are located in the greater Seoul metropolitan area but excluding the regulated areas, (ii) 50% for those that are located in "adjustment targeted areas" and (iii) 40% for those that are located in "speculative areas" or "overheated speculative areas". However, such debt-to-income ratios for houses located in regulated areas are adjusted to 60% for (i) low-income households that (1) have a combined (in case of married couple) annual income of no more than ₩90 million, (2) do not currently own any housing and (3) are using the loan to purchase low-price housing valued at ₩900 million or less (₩800 million or less in case of houses located in "adjustment targeted areas") and (ii) first-time homebuyers.

The FSC also introduced a debt service ratio and a modified debt-to-income ratio in order to modernize credit review methods and stabilize the management of household debt. The modified debt-to-income ratio, which has been implemented beginning January 31, 2018 reflects (i) both principal and interest payments on the applicable mortgage and home equity loan and existing mortgage and home equity loans and (ii) interest payments on other loans. Previously, debt-to-income ratio had only reflected (i) both principal and interest payments on the applicable mortgage and home equity loan and (ii) interest payments on existing mortgage and home equity loans. Debt service ratios reflect principal and interest payments on both the applicable loan and other loans and have been fully implemented since October 2018. The modified debt-to-income ratios are used as the primary reference index in the evaluation and approval process for mortgage and home equity loans, and debt service ratios are generally used as a supplementary reference index providing additional limits on mortgage and home equity loans. For example, debt service ratios applicable to the loan applicant with the total aggregate loan amount exceeding ₩100 million (including the applied but not yet extended loan amount) should not exceed 40% unless otherwise specified by the applicable regulations.

In addition, the supervising authorities in Korea from time to time issue administrative instructions to Korean banks, which have the effect of regulating the access of borrowers to housing loans and, as such, demand for real estate properties. For example, the FSS issued administrative instructions to financial institutions to (except in limited circumstances) verify the borrower's ability to repay based on proof of income prior to making a mortgage and home equity loan regardless of the type or value of the collateral or the location of the property, which has had the effect of practically barring the grant of any new mortgage and home equity loans to borrowers without verifiable income.

The Bank extends mortgage and home equity loans in compliance with the applicable regulations and administrative instructions by the relevant supervising authorities.

The following tables set forth a breakdown of the Bank's retail loans (before allowance for loan losses and deferred loan origination costs and fees).

	As of December 31,			As of June 30,
	2020	**2021**	**2022**	**2023**
	(in billions of Won, except percentages)			
Retail loans[(1)]				
Mortgage and home equity loans	₩72,449	₩79,120	₩81,029	₩82,106
Other retail loans	61,996	66,359	60,773	57,986
Percentage of retail loans to total gross loans	44.8%	44.4%	40.9%	40.7%

Note:

(1) Before allowance for loan losses.

The Bank's total mortgage and home equity loans amounted to ₩82,106 billion as of June 30, 2023, and as of such date, consisted of amortizing loans (whose principal is repaid by part of the installment payments) in the amount of ₩50,872 billion and non-amortizing loans in the amount of ₩31,234 billion. In addition, as of June 30, 2023, the Bank also provided lines of credit in the aggregate outstanding amount of ₩413 billion for non-amortizing loans.

Pricing

The interest rates payable on the Bank's retail loans are either periodically adjusted floating rates (based on a base rate determined for three-month, six-month or twelve-month periods derived using an internal transfer price system, which reflects the market cost of funding, as adjusted to account for expenses related to lending and the profit margin of the relevant loan products) or fixed rates that reflect the market cost of funding, as adjusted to account for expenses related to lending and the profit margin. Fixed rate loans are offered only on a limited basis and at a premium to floating rate loans. For unsecured loans, which the Bank provides on a floating or fixed rate basis, interest rates thereon reflect a margin based on, among other things, the borrower's credit score as determined during its loan approval process. For secured loans, the credit limit is based on the type of collateral, priority with respect to the collateral and the loan-to-value ratio. The Bank may adjust the pricing of these loans to reflect the borrower's current and/or expected future contribution to the Bank's profitability. The interest rate on the Bank's loan products may become adjusted at the time the loan is extended. If a loan is repaid within three years following the date of the loan, the borrower is required to pay an early repayment fee, which is typically 0.7% to 1.4%, depending on types of loans and applicable interest rates, of the outstanding principal amount of and accrued and unpaid interest on the loan, multiplied by a fraction the numerator of which is the number of the remaining days on the loan until maturity and the denominator of which is the number of days comprising the term of the loan or three years, whichever is greater.

As of June 30, 2023, the Bank's three-month, six-month and twelve-month base rates were 3.75%, 3.81% and 3.87%, respectively. As of June 30, 2023, the Bank's fixed rates for mortgage and home equity loans with a maturity of five years was 5.39%. The Bank's fixed rates for other retail loans with a maturity of one year ranged from 4.59% to 14.00%, depending on the credit scores of its customers.

As of June 30, 2023, 91.7% of the Bank's total retail loans were floating rate loans and 8.3% were fixed rate loans. As of the same date, 92.0% of the Bank's retail loans with maturity of more than one year were floating rate loans and 8.0% were fixed rate loans.

The interest rate charged to customers by the Bank is based, in part, on the "cost of funds index", or COFIX, which is published by the Korean Federation of Banks. COFIX is computed based on the weighted average interest of select funding products (including time deposits, housing and other installment savings deposits, repos, discounted bills and senior non-convertible financial debentures) of eight major Korean banks (comprised of the Bank, Kookmin Bank, Woori Bank, KEB Hana Bank, Nonghyup Bank, Industrial Bank of Korea, Citibank Korea Inc. and Standard Chartered Bank Korea Limited). Each bank then independently determines the interest rate applicable to its respective customers by adding a spread to the COFIX based on the difference between the COFIX and such bank's general funding costs, administration fees, the customer's credit score, the maturity of the loan and other customer-specific premiums and discounts based on the customer relationship with such bank. These interest rates are typically adjusted on a monthly basis. In January 2019, the FSC announced plans to reflect rates for short term deposits such as demand deposits when computing the "cost of funds index," or COFIX, which is expected to result in lower interest rates for household loans compared to the previous COFIX rate.

Private Banking

Historically, the Bank has focused on customers with high net worth. The Bank's retail banking services include providing private banking services to high net worth customers who seek personal advice in complex financial matters. The Bank's aim in private banking is to help enhance wealth accumulation by, and increase the financial sophistication of its high net-worth clients by offering them customized wealth management solutions and comprehensive financial services including asset portfolio and fund management, tax consulting, real estate management and family office services, among others. Since the end of 2011, in order to preemptively respond to evolving customer needs and promote asset growth by inducing greater synergy between commercial banking and investment advisory services offered by Shinhan Securities Co., Ltd., the Bank launched the private wealth management centers which combine certain branches of the Bank with those of Shinhan Securities Co., Ltd. located in the same area. The Bank's strength in private banking has been widely recognized by a number of significant industry awards in recent years, including the grand prize at the Premium Brand Index by Korean Standards Association, Chosun Ilbo and Ministry of Trade, Industry and Energy (awarded 15 consecutive years), the Korea Prestige Brand Award by the Korea Economic Daily (awarded seven consecutive years), the Star Brand Award by Maekyung Media Group (awarded six consecutive years) and National Brand Award by Chosun Ilbo (awarded five consecutive years) in 2022.

As of June 30, 2023, the Bank operated 25 private wealth management service centers nationwide, including 17 in Seoul, 3 in the Gyeonggi province and 5 in cities located in other regions in Korea. As of June 30, 2023, the Bank had approximately 19,958 private banking customers, who typically are required to have ₩500 million or more in deposits with the Bank to qualify for its private banking services.

Corporate Banking Services

Overview

The Bank provides corporate banking services to small- and medium-sized enterprises, including enterprises known as SOHO (standing for "small office, home office"), which are small enterprises operated by individuals or households, and, to a lesser extent, to large corporations, including corporations that are affiliated with *chaebol*s. The Bank also lends to government-controlled enterprises.

The following table set forth the balances and percentage of the Bank's total loans (before allowance for loan losses and deferred loan origination costs and fees) attributable to each category of its corporate lending business as of the dates indicated.

	As of December 31,						As of June 30,	
	2020		2021		2022		2023	
	(In billions of Won, except percentages)							
Small- and medium-sized enterprises loans[(1)]	₩108,016	36.0%	₩121,961	37.2%	₩131,304	37.9%	₩132,867	38.6%
Large corporate loans[(2)]	57,476	19.2%	60,520	18.4%	73,592	21.2%	70,889	20.7%
Total corporate loans	₩165,492	55.2%	₩182,481	55.6%	₩204,896	59.1%	₩203,756	59.3%

Notes:

(1) Represents the principal amount of loans extended to corporations meeting the definition of small- and medium-sized enterprises under the Basic Act on Small- and Medium-sized Enterprises and its Presidential Decree.

(2) Includes loans to public and other, and loans to banks.

Small- and Medium-sized Enterprises Banking

Under the Basic Act on Small- and Medium-sized Enterprises (the "**SME Basic Act**") and the related Presidential Decree, as amended and effective from November 15, 2022, in order to qualify as a small- and medium-sized enterprise, (i) the enterprise's total assets at the end of the immediately preceding fiscal year must be less than ₩500 billion, (ii) the enterprise must meet the standards prescribed by the Presidential Decree in relation to the average and total annual sales revenues applicable to the type of its main business, and (iii) the enterprise must meet the standards of management independence from ownership as prescribed by the Presidential Decree, including non-membership in a conglomerate as defined in the Monopoly Regulation and Fair Trade Act. An enterprise shall not qualify as a small- or medium-sized enterprise if it is incorporated into, or is deemed to be incorporated into a business group subject to disclosure under the Monopoly Regulation and Fair Trade Act. Non-profit enterprises that satisfy certain requirements prescribed in the SME Basic Act and its Presidential Decree may qualify as a small- and medium-sized enterprise. Furthermore, cooperatives and federations of cooperatives as prescribed by the Presidential Decree are deemed as small- and medium-sized enterprises, effective from April 15, 2014. As of June 30, 2023, the Bank made loans to 495,007 small- and medium-sized enterprises for an aggregate amount of ₩132,867 billion (before allowance for loan losses and deferred loan origination costs and fees).

The Bank, whose traditional focus has been on small- and medium-sized enterprises lending, believes that it is well-positioned to succeed in the small- and medium-sized enterprises market in light of its marketing capabilities (which the Bank believes have provided the Bank with significant customer loyalty) and its prudent risk management practices, including conservative credit rating systems for credit approval. To maintain or increase its market share of small- and medium-sized enterprises lending, the Bank:

- *has accumulated a market-leading expertise and familiarity as to customers and products*. The Bank believes that it has an in-depth understanding of the credit risks embedded in this market segment, allowing it to develop loan and other products specifically tailored to the needs of this market segment;

- *operates a relationship management system to provide customer services that are tailored to small- and medium-sized enterprises*. The Bank currently has relationship management teams in 193 banking branches, of which 63 are corporate banking branches and 130 are hybrid banking branches designed to serve both retail customers and, to a limited extent, corporate customers. These relationship management teams market products, and review and approve smaller loans with less credit risks; and

- *continues to focus on cross-selling loan products with other products*. For example, when the Bank lends to small- and medium-sized enterprises, it also explores opportunities to cross-sell retail loans or deposit products to the employees of these enterprises or to provide financial advisory services.

Large Corporate Banking

Large corporate customers consist primarily of member companies of *chaebol*s and financial institutions. Large corporate loans of the Bank amounted to ₩70,889 billion (before allowance for loan losses and deferred loan origination costs and fees) as of June 30, 2023. Large corporate customers tend to have better credit profiles than small- and medium-sized enterprises, and accordingly, the Bank has expanded its focus on these customers as part of its risk management policy.

The Bank aims to be a one-stop financial solution provider that also partners with its corporate clients in their corporate expansion and growth endeavours. To that end, the Bank provides a wide range of corporate banking services, including investment banking, real estate financing, overseas real estate project financing, large development project financing, infrastructure financing, structured financing, equity investments/venture investments, mergers and acquisitions consulting, securitization and derivatives services, including securities and derivative products and foreign exchange trading. The Bank, through its Hong Kong branch, also arranges financing for, and offers consulting services to, Korean companies expanding their business overseas, particularly in Asia.

Digital Corporate Banking

The Bank offers to corporate customers a web-based total cash management service known as "Shinhan Bizbank." Shinhan Bizbank supports substantially all types of banking transactions ranging from basic transaction history inquiries and fund transfers to opening letters of credit, trade finance, payment management, collection management, sales settlement service, acquisition settlement service, business-to-business settlement service, sweeping, pooling, ERP interface service, host-to-host banking solutions, SWIFT SCORE service and global cash and liquidity management service. In addition, the Bank provides customers with integrated and advanced access to its financial services through its "Inside Bank" program, which combines Internet banking, capital management services and enterprise resource planning to better serve corporate customers. The Inside Bank program also seeks to provide customized financial services to meet the comprehensive needs of target corporate customers ranging from conglomerates to small enterprises in various industries, with the goal of enhancing convenience to the Bank's corporate customers in accessing its financial services as well as assisting them to strategically manage their funds. In line with the Bank's efforts to facilitate non-face-to-face online transactions for corporate transactions, in 2018, the Bank upgraded its virtual account-based corporate fund management service, known as "Shinhan Damoa Service," making it available on mobile channels. In addition, the Bank has made the fund transfers via phone number service (allowing customers to make fund transfers without the recipients' account number), which was previously only available for personal banking customers, available for corporate banking customers as well. As part of the Bank's effort to lower settlement fees for small business owners, in May 2019, the Bank launched "ZeroPay Biz Shinhan," an account-based mobile payment service enabling vendors to easily receive payments from customers' accounts by scanning the vendor's QR code with a smartphone. In October 2020, the Bank upgraded the "Shinhan S Corporate Bank" platform to launch "Shinhan SOL Biz," a non-face-to-face application for corporate clients, with the goal of improving the platform so that the Bank can offer non-face-to-face channels to corporate clients that are as convenient and user-friendly as the Bank's online retail banking platforms. In August 2021, the Bank launched a non-face-to-face name verification for corporate banking customers via smartphone using Shinhan SOL Biz, enabling corporate customers to open new bank accounts without visiting a branch.

Corporate Lending Activities

The Bank's principal loan products for corporate customers are working capital loans and facilities loans. Working capital loans, which include discounted notes and trade financing, are generally loans used for general working capital purposes. Facilities loans are provided to finance the purchase of equipment and construction of manufacturing plants. As of June 30, 2023, working capital loans and facilities loans amounted to ₩73,777 billion and ₩86,283 billion, respectively, representing 45.6% and 53.3% of our total

Won-denominated corporate loans. Working capital loans generally have a maturity of one year, but may be extended on an annual basis for an aggregate term of three years in the case of unsecured loans and five or ten years in the case of secured loans. Facilities loans have a maximum maturity of 15 years, are typically repaid in semiannual installments per annum and may be entitled to a grace period not exceeding one-third of the loan term with respect to the first repayment; facilities loans with a term of three years or less may be paid in full at maturity.

Loans to corporations may be unsecured or secured by real estate, deposits or guaranty certificates. As of June 30, 2023, secured loans and guaranteed loans (including loans secured by guaranty certificates issued by credit guarantee insurance funds) accounted for 69.3% and 13.7%, respectively, of our Won-denominated loans to small- and medium-sized enterprises. As of June 30, 2023, 48.5% of the corporate loans were secured by real estate.

When evaluating whether to extend loans to corporate customers, the Bank reviews their creditworthiness, credit score, value of any collateral and/or third party guarantee. The value of collateral is computed using a formula that takes into account the appraised value of the collateral, any prior liens or other claims against the collateral and an adjustment factor based on a number of considerations including, with respect to property, the average value of any nearby property sold in a court-supervised auction during the previous year. The Bank revalues collateral when a secured loan is renewed or if a trigger event occurs with respect to the loan in question.

Pricing

The Bank determines the price for its corporate loan products based principally on their respective cost of funding and the expected loss rate based on the borrower's credit risk. As of June 30, 2023, 72.4% of the Bank's corporate loans with outstanding maturities of one year or more had variable interest rates as determined by the applicable market rates.

More specifically, interest rates on the Bank's corporate loans are generally determined as follows:

Interest rate = (The Bank's periodic market floating rate or reference rate) *plus* transaction cost *plus* credit spread *plus* risk premium *plus* or minus discretionary adjustment.

Depending on market conditions and the agreement with the borrower, the Bank may use either its periodic market floating rate or the reference rate as the base rate in determining the interest rate for the borrower. As of June 30, 2023, the Bank's periodic market floating rates (which are based on a base rate determined for a three-month, six-month, one-year, two-year, three-year or five-year period, as applicable, as derived using the Bank's market rate system) were 3.75% for three months, 3.81% for six months, 3.87% for one year, 4.00% for two years, 4.11% for three years and 4.18% for five years. As of the same date, the Bank's reference rate was 4.00%. The reference rate refers to the base lending rate used by the Bank and is determined annually by the Bank's Asset & Liability Management Committee based on, among others, the Bank's funding costs, cost efficiency ratio and discretionary margin.

Transaction cost reflects the standardized transaction cost assigned to each loan product and other miscellaneous costs, including contributions to the Credit Guarantee Fund, and education taxes. The Credit Guarantee Fund is a statutorily created entity that provides credit guarantees to loans made by commercial banks and is funded by mandatory contributions from commercial banks in the amount of approximately 0.22% of all loans (excluding certain loans such as facilities loans) made by them.

The credit spread is added to the periodic floating rate to reflect the expected loss based on the borrower's credit rating and the value of any collateral or payment guarantee. In addition, the Bank adds a risk premium which takes into account the potential of unexpected loss that may exceed the expected loss from the credit rating assigned to a particular borrower.

A discretionary adjustment rate is added or subtracted to reflect the borrower's current and/or future contribution to the Bank's profitability. If additional credit is provided by way of a guarantee, the adjustment rate is subtracted to reflect such change in the credit spread. In addition, depending on the price and other terms set by competing banks for similar borrowers, the Bank may reduce the interest rate to compete more effectively with other banks.

International Business

The Bank also engages in treasury and investment activities in international capital markets, principally including foreign currency-denominated securities trading, foreign exchange trading and services, trade-related financial services, international factoring services and foreign banking operations through its overseas branches and subsidiaries. The Bank aims to become a leading bank in Asia and expand its international business by focusing on further bolstering its overseas network, localizing its overseas operations and diversifying its product offerings, particularly in terms of asset management, in order to meet the various financing needs of its current and potential customers overseas. *See* "*Business — Distribution Network — Overseas Services Network*."

Other Banking Services

Overview

Other banking businesses carried on by the Bank include treasury business (including internal asset and liability management and other non-deposit funding activities), trading of, and investment in, debt securities and, to a lesser extent, equity securities for its own accounts, derivative trading activities, as well as managing back-office functions.

Treasury

The Bank's treasury division provides funds to all of the Bank's business operations and ensures the liquidity of its operation. To secure stable long-term funds, the Bank uses fixed and floating rate notes, debentures, structured financing and other advanced funding methods. As for overseas funding, the Bank closely monitors the feasibility of raising funds in currencies other than the U.S. dollar, such as the Yen and the Euro. In addition, the Bank makes call loans and borrows call money in the short-term money market. Call loans are short-term lending among banks and financial institutions in either Won or foreign currencies with a minimum transaction amount of ₩100 million and maturities of typically one day.

Securities Investment and Trading

The Bank invests in and trades securities for its own accounts in order to maintain adequate sources of liquidity and to generate interest income, dividend income and capital gains. The Bank's trading and investment portfolios consist primarily of Korean treasury securities and debt securities issued by Government agencies, local governments or certain government-invested enterprises, debt securities issued by financial institutions and equity securities listed on the KRX KOSPI Market and KRX KOSDAQ Market of the Korea Exchange. For a detailed description of the Bank's securities investment portfolio, see "*Description of Assets and Liabilities — Investment Portfolio*."

Derivatives Trading

The Bank provides to its customers, and to a limited extent trades for its proprietary accounts, a range of derivatives products, which include:

- interest rate swaps, options, and futures relating to interest rate risks;
- cross-currency swaps, largely for Won against U.S. dollars, Yen and Euros;
- equity and equity-linked options;
- foreign currency forwards, options and swaps;
- commodity forwards, swaps and options;
- credit derivatives; and
- KOSPI 200 indexed equity options.

The Bank's outstanding derivatives commitments in terms of notional amount were ₩217,006 billion, ₩241,415 billion, ₩239,620 billion and ₩272,641 billion, in 2020, 2021, 2022 and the first half of 2023, respectively. Such derivative operations generally focus on addressing the needs of the Bank's corporate clients to enter into derivatives contracts to hedge their risk exposure, and entering into back-to-back derivatives to hedge the Bank's risk exposure that results from such client contracts.

The Bank also enters into derivative contracts to hedge the interest rate and foreign currency risk exposures that arise from the Bank's own assets and liabilities. In addition, to a limited extent, the Bank engages in the proprietary trading of derivatives within its regulated open position limits. See "*Description of Assets and Liabilities — Derivatives*."

Trust Account Management Services

Overview

The Bank's trust account management services involve management of trust accounts, primarily in the form of money trusts. Trust account customers are typically individuals seeking higher rates of return than those offered by bank account deposits. Because deposit reserve requirements do not apply to deposits held in trust accounts as opposed to deposits held in bank accounts, and regulations governing trust accounts tend to be less strict, the Bank is generally able to offer higher rates of return on trust account products than on bank deposit products. However, in recent years, due to the ongoing low interest environment, the Bank has not been able to offer attractive rates of return on its trust account products.

Trust account products generally require higher minimum deposit amounts than those required by comparable bank account deposit products. Unlike bank deposit products, deposits in trust accounts are invested primarily in securities (consisting principally of debt securities and beneficiary certificate for real estate financing) and, to a lesser extent, in loans, as the relative shortage of funding sources require that trust accounts be invested in a higher percentage of liquid assets.

Under the Banking Act, the FSCMA and the Trust Act, assets in trust accounts are required to be segregated from other assets of the trustee bank and are unavailable to satisfy the claims of the depositors or other creditors of such bank. Accordingly, trust accounts that are not guaranteed as to principal (or as to both principal and interest) are accounted for and reported separately from the bank accounts. See "*Supervision and Regulation*." Trust accounts are regulated by the Trust Act and the FSCMA, and most national commercial banks offer similar trust account products. The Bank earns income from trust account management services, which is recorded as net trust management fees.

As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the Bank had total trust assets of ₩96,269 billion, ₩92,077 billion, ₩95,855 billion and ₩121,484 billion, respectively, comprised principally of securities investments of ₩21,427 billion, ₩22,438 billion, ₩22,316 billion and ₩21,379 billion, respectively; real property investments of ₩12,696 billion, ₩10,926 billion, ₩9,767 billion and ₩9,411 billion, respectively; and loans with an aggregate principal amount of ₩348 billion, ₩396 billion, ₩461 billion and ₩433 billion, respectively. Securities investments consisted of corporate bonds, government-related bonds and other securities, primarily commercial paper. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, debt securities accounted for 21.7%, 23.8%, 22.8% and 17.21%, respectively, and equity securities constituted 0.6%, 0.6%, 0.5% and 0.4%, respectively, of the Bank's total trust assets. Loans made by trust accounts are similar in type to those made by bank accounts, except that they are made only in Won. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, 72.2%, 76.0%, 83.4% and 83.5%, respectively, of the amount of loans from the trust accounts were collateralized or guaranteed. In making investment from funds received for each trust account, each trust product maintains investment guidelines applicable to each such product which set forth, among other things, company-, industry- and security-specific limitations.

Trust Products

In Korea, trust products typically take the form of money trusts, which are discretionary trusts over which (except in the case of a specified money trust) the trustees have investment discretion subject to applicable law and is commingled and managed jointly for each type of trust account. The specified money trusts are established on behalf of customers who give specific directions as to how their trust assets should be invested.

Money trusts managed by the Bank's trust account business amounted to ₩51,998 billion, ₩53,763 billion, ₩61,110 billion and ₩65,165 billion as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively.

The Bank offers variable rate trust products through its retail branch network. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the Bank's variable rate trust accounts amounted to ₩47,930 billion, ₩49,831 billion, ₩57,590 billion and ₩61,828 billion, respectively, of which principal guaranteed variable rate trust accounts amounted to ₩4,067 billion, ₩3,932 billion, ₩3,519 billion and ₩3,332 billion, respectively. Variable rate trust accounts offer their holders variable rates of return on the principal amount of the deposits in the trust accounts and do not offer a guaranteed return on the principal of deposits, except in the limited cases of principal guaranteed variable rate trust accounts, for which payment of the principal amount is guaranteed. The Bank charges a lump sum or a fixed percentage of the assets held in such trusts as a management fee, and, depending on the trust products, is also entitled to additional fees in the event of early termination of the trusts by the customer. Korean banks, including the Bank, are currently allowed to guarantee the principal of the following types of variable rate trust account products: (i) existing individual pension trusts, (ii) new individual pension trusts, (iii) existing retirement pension trusts, (iv) new retirement pension trusts, (v) pension trusts and (vi) employee retirement benefit trusts. The Bank also offers an insignificant amount of guaranteed fixed rate trust products (amounting to ₩1.0 billion, ₩1.0 billion, ₩1.0 billion and ₩1.0 billion as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively), which provide to its holders a guaranteed return of the principal as well as a guaranteed fixed rate of return. These products are carry-overs from past offerings, and the Bank no longer offers guaranteed fixed rate trust products.

Distribution Network

The Bank offers a wide range of financial services to retail and corporate customers through a variety of distribution networks and channels, including an extensive domestic branch network specializing in retail and corporate banking services, as complemented by self-service terminals and electronic banking (including mobile phone banking), as well as an overseas services network.

Branch Network in Korea

As of June 30, 2023, the Bank's branch network in Korea comprised of 722 service centers, consisting of 514 retail banking service centers (including 25 private wealth management service centers and 113 retail offices), 15 large corporate banking service centers, 63 corporate banking services centers and 130 hybrid banking branches. The following table presents the geographical distribution of the Bank's distribution network in Korea based on the branch offices and other distribution channels, as of June 30, 2023.

	Retail	Corporate	Total
Seoul metropolitan area	227	76	303
Gyeonggi province	99	55	154
Six major cities	100	36	136
Incheon	40	12	52
Busan	20	9	29
Gwangju	7	4	11
Daegu	15	4	19
Ulsan	8	3	11
Daejeon	10	4	14
Sub-total	426	167	593
Others	88	41	129
Total	514	208	722

The Bank's branch network is designed to provide one-stop banking services tailored to their respective target customers.

Retail Banking Channels

In Korea, many retail transactions are conducted in cash or with credit cards, and conventional checking accounts are generally not offered or used as widely as in other countries such as the United States. An extensive retail branch network has traditionally played an important role as the main platform for a wide range of banking transactions. However, a growing number of customers are turning to other service channels to meet their banking needs, such as Internet banking, mobile banking and other forms of non-face-to-face platforms. In response to such changes, the Bank has recently focused on reorganizing its retail branch network, including shifting, merger or closure of certain branches that are considered redundant.

Recently, one of the key initiatives at the Bank has been to target high net-worth individuals through private banking. The Bank's private banking services are provided principally through private banking relationship managers who, within target customer groups, assist clients in developing individual investment strategies. The Bank believes that its relationship managers help foster enduring relationships with the Bank's clients. Private banking customers also have access to the Bank's retail branch network and other general banking products the Bank offers through its retail banking operations.

Corporate Banking Channels

The Bank currently provides corporate banking services through corporate banking service centers primarily designed to serve large corporate customers and hybrid banking branches designed to serve retail as well as small-business corporate customers. Small- and medium-sized enterprises have traditionally been the Bank's core corporate customers and the Bank plans to continue to maintain its strength vis-à-vis these customers.

Self-Service Terminals

In order to complement the Bank's banking branch network, the Bank maintains an extensive network of automated banking machines, which are located in branches and in unmanned outlets. These automated banking machines consist of ATMs, cash dispensers and passbook printers. In December 2015, the Bank introduced digital kiosks, a new generation of automated self-service machines featuring biometric authentication technology and the ability to perform a wide range of services that were not available through traditional ATMs, such as opening new accounts, issuance of debit and check cards, foreign currency exchange and overseas remittance of foreign currency. As of June 30, 2023, the Bank had 4,686 ATMs, 6 cash dispensers and 274 digital kiosks. The Bank has actively promoted the use of these distribution outlets in order to provide convenient service to customers, as well as to maximize the marketing and sales functions at the branch level, reduce employee costs and improve profitability. In the first half of 2023, automated banking machine transactions accounted for a substantial portion of total deposit and withdrawal transactions of the Bank in terms of the number of transactions and fee revenue generated, respectively.

Digital Banking

The Bank's digital banking services are more comprehensive than those available at the counter, including services such as 24-hour account balance posting, real-time account transfer, overseas remittance, and loan requests. As of June 30, 2023, the Bank had 22,986,358 subscribers to its Internet banking services and 15,909,092 users of its smart banking apps, representing an increase of 3.4% and 4.5%, respectively, compared to December 31, 2022. The Bank continues to experience a rise in the number of online and mobile banking users. The Bank began offering online and mobile banking initially to save costs rather than to increase revenues, but it is exploring ways to increase revenues through online and mobile banking. These services offer customers more straightforward and convenient access to banking services without limitations of time and space and offer tailored and customized service to each customer. In February 2018, the Bank launched "SOL," a mobile banking application integrating the Bank's six previously existing mobile applications. The Bank began offering an open banking service in October 2019, allowing customers to access accounts, products, and services across multiple banks using only SOL. In November 2019, the Bank also launched "SOL Global," a mobile banking application for foreigners, allowing foreign customers to use open banking and other financial services. In 2020, the Bank expanded the network of financial institutions accessible through SOL's open banking service. It implemented upgrades that allowed users to customize the user interface to reflect personal asset management preferences. In addition, The Bank launched the "MoneyVerse" service in December 2021, which utilizes the financial MyData service and enables customers to transfer assets held in other institutions, such as banks, securities, insurance, pension, real estate, and automobiles, to Shinhan SOL. The service made it possible to conduct an integrated inquiry and management of assets. The Bank is promoting various efforts to transform SOL into a digital platform that goes beyond a financial service platform and becomes closely connected to customers' lives. In 2020 and 2021, the Bank launched the COVID-19 Government relief application service through SOL, allowing users to apply for Government emergency funds through the mobile application. In addition, in February 2020, the Bank launched a medical insurance claim service on SOL, allowing users to easily submit medical insurance claims by sending photos of supporting documents through the SOL mobile application. In line with the recent trends of "live commerce," in October 2020, the Bank launched "SOL Live," a live broadcast marketing stream channel for financial products. The Bank also promoted digital innovation at its existing offline branches in 2021. For example, customers are greeted by an AI concierge and they can choose to use smart kiosk that enables self-service banking and digital service including remote video consulting. By taking part in the Consumer Electronics Show 2021, the Bank was able to introduce its innovative branch services and digital service devices such as digital desks that offer AI-powered customer service assistance and live video chat with service representatives to the world. Additionally, in 2022, the Bank launched "New SOL", an upgraded version of SOL that offers enhanced the user experience and improved usability. New SOL has been transformed into a banking platform that is specifically designed based on customer feedback gathered during the application's planning phase. Due to improvements in software framework, the speed of the application has improved substantially, along with the user experience. Chatbots have also been upgraded, and they now have improved multi-tasking capabilities in addressing user requests and inquiries. The Bank intends to continue introducing a range of innovative technologies that will enhance customer experience and open up new business opportunities, such face recognition technology for user identity verification and voice banking services powered by artificial intelligence. The Bank will also continue to focus on security measures for privacy protection and financial crime detection. Also in 2022, the Bank launched a customer communication channel where customers are invited to submit their ideas on financial and banking services in general and also to post their feedback on its products and services.

Overseas Distribution Network

The table below sets forth the Bank's overseas banking subsidiaries and branches as of June 30, 2023.

Business Unit	Location	Year Established or Acquired
Subsidiaries[1]		
Shinhan Bank Europe GmbH[2]	Frankfurt, Germany	1994
Shinhan Bank America	New York, U.S.A.	1990
Shinhan Bank (China) Limited	Beijing, China	2008
Shinhan Bank (Cambodia) PLC	Phnom Penh, Cambodia	2007
Shinhan Bank Kazakhstan Limited	Almaty, Kazakhstan	2008
Shinhan Bank Canada	Toronto, Canada	2009
Shinhan Bank Japan[3]	Tokyo, Japan	2009
Shinhan Bank Vietnam, Ltd.[4]	Ho Chi Minh City, Vietnam	2011
Banco Shinhan de Mexico[5]	Mexico City, Mexico	2015
PT Bank Shinhan Indonesia[6]	Jakarta, Indonesia	2016
Branches		
New York	U.S.A.	1989
Singapore	Singapore	1990
London	United Kingdom	1991
Mumbai	India	1996
Hong Kong	China	2006
New Delhi	India	2006
Poonamallee	India	2010
Pune	India	2014
Manila	Philippines	2015
Dubai	United Arab Emirates	2015
Sydney	Australia	2016
Yangon	Myanmar	2016
Ahmedabad	India	2016
Ranga Reddy	India	2016
Representative Offices[7]		
Mexico	Mexico City, Mexico	2008
Uzbekistan	Tashkent, Uzbekistan	2009
Poland[2]	Wroclaw, Poland	2014
Hungary[8]	Budapest, Hungary	2021

Notes:

(1) Shinhan Bank's subsidiary in Hong Kong SAR, China, Shinhan Asia Ltd., was liquidated as of July 14, 2020

(2) Shinhan Bank Europe GmbH established a representative office in Poland in 2014.

(3) While the Bank established the subsidiary in Japan in 2009, the Bank has provided banking services in Japan through a branch structure since 1986.

(4) Prior to the establishment of this subsidiary in 2011, the Bank provided banking services in Vietnam through a branch since 1995.

(5) Banco Shinhan de Mexico commenced operations in March 2018.

(6) The Bank acquired a 98.01% stake in Bank Metro Express and a 100% stake in Centratama Nasional Bank, two banks in Indonesia, in November 2015 and December 2016, respectively. On March 3, 2016, Bank Metro Express obtained a license to conduct business activities in the name of PT Shinhan Bank Indonesia. Centratama Nasional Bank was merged with PT Bank Shinhan Indonesia on December 6, 2016.

(7) The Bank's representative office in Myanmar was closed as of June 8, 2018.

(8) The Bank's representative office in Hungary commenced operations on October 19, 2021.

Currently, the Bank's overseas subsidiaries and branches are primarily engaged in trade financing and local currency funding for Korean companies and Korean nationals in the overseas markets, as well as providing foreign exchange services in conjunction with the Bank's headquarters. On a limited basis, these overseas branches and subsidiaries also engage in investment and trading of securities of foreign issuers. In the future, as part of the Bank's globalization efforts, the Bank plans to expand its coverage of local customers in the overseas markets by providing a wider range of services in retail and corporate banking, and to that end, the Bank has increasingly established subsidiaries in lieu of branches in select markets and in 2011 merged two of its Vietnam banking subsidiaries in order to enhance its presence and enable greater flexibility in its service offerings in these markets. The Bank plans to maintain its focus on organic growth, while it may selectively pursue acquisitions in markets where it is difficult to obtain local banking licenses through greenfield entry. In furtherance of this objective, the Bank acquired a 98.01% stake in Bank Metro Express and a 100% stake in Centratama Nasional Bank, two banks in Indonesia, in November 2015 and December 2016, respectively. The Bank completed the merger of the two banks in December 2016. The Bank also opened additional branches in Australia, Myanmar and India in the second half of 2016. In April 2017, Shinhan Bank Vietnam Co., Ltd. acquired ANZ Bank (Vietnam) Limited's retail division. In 2017, the Bank became the first Korean Bank to obtain a license to set up a local subsidiary in Mexico, and started local business in Mexico in March 2018. The Bank plans to continue its efforts to expand its overseas banking service network and global operations.

Subsidiaries

As of June 30, 2023, the Bank had 10 consolidated subsidiaries, details of which are provided in the table below.

Subsidiary(1)	Location	Equity ownership	Business
		(In percentages)	
Shinhan Bank America	New York and California	100.0	General banking services, mostly for Korean customers living in the United States.
Shinhan Bank Canada	Toronto	100.0	General banking services, mostly for Korean customers living in Canada.
Shinhan Bank (China) Limited	Beijing	100.0	Financial services to both local and Korean communities and companies.
Shinhan Bank Europe Gmbh	Frankfurt	100.0	Overseas lending, mostly to Korean corporations and/or their affiliates.
Shinhan Bank Kazakhstan	Almaty	100.0	General banking services, mostly for Korean customers living in Kazakhstan.
Shinhan Bank Japan	Tokyo	100.0	General banking services, mostly for Korean customers living in Japan.
Shinhan Bank Vietnam	Ho Chi Minh City	100.0	General banking services, mostly for local individuals and for Korean customers (including corporations) in Vietnam.
Shinhan Bank (Cambodia)	Phnom Penh	97.5	General banking services, mostly for Korean companies in Cambodia.
Banco Shinhan de Mexico	Mexico City	99.9	General banking services.(2)
PT Bank Shinhan Indonesia(3)	Jakarta	99.0	General banking services, mostly for local individuals and for Korean customers (including corporations) in Indonesia.

Notes:

(1) The Bank also has 115 structured entities that are treated as consolidated subsidiaries under K-IFRS.

(2) Banco Shinhan de Mexico commenced operations in March 2018.

(3) The Bank acquired a 98.01% stake in Bank Metro Express and a 100% stake in Centratama Nasional Bank, two banks in Indonesia, in November 2015 and December 2016, respectively. On March 3, 2016, Bank Metro Express obtained a license to conduct business activities in the name of PT Shinhan Bank Indonesia. Centratama Nasional Bank was merged with PT Bank Shinhan Indonesia on December 6, 2016.

Competition

Competition in the Korean financial services industry is, and is likely to remain, intense, including as a result of the sustained low interest rate environment (which narrows opportunities to make profit based on the spread between lending rates and funding rates), the continuing sluggishness in the general economy, the growing maturation and saturation of the industry as a whole, the entry of new market participants and deregulation, among others.

The Bank competes principally with other national commercial banks in Korea, but also faces competition from a number of additional banking institutions, including branches and subsidiaries of foreign banks operating in Korea, regional banks, Internet-only banks, government-owned development banks and Korea's specialized banks, such as Korea Development Bank, the Industrial Bank of Korea and the National Federation of Fisheries Cooperatives, as well as various other types of financial service providers, including savings institutions (such as mutual savings and finance companies, credit unions and credit cooperatives), investment companies (such as securities brokerage firms, merchant banking corporations and asset management companies) and life insurance companies. As of June 30, 2023, Korea had six major nationwide domestic commercial banks (including Citibank Korea Inc. and Standard Chartered Bank Korea Limited, both of which are domestic commercial banks acquired by global financial institutions), six regional commercial banks, three Internet-only banks and thirty-five branches and subsidiaries of foreign banks. Foreign financial institutions, many of which have greater experiences and resources than the Bank does, may continue to enter the Korean market and compete with the Bank in providing financial products and services either by themselves or in partnership with existing Korean financial institutions.

In the small- and medium-sized enterprise and retail banking segments, which have been the Bank's traditional core businesses, competition is expected to increase further. In recent years, Korean banks, including the Bank, have increasingly focused on stable asset growth based on quality credit, such as corporate borrowers with high credit ratings, loans to SOHO with high levels of collateralization, and mortgage and home equity loans within the limits of the prescribed loan-to-value ratios and debt-to-income ratios. This common shift in focus toward stable growth based on less risky assets has intensified competition as banks compete for the same limited pool of quality credit by engaging in price competition or by other means although the Bank has traditionally focused, and will continue to focus, on enhancing profitability rather than increasing asset size or market share, and has avoided, to the extent practicable, engaging in price competition by way of lowering lending rates. In addition, such competition may result in lower net interest margin and reduced overall profitability, especially if the low interest rate environment were to continue for a significant period of time. The Bank's net interest margin (on a separate basis) increased to 1.85% in 2022 from 1.62% in 2021 due to, at least partly, increases in base interest rate by the Bank of Korea from 1.00% to 1.25% in January 2022, from 1.25% to 1.50% in April 2022, from 1.50% to 1.75% in May 2022, from 1.75% to 2.25% in July 2022, from 2.25% to 2.50% in August 2022, from 2.50% to 3.00% in October 2022 and from 3.00% to 3.25% in November 2022. The Bank of Korea further raised the base interest rate from 3.25% to 3.50% in January 2023, which may be further increased during 2023. Even if interest rates were to increase, the effect on the Bank's results of operations may not be as beneficial as expected, or at all, due to factors such as increased volatility of market interest rates and tighter regulations regarding SOHO loans, including the implementation of additional credit review guidelines for individual businesses. Further, if competing financial institutions seek to expand market share by lowering their lending rates, the Bank may suffer customer loss, especially among customers who select their lenders principally on the basis of lending rates. In response thereto or for other strategic reasons, the Bank may subsequently lower its lending rates to stay competitive, which could lead to a further decrease in its net interest margins and outweigh any potential positive impact on the net interest margin from a general rise in market interest rates. Any future decline in the Bank's customer base or its net interest margins could have an adverse effect on its results of operations and financial condition.

Consolidation among the Bank's rival institutions and the Government's privatization efforts may also add competition in the markets in which the Bank conducts business. A number of significant mergers and acquisitions in the industry have taken place in Korea recently. In January 2019, Woori Financial Group was established pursuant to a comprehensive stock transfer under the Korean Commercial Code whereby holders of the common stock of Woori Bank and certain of its subsidiaries transferred all of their shares to Woori Financial Group (the new financial holding company) and in return received shares of Woori Financial Group. As a result, Woori Bank and certain of its former wholly-owned subsidiaries became direct and wholly-owned subsidiaries of Woori Financial Group. The Korea Deposit Insurance Corp., which as of April 9, 2021 owned 17.25% of the outstanding common stock of Woori Financial Group, has sold 13.63% of the outstanding common stock of Woori Financial Group in multiple transactions in accordance with its plan that was approved by the FSC in June 2019. The Korea Deposit Insurance Corp. sold additional 2.33% of the outstanding common stock of Woori Financial Group in May 2022 and currently owns only 1.29% of the outstanding common stock of Woori Financial Group. In the asset management business sector, Woori Financial Group acquired two asset management companies, Tongyang Asset Management and ABL Global Asset Management (former Allianz Global Investors) in 2019. In August 2021, KB Financial Group completed the acquisition of Prudential Life Insurance, the former Korean unit of Prudential Financial Inc. Any of these developments may place the Bank at a competitive disadvantage and outweigh any potential benefit to the Bank in the form of opportunities to acquire new customers who are displeased with the level of services at the newly reorganized entities or to provide credit facilities to corporate customers who wish to maintain relationships with a wide range of banks in order to diversify their sources of funding. The Bank expects that such consolidation and other structural changes in the financial industry will continue. Other financial institutions may seek to acquire or merge with other entities, and the financial institutions resulting from such consolidation may, by virtue of their increased size and business scope, provide greater competition for the Bank. Increased competition and continuing consolidation may lead to decreased margins, resulting in a material adverse impact on the Bank's future profitability.

Regulatory reforms and the general modernization of business practices in Korea have also led to increased competition among financial institutions in Korea. In December 2017, the FSC introduced the "my account at a glance" system, which enables consumers to view their key financial account information online, including information on banks, insurances, mutual finance, loan and card issuances on one page. The "my account at a glance" system became available on mobile channels in February 2016 and expanded its scope of services to include savings banks and securities companies. Since their introduction, the integrated automatic payment transfer management service, integrated account management service and "my account at a glance" system have gained widespread acceptance. As the reform of the financial sector continues, competition may become more intense among existing banks, insurance companies, securities companies and other financial organizations, and may lead to significant changes in the current Korean financial market. Moreover, since January 1, 2020, in calculating loan to deposit ratio, retail loans and corporate loans are weighed differently, with retail loans subject to a multiple of 115% and corporate loans (excluding loans to SOHOs) subject to a multiple of 85%, thereby increasing the impact of retail loans and reducing the impact of corporate loans in calculating such ratio. This may further intensify competition for corporate loans and deposits among commercial banks and, as a result, the Bank may face difficulties in increasing or retaining its corporate loans and deposits, which in turn may result in an increase in its cost of funding.

Furthermore, as the Korean economy further develops and new business opportunities arise, more competitors may enter the financial services industry. For example, as online service providers and technology companies with large-scale user networks, such as Kakao Corp., NAVER and Samsung Electronics, recently make significant inroads in providing virtual payment services through a system based on a growing convergence of financial services and technology commonly referred to as "fintech," competition for online customers is growing not just among commercial banks, but also from online and mobile payment service providers. In 2015, the Government announced its plans to allow Internet-only banks to operate in Korea. KT consortium's K-Bank, Kakao consortium's Kakao Bank and Viva Republica consortium's Toss Bank commenced operations in April 2017, July 2017 and October 2021, respectively. Internet-only banks may have advantages over traditional banks as the former can pass savings in labor and overhead costs to their customers by offering higher interest rates on deposit accounts, lower loan costs and reduced service fees. Accordingly, commercial banks will likely face increasing pressure to upgrade their service platforms to attract and maintain online users, which represents a growing customer base compared to traditional customers who have primarily conducted banking in-person at physical banking branches.

As part of the Government's financial policies to promote innovative digital finance, 10 commercial banks, including the Bank, began offering a preliminary open banking service in October 2019. More local banks and fintech companies joined in December 2019, when the open banking service was fully and officially launched. Open banking service allows each fintech company and bank to provide banking services, such as checking balances and making withdrawals and transfers, with regards to customers' accounts at other banks. Using open banking service, customers can easily access accounts, products and services across multiple banks, instead of being limited to the accounts, products and services available at the particular bank that they deal with. In addition, on January 9, 2020, the Korean National Assembly passed amendments to three major data privacy laws (the Personal Information Protection Act, the Act on the Promotion of Information and Communications Network Utilization and Information Protection and the Act on the Use and Protection of Credit Information). These amendments introduced the MyData service, allowing and requiring (upon the customer's request and subject to compliance requirements) financial institutions that have been approved by the FSC as a MyData service provider access and sharing of customers' personal information, credit information and transaction data. On January 27, 2021, the Bank obtained a license from the FSC as a MyData service provider. On January 5, 2023, the Bank launched the MyData business and has been providing advanced wealth management and various financial services. Until October 13, 2021, the Financial Services Commission granted MyData licenses to 58 companies (46 companies receiving main licenses and 12 companies receiving preliminary licenses), 22 of which were fintech firms (19 companies receiving main licenses and three companies receiving preliminary licenses), and competition between traditional financial institutions like us and fintech firms is expected to intensify, particularly with respect to asset management services. On January 5, 2022, the API-based MyData service was fully implemented and 33 companies (including ten fintech firms) are providing services. As of June 30, 2023, the FSC had granted licenses to 66 companies to operate as MyData service providers, 24 of which were fintech or IT firms. If more fintech companies receive authorization as MyData service providers, we expect competition for customers among banks and fintech firms to intensify. In addition, the FSC also led discussions in July 2022 about the creation of a government-led platform where consumers can compare loan products from various financial institutions and apply for debt consolidation on a single platform.

Recently, following the global financial crisis, the Government has subjected Korean financial institutions to stricter regulatory requirements and guidelines in areas of asset quality, capital adequacy, liquidity and residential and other lending practices (including a requirement to maintain a certain ratio of core capital to total risk exposure, which was introduced in January 2018 in order to control excessive leverage), which has had a dampening effect on competition. The FSC implemented the capital requirements of Basel III, whose minimum requirements were phased in sequentially from December 1, 2013 through full implementation by January 1, 2015, based on the guidelines set forth in the amended Regulation on the Supervision of the Banking Business and the Detailed Regulation on the Supervision of the Banking Business. In addition, the FSC has implemented the Basel III requirements relating to liquidity coverage ratio and capital conservation buffer, each of which have been fully phased in as of January 1, 2019. As of January 1, 2016, the FSC implemented Basel III requirements relating to accumulation of additional capital for systemically important banks and bank holding companies and countercyclical capital buffer requirements. Each year, the FSC may designate banks with significant influence (based on size and connectivity with other financial institutions) on the domestic financial system as a domestic systemically important bank and require the accumulation of additional capital in accordance with the highest of: (i) ratio of common equity capital to risk-weighted assets, ranging from 0.0% to 2.0%, depending on the systematic importance evaluation score, (ii) if the bank's holding company is a domestic systemically important bank holding company, the capital ratio corresponding to the additional capital required for the bank holding company under the Financial Holding Company Supervision Regulations, or (iii) if the bank is also a global systemically important bank, as defined by the Basel Committee, the capital ratio as required by the Basel

Committee. According to the instructions of the FSC, domestic systemically important banks, including the Bank, have been required to maintain an additional capital buffer of 0.25% since January 1, 2016, with such buffer increased by 0.25% annually to reach 1.00% as of January 1, 2019. The FSC may also, upon quarterly review, determine and require banks to accumulate a required level of countercyclical capital buffer within the range of 0% to 2.5% of risk-weighted assets, taking into account factors such as the degree of increase in credit relative to the gross domestic product. In July 2021, Shinhan Financial Group, Hana Financial Group, KB Financial Group, NongHyup Financial Group and Woori Financial Group were designated by the FSC as domestic systemically important bank holding companies, and the Bank, KEB Hana Bank, Kookmin Bank, NongHyup Bank and Woori Bank were designated by the FSC as domestic systemically important banks. In addition, in July 2021, the FSC identified domestic systemically important bank holding companies and domestic systemically important banks as domestic systemically important financial institutions under the Act on the Structural Improvement of the Financial Industry. Domestic systemically important financial institutions are required to prepare and submit their own recovery plans to the FSS within three months from the date of notification of designation pursuant to the Act on the Structural Improvement of the Financial Industry. However, there is no assurance that these measures will have the effect of curbing competition or that the Government will not reverse or reduce such measures or introduce other deregulatory measures, which may further intensify competition in the Korean financial services industry.

If, despite its efforts to adapt to the changing macroeconomic environment and comply with new regulations, the Bank is unable to compete effectively in the changing business and regulatory environment, its profit margin and market share may erode and its future growth opportunities may become limited, which could adversely affect its business, financial condition and results of operations. See "*Risk Factors — Risks Relating to the Bank's Business — Competition in the Korean financial services industry is intense, and may further intensify" and "Supervision and Regulation*."

Information Technology

The Bank dedicates substantial resources to maintaining a sophisticated information technology system to support its operations management and provide high quality customer service. The Bank's information and technology system is operated by Shinhan Financial Group at a group-wide level based on comprehensive group-wide information collection and processing. Shinhan Financial Group also operates a single group-wide enterprise information technology system known as "enterprise data warehouse" for customer relations management capabilities, risk management systems and data processing. Shinhan Financial Group continually upgrades its group-wide information technology system in order to apply the best-in-class technology to its risk management systems and risk thresholds to reflect the changes in its business environment as well as enhance differentiation from its competitors.

In 2013, Shinhan Financial Group completed the construction of the Shinhan Data Center, which is responsible for comprehensive management of information technology systems for all subsidiaries on a group-wide basis. This center ensures a stable use of a central information processing facilities for at least 15 years and is designed to maximize operational and cost efficiency as well as enhance information security by combining the various data centers. The Bank relocated its information management capabilities to this center in 2014.

In order to enhance security and trustworthiness of the financial services provided by its subsidiaries, Shinhan Financial Group seeks to continually enhance a group-wide set of standards for information security and upgrading the related systems. In 2008, Shinhan Financial Group established group-wide information systems and policies, which have since been continually updated and upgraded. In 2017, Shinhan Financial Group further upgraded the group-wide information security control tower to a best-in-class level and replaced most of its internal information security staff with highly qualified outside experts in order to reinforce its security defense capabilities in the event of cyber breaches.

The Bank also continues to upgrade the information technology systems to enhance the quality of its customer service and thereby bolster its competitiveness, including with respect to electronic and mobile banking, online consultation, expanded sales services and customized informational services. In addition, the Bank has recently strengthened its indirect service channels through a major upgrade of its corporate online banking services and expansion of mobile phone-based product offerings and sales and service networks, such as the launch of the Bank's banking application SOL, in light of the growing base of customers who increasingly access financial services through their mobile phones. Furthermore, the Bank has expanded, and will continue to expand, information technology systems to support the sales and operational capabilities of its overseas subsidiaries and branches through a global customer management system as well as provide country-specific financial services.

The Bank's information technology system is currently backed up on a real-time basis. In 2014, Shinhan Financial Group converted the pre-existing data center to a back-up and disaster recovery center for all of its subsidiaries' operations, including the Bank's operations, in order to provide customer services in a continued seamless manner even in the case of an interruption at the Shinhan Data Center.

Properties

The Bank's registered office and corporate headquarters are located at 20 Sejong-Daero 9-Gil, Jung-Gu, Seoul, Korea 04513. Information regarding certain of the Bank's properties in Korea is presented in the following table.

		Area (in square meters)	
Type of Facility	**Location**	**Building**	**Site**
Registered office and corporate headquarters	20, Sejong-Daero 9-Gil, Jung-Gu, Seoul, Korea 04513	73,020	5,418
Shinhan Bank Gwanggyo Annex	54, Cheongyecheon-Ro, Jung—Gu, Seoul, Korea 04540	3,652	6,783
Shinhan Back Office Support Center	1311, Jungang-Ro, Ilsandong-Gu, Goyang-Si, Kyunggi Province, Korea 10401	24,841	5,856
Shinhan Bank Back Office and Call Center	251, Yeoksam-Ro, Gangnam-Gu, Seoul, Korea 06225	40,806	7,964
Shinhan Centennial Building	29, Namdaemun-Ro 10-Gil, Jung-Gu, Seoul, Korea 04540	19,697	1,389
Shinhan Bank Gwanggyo Branch	54, Cheongyecheon-Ro, Jung- Gu, Seoul 04540	16,762	6,783
Shinhan Myongdong Branch	43, Myongdong-Gil, Jung- Gu, Seoul, Korea 04534	8,937	1,017
Shinhan Youngdungpo Branch	27, Yeongjung-Ro, Yeongdeungpo-Gu, Seoul, Korea 07301	6,172	1,984
Shinhan Bank Back Office and Storage Center	3, Danjae-Ro 291beon-Gil, Sangdang-Gu, Cheongju-Si, Chungcheongbuk-Do, Korea 28784	6,398	5,377

The Bank's principal establishment is in Seoul, Korea and has a total floor area of approximately 73,020 square meters. The Bank owns, directly or indirectly, a majority interest in its headquarters building. In addition, the Bank owns or leases various sites and buildings for its branches. The Bank houses its central mainframe computer system at its information technology center in the Seoul metropolitan area.

As of June 30, 2023, the Bank had a countrywide network of 722 branches. Approximately 19.53% of these facilities were housed in buildings owned by the Bank, while the remaining branches were leased properties.

The net book value of all properties owned by the Bank as of June 30, 2023 was ₩2,293 billion. The Bank does not own any material properties outside of Korea.

Legal Proceedings and Other Matters

The Bank is involved in various legal actions and regulatory proceedings arising from the normal course of its business. As of June 30, 2023, the Bank was the defendant in pending lawsuits (including regulatory proceedings) in the aggregate claim amount of ₩127 billion, for which it recorded a provision of ₩2.9 billion. The Bank's management believes, based on currently available information, that these lawsuits and proceedings, in the aggregate, will not have a material adverse effect on its financial condition or results of operations.

In October 2018, the FSS requested the Bank to submit supporting documents in connection with allegations of inadequate compliance controls. In November 2018, the FSS notified the Bank of an institutional caution for alleged deficiencies in its customer due diligence and imposed an administrative fine of ₩100 million citing negligence in carrying out its customer verification obligations. In December 2019, the FSS notified the Bank of an institutional caution and imposed an administrative fine of ₩3 billion for alleged prohibited activities, including promotional activities for specified money trusts, investment solicitation for derivatives and management of trust properties. In February 2021, the FSS notified the Bank of an institutional warning and imposed an administrative fine of ₩2.1 billion for reasons including alleged violation of internal regulations and reporting procedures in connection with the Bank's designation as the primary bank for Seoul Metropolitan Government in 2018. In March 2021, the FSS notified the Bank of an institutional caution and imposed an administrative fine of ₩31.2 million for alleged violation of the safety standard in operating its information system in respect of the electronic financial transaction and alleged negligence in notifying its customers of the errors occurred to the electronic financial transaction and measures taken to correct the errors.

On September 17, 2018, the Prosecutors' Office of Korea (the "**Prosecutors' Office**") indicted Shinhan Financial Group's former chairman and chief executive officer, who had also been the Bank's former President, Chief Executive Officer and Executive Director from March 2015 through March 2017, for allegedly influencing the hiring process of new employees in an illegal manner while he occupied such position at the Bank. On June 30, 2022, he was acquitted by the Supreme Court of such allegations. The Bank believes that it has robust and fair internal procedures for hiring new employees. As part of the Bank's efforts to enhance fairness and transparency of its hiring practices, the Bank has adopted the model hiring procedures promulgated by the Korea Federation of Banks, and beginning in 2018 has established a hiring committee consisting of third-party human resources experts and internal compliance officers.

In August 2019, the FSS launched an investigation into Lime Asset Management Co., Ltd. ("**Lime Asset**"), Korea's then largest hedge fund managing approximately ₩4.1 trillion in assets as of December 30, 2019, including with regards to allegations that Lime Asset had concealed the fact that it had changed the multi-manager trade finance fund's investment method and concealed losses in their trade finance funds. Beginning in October 2019, Lime Asset suspended withdrawals from certain of its funds, freezing approximately ₩1.7 trillion in total as of the end of 2019, according to the FSS. According to FSS investigations, Lime Asset's ₩211 billion trade finance fund was found to have been associated with a debacle involving the International Investment Group LLC ("**IIG**"), a New York-based investment adviser charged with securities fraud and running a Ponzi scheme. On November 26, 2019, the SEC revoked the registration of IIG for allegedly overvaluing defaulted loans in the fund's portfolio to conceal losses in its flagship hedge fund and selling at least $60 million in fake loan assets to clients. According to the FSS, Lime Asset signed a contract with a Singaporean commodity trader, which took over Lime Asset's ownership stake in an IIG fund in June 2019, with the Singaporean entity issuing promissory notes to Lime Asset, and Lime Asset did not properly disclose to its investors such change in the fund's investment target from the IIG fund to promissory notes.

Certain investors in funds of Lime Asset have filed dispute mediation claims to the FSS and criminal and civil claims against Lime Asset, as well as against financial institutions that have sold such products, claiming they learned of the change in the trade finance fund's investment method and losses only in October 2019 and that they were also misguided and not fully informed of the risks associated with these funds when investing in such products. The FSS conducted a comprehensive audit in November and December 2019. In February 2020, the Prosecutors' Office of Korea announced that they had launched an investigation into Lime Asset as well as Shinhan Securities Co., Ltd. (formerly Shinhan Investment Corp.) and also searched the Bank's headquarters on July 1, 2020 in connection with this matter. On April 22, 2021, the sanctions committee of the FSS recommended a partial business suspension and fine of ₩8.7 billion on the Bank, a cautionary warning to the CEO of the Bank, an institutional caution and fine of ₩50 million on Shinhan Financial Group and a caution to the CEO of Shinhan Financial Group in connection with the Bank's alleged improper solicitation of troubled Lime Asset funds and management's oversight in risk management. On July 11, 2022, the partial business suspension and the fine of ₩5.7 billion on the Bank and a cautionary warning to the CEO of the Bank were confirmed. The fine on Shinhan Financial Group recommended by the sanctions committee will be deliberated at the Securities and Futures Commission of the FSS and will be confirmed if approved at a regular meeting of the FSC.

In June 2020, the Bank announced that its board of directors has resolved to make prepayments to investors in certain Lime Asset funds that have reached maturity in an amount equal to 50% of such investor's investment in the relevant product. On April 19, 2021, the Financial Dispute Mediation Committee of the FSS recommended that the Bank compensate investors in such Lime Asset funds in amounts ranging from 40% to 80% of the losses incurred by the investors by way of making prepayments, with adjustments to be made depending on particular facts, such as the nature of the investor (e.g., whether retail or institutional investor, the age and experience level of the investor, etc.) and adequacy of documentation. In 2022, in accordance with such compensation guideline recommended by the Financial Dispute Mediation Committee, the Bank completed its voluntary settlement process with substantially all of such investors in Lime Asset funds.

In June 2020, the FSS launched an investigation into Discovery Asset Management Co., Ltd. ("**Discovery Asset**"), which operated funds that invested in certain funds in the U.S. managed by Direct Lending Investment, LLC ("**DLI**"). In April 2019, the U.S. Securities and Exchange Commission obtained a preliminary injunction and order appointing a receiver to freeze DLI's funds based on the complaint that DLI fabricated values of its assets under management and reported returns. In response, Discovery Asset suspended withdrawals from funds under its management, thereby freezing approximately ₩256 billion in total of its investors' funds as of April 2019. While the Bank was not involved in sale of such DLI-related funds structured by Discovery Asset, the Bank did sell other Discovery Asset funds (affected by such suspension of withdrawal) to investors in Korea. Between 2017 and 2019, the Bank sold approximately ₩93.6 billion of such Discovery Asset products (unrelated to DLI funds), of which approximately ₩45.1 billion have been recovered from Discovery Asset. In 2022, the Bank completed its voluntary settlement process with substantially all of such investors in Discovery Asset funds.

The prepayments made or to be made by the Bank to investors of Lime Asset funds and Discovery Asset funds, respectively, have been or will be settled, as the case may be, at the time of recovery of the underlying funds. If the amount recovered on the underlying fund is less than the amount prepaid to investors, the Bank may not be able to recover from investors the amount of the prepaid amount that is in excess of the recovered amount and accordingly suffer losses. Depending on the performance of such underlying funds, the Bank may record provisions for credit loss allowance to account for expected future losses.

Depending on a variety of factors, including those outside the control of the Bank, such as the performance of the underlying funds and progression of discussions with investors, the Bank may record additional provisions for credit loss allowance to account for expected future losses from these or other financial products, and there is no guarantee that such amounts, if any, will not be significant. In response to increased incidents involving alleged improper sales of financial products such as those involving Lime Asset and Discovery Asset products, the Bank has taken additional measures to improve its risk management systems and internal controls to prevent similar incidents. The Bank has updated its internal controls and codes of conduct. For example, the Bank has upgraded its product review department (which was initially under the investment products and services branches) to an independent branch, thereby facilitating independent review and thorough assessment of the merits of financial products prior to such products being sold through sales channels. In addition, the Bank has modified the composition of key performance indicators used as a basis for personnel evaluations and promotions to move away from simply increasing the volume of sales, thereby further incentivizing employees to adhere to prudent sales practices and avoid speculative or high risk sales.

In June 2022, the Bank voluntarily reported to the FSS certain overseas wire transfers made in 2020 and 2021 which the Bank had detected as unusual based on its internal monitoring system. After similar activities were also reported by another major Korean bank, the FSS launched an investigation in August 2022 into wire transfers made under similar circumstances across all major banks in Korea, including the Bank. In an interim report released in September 2022, the FSS reported that approximately more than US$7.2 billion of suspicious overseas wire transfers were made through 12 banks, of which approximately US$2.36 billion had been wired through the Bank and that at least some of these transfers were allegedly related to cryptocurrency arbitrage transactions. The FSS and the Seoul Central District Prosecutor's Office are currently investigating these wire transfers and the parties involved, including in relation to any violation of certain monitoring and reporting obligations under the Foreign Exchange Transactions Act of Korea and the Act on Reporting and Use of Certain Financial Transaction Information of Korea. In December 2022, the FSS made a recommendation to improve the Bank's fraud detection system, including allocating sufficient staff and establishing a computer system dedicated to identifying digital asset-related transactions and assessing risks related to digital asset management. Such investigations are ongoing, and it is difficult to predict the results of these proceedings and the potential impact they may have on the Bank or the price of the Covered Bonds. Accordingly we cannot assure you that these proceedings and related events will not have an adverse effect on the Bank or the price of the Covered Bonds.

As of the date of this offering circular, the Bank's management believes that these proceedings will not have a material adverse effect on the Bank's financial condition, equity or results of operations. However, although the Bank plans to rigorously defend its positions in the lawsuits or other regulatory proceedings against the Bank, it is difficult to predict the final outcome of these proceedings and the potential impact these proceedings and related events may have on the Bank or the price of the Covered Bonds. The total amount in dispute may increase during the course of litigation, and other lawsuits may be brought against the Bank based on similar allegations. Accordingly, we cannot assure you that these proceedings and related events will not have an adverse effect on the Bank or the price of the Covered Bonds.

For further details of these and other litigation matters, see Note 39 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 33 to the Bank's unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

DESCRIPTION OF ASSETS AND LIABILITIES

Unless otherwise indicated, all information set forth below is presented on a consolidated basis. Unless otherwise indicated, the assets and liabilities of the trust accounts of the Bank are discussed under the heading "Trust Accounts."

Loan Portfolio

The Bank extends loans from both its bank and trust accounts. Guarantees are not categorized as loans unless and until the Bank has made a payment on behalf of a customer in relation to the guarantee.

The total exposure of the Bank to any single borrower and exposure to any single group of companies belonging to the same enterprise group as defined in the Monopoly Regulation and Fair Trade Act is limited by law to 20% and 25%, respectively, of the sum of Tier I and Tier II capital (less any capital deductions). The total exposure of Shinhan Financial Group and its subsidiaries, including the Bank, to any single borrower and exposure to any single group of companies belonging to the same enterprise group as defined in the Monopoly Regulation and Fair Trade Act is limited by law to 20% and 25%, respectively, of the Net Total Equity Capital (as defined under the Presidential Decree of the Financial Holding Companies Act).

The following table presents the Bank's loans by type as of the dates indicated. Except where specified otherwise, all loan amounts stated below are before allowance for loan losses and deferred loan origination costs and fees. Total loans reflect the Bank's loan portfolio, including past due amounts.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Domestic:				
Corporate[(1)]	₩141,505	₩157,588	₩176,066	₩176,109
Retail[l(2)]	125,863	135,261	130,446	128,034
Total domestic	267,368	292,849	306,512	304,143
Foreign:				
Corporate[(1)]	23,987	24,893	28,830	27,647
Retail[(2)]	8,582	10,218	11,356	12,058
Total foreign	32,569	35,111	40,186	39,705
Total loans[(3)]	₩299,937	₩327,960	₩346,698	₩343,848

Notes:

(1) Includes loans to public and other, and loans to banks.

(2) Includes credit card receivables.

(3) As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, 85.6%, 85.0%, 83.9% and 84.5%, of the Bank's total gross loans, respectively, were Won-denominated.

10 Largest Exposures by Individual Borrower

As of June 30, 2023, the Bank's 10 largest exposures, consisting of loans, securities and guarantees and acceptances, totaled ₩63,827 billion and accounted for 18.9% of its total exposure on a separate basis, respectively. The following tables set forth the Bank's total exposure to its top 10 borrowers, on a separate basis, as of the dates indicated.

As of June 30, 2023	Loans in Won	Loans in Foreign Currency	Securities	Guarantees and Acceptances	Total Exposure
			(in billions of Won)		
Ministry of Economy and Finance	₩ —	₩ —	₩ 35,436	₩ —	₩ 35,436
The Bank of Korea	450	—	6,432	—	6,882
Korea Housing Finance Corporation	—	—	5,272	—	5,272
Korea Development Bank	—	—	4,665	—	4,665
Industrial Bank of Korea	356	—	4,154	—	4,510
The Export-Import Bank of Korea	—	11	1,785	73	1,869
LG Display Co., Ltd	210	814	77	510	1,611
United States of America	—	—	1,464	—	1,464
Hotel Lotte	101	388	222	366	1,077
Samsung Heavy Industries	—	—	—	1,041	1,041
Total	₩ 1,117	₩ 1,213	₩ 59,507	₩ 1,990	₩ 63,827

Exposure to Main Debtor Groups

As of June 30, 2023, 8.1% of the Bank's total exposure was to the 10 main debtor groups as identified by the Governor of the FSS, which are largely comprised of *chaebol*s. The following table shows, as of the dates indicated, the Bank's total exposure to the 10 main debtor groups to which the Bank has the largest exposure.

As of June 30, 2023	Loans in Won	Loans in Foreign Currency	Securities	Guarantees and Acceptances	Others	Total Exposure
			(in billions of Won)			
Hyundai Motors	₩ 917	₩ 2,675	₩ 454	₩ 596	₩—	₩ 4,642
Samsung	138	1,437	440	1,887	—	3,902
SK	1,211	619	738	1,001	—	3,569
Lotte	686	919	1,022	809	1	3,437
LG	583	1,111	434	668	—	2,796
Hyundai Heavy Industries	235	146	127	2,170	—	2,678
Hanhwa	323	406	788	609	—	2,126
LS	249	873	135	783	—	2,040
Hyosung	203	655	4	220	—	1,082
KT	79	127	661	201	—	1,068
Total	₩ 4,624	₩ 8,968	₩ 4,803	₩ 8,944	₩ 1	₩ 27,340

Loan Concentration by Industry

The following table shows the aggregate balance of the Bank's corporate loans by industry concentration as of June 30, 2023.

Industry	As of June 30, 2023 Aggregate Loan Balance	As of June 30, 2023 Percentage of Total Corporate Loan Balance
	(in billions of Won, except percentages)	
Manufacturing	₩ 59,836	29.37%
Real estate leasing and service	43,344	21.27
Retail and wholesale	27,832	13.66
Finance and insurance	14,259	7.00
Construction	3,999	1.96
Hotel and leisure[1]	9,171	4.50
Other	45,315	22.24
Total	₩ 203,756	100.00%

Note:

(1) Consists principally of hotels, motels and restaurants.

Maturity Analysis

The following table sets out the scheduled maturities (presented in terms of time remaining until maturity) of the Bank's loan portfolio as of June 30, 2023. The amounts below are before allowance for loan losses and deferred loan origination costs and fees. In the case of installment payment loans, maturities have been adjusted to take into account the timing of installment payments.

	As of June 30, 2023				
	1 Year or Less	Over 1 Year but Not More Than 5 Years	Over 5 Year but Not More Than 15 Years	Over 15 Years[1]	Total
	(in billions of Won)				
Corporate	₩ 136,296	₩ 61,933	₩ 4,914	₩ 613	₩ 203,756
Retail	52,636	36,187	21,754	29,515	140,092
Total gross loans	₩ 188,932	₩ 98,120	₩ 26,668	₩ 30,128	₩ 343,848

Note:

(1) Includes overdue loans.

The Bank may roll over its corporate loans (primarily consisting of working capital loans and facilities loans) and retail loans (to the extent not payable in installments) after the Bank conducts its standard loan review in accordance with its loan review procedures. Working capital loans of the Bank may generally be extended on an annual basis for an aggregate term of up to five years. Facilities loans, which are generally secured, may generally be extended on an annual basis for a maximum of 15 years from the initial loan date. Retail loans may be extended for additional terms of up to 12 months for an aggregate term of 10 years from the initial loan date for both unsecured loans and secured loans other than mortgages and home equity loans which can be extended up to 30 years in aggregate.

Interest Rate Sensitivity

The following table presents a breakdown of the Bank's loans in terms of interest rate sensitivity as of June 30, 2023.

	As of June 30, 2023		
	Due Within 1 Year[1]	Due After 1 Year	Total
	(in billions of Won)		
Fixed rate loans[2]			
Corporate	₩ 60,303	₩ 18,631	₩ 78,934
Retail	4,689	6,958	11,647
Total Fixed rate loans	64,992	25,589	90,581
Variable rate loans[3]			
Corporate	75,993	48,829	124,822
Retail	47,947	80,498	128,445
Total Variable rate loans	123,940	129,327	253,267
Total gross loans	₩188,932	₩154,916	₩343,848

Notes:

(1) Includes overdue loans.

(2) Fixed rate loans are loans for which the interest rate is fixed for the entire term of the loan.

(3) Variable or adjustable rate loans are for which the interest rate is not fixed for the entire term of the loan.

For additional information regarding the Bank's management of interest rate risk for its loans, see "*Risk Management — Market Risk Management — Market Risk Exposure from Trading Activities*."

Nonaccrual Loans and Past Due Accruing Loans

Except in the case of repurchased loans, the Bank generally recognizes interest income on nonaccrual loans using the rate of interest used to discount the future cash flows of such loans for the purpose of measuring impairment loss. Generally, the Bank discontinues accruing of interest on loans (other than repurchased loans) when payment of interest and/or principal becomes past due by 90 days. Loans (other than repurchased loans) are not reclassified as accruing until interest and principal payments are brought current.

The Bank generally does not request borrowers to make immediate repayment of the whole outstanding principal balances and related accrued interest on loans whose interest payments are past due up to 14 days, 60 days, and 30 days in the case of commercial loans, mortgages and home equity loans and other retail loan, respectively.

Interest foregone is the interest due on nonaccrual loans that has not been accrued in the Bank's books of account. In 2020, 2021, 2022 and first half of 2023, the Bank would have recorded gross interest income of ₩38 billion, ₩35 billion, ₩51 billion and ₩34 billion, respectively, on loans accounted for on a nonaccrual basis throughout the respective years, or since origination for loans held for part of the year, had the loans been current with respect to their original contractual terms. The amount of interest income on those loans that was included in the Bank's profit for the year in 2020, 2021, 2022 and first half of 2023 were ₩21 billion, ₩19 billion, ₩29 billion and ₩13 billion, respectively.

The following table shows, at the dates indicated, the amount of loans that are placed on a nonaccrual basis and accruing loans which are past due one day or more. The term "accruing but past due one day" includes loans which are still accruing interest but on which principal or interest payments are contractually past due one day or more. The Bank continues to accrue interest on loans where the total amount of loan outstanding, including accrued interest, is fully secured by cash on deposits.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Loans accounted for on a nonaccrual basis[(1)]				
Domestic:				
Corporate	₩ 673	₩ 535	₩ 532	₩ 670
Retail	368	334	382	435
Foreign:				
Corporate	117	155	136	140
Retail	32	48	41	50
Sub-total	1,190	1,072	1,091	1,295
Accruing loans which are contractually past due one day or more as to principal or interest				
Domestic:				
Corporate	146	101	229	252
Retail	346	300	357	414
Foreign:				
Corporate	50	51	34	124
Retail	55	47	61	86
Sub-total	597	499	681	876
Total	₩1,787	₩ 1,571	₩ 1,772	₩ 2,171
Ratio of allowance for credit losses to nonaccrual loans	40.1%	40.1%	41.1%	37.0%

Note:

(1) "Troubled debt restructurings" as defined under K-IFRS and loans for which payment of interest and/or principal became past due by 90 days or more (adjusting for any overlap due to loans that satisfy both prongs so as to avoid double counting)) may be included in loans accounted for on a nonaccrual basis.

Troubled Debt Restructurings

See "— *Credit Exposures to Companies in Workout and Recovery Proceedings*."

The following table presents, at the dates indicated, the Bank's loans which are "troubled debt restructurings." These loans mainly consist of corporate loans that have been restructured through the process of workout and recovery proceedings. See "— *Credit Exposures to Companies in Workout and Recovery Proceedings*." These loans accrue interest at rates lower than the original contractual terms, or involve the extension of the original contractual maturity as a result of a variation of terms upon restructuring.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Loans classified as "troubled debt restructurings" (excluding nonaccrual and past due loans)	₩ 90	₩ 88	₩ 28	₩ 28
Loans classified as "troubled debt restructurings" (including nonaccrual and past due loans)	₩275	₩229	₩137	₩148

The following table presents, for the periods indicated and with respect to the restructured loans, the amounts that would have been recorded as the Bank's interest income under the original contract terms of the restructured loans, and the amounts that were actually recorded as the Bank's interest income for such loans under the restructured contractual terms of such loans.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Interest income under the original contractual terms of the restructured loans(1)	₩13	₩10	₩7	₩5
Interest income under the restructured contractual terms of the restructured loans	₩ 3	₩ 2	₩2	₩1

Note:

(1) Includes nonaccrual and past due loans.

The following table presents a breakdown of the outstanding balance and specific allowance for loan losses as of the dates indicated, of corporate loans classified as "troubled debt restructurings" (including nonaccrual and past due loans) by the type of restructuring to which such loans are subject.

	As of December 31,						As of June 30,	
	2020		2021		2022		2023	
	Outstanding balance	Allowance	Outstanding balance	Allowance	Outstanding balance	Allowance	Outstanding balance	Allowance
	(in billions of Won)							
Corporate loans classified as "troubled debt restructurings"[(1)]:								
Workout	₩ 190	₩ 86	₩ 160	₩ 54	₩ 65	₩ 32	₩ 59	₩ 28
Recovery Proceedings	85	22	69	20	72	18	90	27
Total	₩ 275	₩ 108	₩ 229	₩ 74	₩ 137	₩ 50	₩ 149	₩ 55

Note:

(1) Includes nonaccrual and past due loans.

The following table presents the outstanding balance and specific allowance for loan losses as of the dates indicated of retail loans (including nonaccrual and past due loans) subject to workouts under the "pre-workout program" for retail borrowers (which loans are not part of the aforementioned corporate loans and therefore not included in the table above. For more information on the "pre-workout program," see "— *Credit Exposures to Companies in Workout and Recovery Proceedings — Credit Rehabilitation Programs for Delinquent Consumer and Small- and Medium-sized Enterprise Borrowers*."

	As of December 31,						As of June 30,	
	2020		2021		2022		2023	
	Outstanding balance	Allowance	Outstanding balance	Allowance	Outstanding balance	Allowance	Outstanding balance	Allowance
	(in billions of Won)							
Retail loans subject to workouts under the "pre-workout program"[(1)]	₩119	₩65	₩90	₩44	₩157	₩92	₩188	₩105

Note:

(1) Includes nonaccrual and past due loans.

The following table presents, as of the dates indicated and with respect to corporate loans, the amounts of restructured loans that were considered impaired and classified as nonaccrual pursuant to the Bank's general interest accrual policy as described below. The table also presents, for the periods indicated and with respect to corporate loans, the amounts of total charge-off on restructured loans and the amounts of charge-off on restructured loans related to loans converted into equity securities as part of restructuring.

	As of and for the year ended December 31,			As of and for the six months ended June 30,	
	2020	2021	2022	2022	2023
	(in billions of Won)				
Impaired and nonaccrual restructured loans[(1)]	₩185	₩141	₩110	₩127	₩ 121
Total charge-off on restructured loans[(1)]	80	55	16	12	13
Charge-off on restructured loans related to loans converted into equity securities as part of restructuring[(1)]	59	32	—	—	—

Note:

(1) Includes corporate loans only.

Credit Exposures to Companies in Workout and Recovery Proceedings

The Bank's credit exposures to restructuring are monitored and managed by its Corporate Credit Collection Department. As of June 30, 2023, 0.04% of the Bank's total loans, or ₩149 billion (of which ₩121 billion was classified as nonaccrual and ₩28 billion was classified as accruing), was under restructuring. Restructuring of the Bank's credit exposures generally takes the form of workout and recovery proceedings.

Workout

The original Corporate Restructuring Promotion Act (Act No. 6504) was enacted on August 14, 2001 in order to facilitate the out-of-court restructuring of insolvent companies. This law expired on December 31, 2005, and new Corporate Restructuring Promotion Acts were enacted on August 3, 2007 (expired on December 31, 2010), May 19, 2011 (expired on December 31, 2013), January 1, 2014 (expired on December 31, 2015), March 18, 2016 (expired on June 30, 2018) and October 16, 2018 (to be expired on October 15, 2023, the new CRPA enacted and implemented on October 16, 2018 is hereinafter referred to as the "**CRPA**").

If the 'main Creditor Financial Institution' of a Failing Company provided notice of convening a Creditor Committee (defined below) on or before October 15, 2023, any proceedings commenced by such Creditor Committee will remain subject to the CRPA even after October 15, 2023 unless and until such proceedings are completed or discontinued.

The following is a summary of the key provisions of the CRPA. The CRPA applies to a financial creditor (the "**Financial Creditor**") who has financial claims against a debtor company by 'providing credit' to such debtor company or other third parties. "**Provision of Credit**" is defined in the CRPA as any transaction determined by the FSC to fall under any of the following:

- loans;

- purchase of promissory notes and debentures or bonds;
- equipment leasing;
- payment guarantees;
- providing advance payments on acceptances and guarantees under a payment guarantee;
- any direct or indirect financial transaction which may cause a loss to a counterparty as a consequence of a payment failure by a debtor company; or
- any transaction other than the transactions set out above which may have in substance the same effect as the transactions set out above.

The "**debtor company**" is defined under the CRPA as a company established under the Korean Commercial Code or other person performing profit-making activities. The Failing Company means a debtor company deemed, through a credit evaluation carried out in the manner set out in the CRPA, by its 'main Creditor Financial Institution' as having difficulty to repay debts to its financial creditor without external financial support or an additional loan (excluding loans obtained in the course of conducting normal financial transactions).

Once the debtor company is notified by the main Creditor Financial Institution to fall under the definition of Failing Company, such company may submit its business restructuring plan and the list of its Financial Creditors, and apply to such main Creditor Financial Institution for commencement of the management procedure to be assumed by a committee of Financial Creditors (the "**Creditor Committee**") or such main Creditor Financial Institution.

Under the CRPA, upon the debtor company's application for the commencement of the management by the Creditor Committee, the main Creditor Financial Institution of a Failing Company is required to convoke the first meeting of the Creditor Committee to decide whether to commence the management of the Failing Company by the Creditor Committee. Upon the debtor company's application for the commencement of the management by the main Creditor Financial Institution, the main Creditor Financial Institution may solely commence the management procedures if it determines that there is a possibility that the financial condition of the Failing Company may be rehabilitated or brought back to normal in accordance with its business restructuring plan.

Under the CRPA, in order to call for the first meeting of the Creditor Committee, the main Creditor Financial Institution is required to notify the Financial Creditors, the Failing Company, the coordination committee established under the CRPA, and the FSS. However, the main Creditor Financial Institution may omit the notification to some extent of the Financial Creditors who are set out in the CRPA such as a Financial Creditor who does not perform the financial business or a Financial Creditor who has only small claims against the Failing Company. The Financial Creditors who do not receive the notification from the main Creditor Financial Institution will be excluded from the Creditor Committee; provided that if they nevertheless want to attend the meeting, the main Creditor Financial Institution may not exclude such Financial Creditors. When the main Creditor Financial Institution calls for the first meeting of the Creditor Committee, it may require the Financial Creditors to grant a moratorium on the enforcement of claims (including the enforcement of security interests) until the end of the first meeting of the Creditor Committee. In addition, at the first meeting of the Creditor Committee, the Financial Creditors may resolve to declare a moratorium for up to one month (or three months if an investigation of the Failing Company's financial status is necessary) from the commencement date of the management procedure (which may be extended by one additional month by resolutions of the Creditor Committee).

The Financial Creditors who attend the first meeting of the Creditor Committee may resolve, among other things: (i) commencement of the management procedure, (ii) composition of the Financial Creditors who will participate in such management procedure and (iii) declaration of moratorium mentioned above.

Once the management procedure commences, the main Creditor Financial Institution is required to prepare the corporate restructuring plan of the Failing Company considering the investigation results of the Failing Company's financial status and submit such plan to the Creditor Committee for approval thereof. The corporate restructuring plan may include, among other things, the matters regarding rescheduling of debt owed by the Failing Company, provision of new credit and the business restructuring plan of the Failing Company. If the corporate restructuring plan is not approved by the date the moratorium period ends, the Creditor Committee's management of the Failing Company shall be deemed to have terminated.

The resolution at the Creditor Committee is generally passed by an approval of the Financial Creditors representing at least 75% of the outstanding credit to the Failing Company of the Financial Creditors who constitute the Creditor Committee; provided that if a single Financial Creditor holds at least 75% of the outstanding credit, the resolution shall be passed by an approval of not less than 40% of the total number of the Financial Creditors who constitute the Creditor Committee, including such single Financial Creditor. An additional approval of the Financial Creditors holding interests in 75% or more of the total amount of the secured claims owned by the Financial Creditors constituting the Creditor Committee against the Failing Company is required with respect to the debt rescheduling of the Failing Company.

A Financial Creditor which has opposed the resolutions of the Creditor Committee in respect of the commencement of management of the Failing Company by the Creditor Committee, establishment of or amendment to the corporate restructuring plan, extension of management procedure, the rescheduling of claims or provision of new credit (the "**Opposing Financial Creditor**") may, within seven days of such resolutions, request the main Creditor Financial Institutions to purchase its outstanding claims against the Failing Company, stating the type and number of claims. The Financial Creditors that have approved such resolutions (the "**Approving Financial Creditors**") shall jointly purchase such claims within six months of such request.

The purchase price and terms of such purchase shall be determined by mutual agreement of the Approving Financial Creditors and the Opposing Financial Creditor. Pending the agreement of such matters, the payments shall be made at a provisional price, and adjusting payments made once an agreement has been reached. If no such agreement is reached, then such matters shall be determined by the coordination committee established under the CRPA.

Recovery Proceedings

Under the Debtor Rehabilitation and Bankruptcy Act, which took effect on April 1, 2006, court receiverships have been replaced with recovery proceedings. In a recovery proceeding, unlike court receivership proceedings where the management of the debtor company was vested in a court appointed receiver, the existing chief executive officer of the debtor company may continue to manage the debtor company, provided, that (i) neither fraudulent conveyance nor concealment of assets existed, (ii) the financial failure of the debtor company was not due to gross negligence of such chief executive officer, and (iii) no creditors' meeting was convened to request, based on reasonable cause, a court-appointed receiver to replace such chief executive officer. Recovery proceeding may be commenced by any insolvent debtor. Furthermore, in an effort to meet global standards, international bankruptcy procedures have been introduced in Korea under which a receiver of a foreign bankruptcy proceeding may, upon receiving Korean court approval of the ongoing foreign bankruptcy proceeding, apply for or participate in a Korean bankruptcy proceeding. Similarly, a receiver in a domestic recovery proceeding or a bankruptcy trustee is allowed to perform its duties in a foreign country where an asset of the debtor is located to the extent the applicable foreign law permits.

As of June 30, 2023, the total loan amount subject to recovery proceedings was ₩90 billion. No loan amount was subject to court receivership or composition proceedings.

Loans in the process of workout and recovery proceedings are reported as nonaccrual loans on the Bank's statements of financial position as described in "— *Nonaccrual Loans and Past Due Accruing Loans*" above since generally, they are past due by more than 90 days and interest does not accrue on such loans. Restructured loans that meet the definition of a troubled debt restructuring are reported as troubled debt restructurings as described above in "— *Troubled Debt Restructurings*." Such restructured loans are reported as either loans or securities on the Bank's statements of financial position depending on the type of instrument it receives as a result of the restructuring.

Credit Rehabilitation Programs for Delinquent Consumer and Small- and Medium-sized Enterprise Borrowers

In light of the gradual increase in delinquencies in credit card and other consumer credit, the Government has implemented a number of measures intended to support the rehabilitation of the credit of delinquent consumer borrowers. These measures may affect the amount and timing of the Bank's collections and recoveries on its delinquent consumer credits.

The Credit Counseling and Recovery Service offers two programs for individual debtors, the pre-workout program and the individual workout program, both of which are available to individuals with total debt amounts of ₩1.5 billion or less (secured debt amount of ₩1 billion or less and unsecured debt amount of ₩500 million or less). The pre-workout program is offered to individuals whose delinquency period is between 31 days and 89 days (including those whose delinquency period is between one day and 30 days but with annual income of ₩40 million or less and cumulative delinquency period of 30 days or more within the year immediately preceding the application date), and the individual workout program is offered to individuals whose delinquency period is three months or more. When an individual debtor applies for the pre-workout or individual workout program, the Credit Counseling and Recovery Service will deliberate and resolve on a debt restructuring plan, and once the creditor financial institution that is in a credit recovery support agreement with the Credit Counseling and Recovery Service and holding the majority of each of the unsecured claims and secured claims to the relevant individual debtor agrees to such debt restructuring plan, the plan will be finalized and debt restructuring measures, such as extension of maturity, adjustment of interest rates or reduction of debt, will be taken according to the pre-workout program or individual workout program applied for.

Under the Debtor Rehabilitation and Bankruptcy Act, a qualified individual debtor with outstanding debts in an aggregate amount not exceeding threshold amounts of ₩1 billion of unsecured debt and/or ₩1.5 billion of secured debt may restructure his or her debts through a court-supervised debt restructuring that is binding on creditors.

Once a borrower is deemed to be eligible to participate in the pre-workout program, the Bank promptly sells the collateral underlying such borrower's secured loans to mitigate its losses, and the Bank may restructure such borrower's unsecured loans (regardless of their type) as follows:

- *Extension of maturity*: Based on considerations of the type of loan, the total loan amount, the repayment amount and the probability of repayment, the maturity of unsecured loans may be extended by up to 10 years and maturity of secured loans may be extended by up to 20 years with a grace period not exceeding three years.

- *Interest rate adjustment:* The interest rate of unsecured loans may be adjusted to 50% of the original interest rate within the range of the highest interest rate of 10% per annum and the lowest interest rate of 5% per annum; *provided that* if the original interest rate is less than 5% per annum, no adjustment applies. The adjusted interest rate applies to the principal amount following any adjustment thereto as part of the pre-workout program, and no interest accrues on the interest already accrued or fees payable.

- *Debt forgiveness*: Debt forgiveness under the pre-workout program is limited to the default interest.

- *Deferral*: If the foregoing three measures are deemed to be insufficient in terms of providing meaningful assistance to a qualifying borrower due to layoff, unemployment, business closure, disaster or earnings loss, loan repayment may be deferred for a maximum of three year, *provided that* the pre-workout committee may extend such deferral period every six months, for a period not to exceed six months, upon the borrower's application. The deferral period is not counted toward the repayment period, and interest accrues at 2% per annum during the deferral period.

In 2020, 2021, 2022 and the first half of 2023, loans in the aggregate amounts of ₩119 billion, ₩90 billion, ₩157 billion and ₩188 billion were modified under the Bank's pre-workout program, respectively. All such modified loans became beneficiaries of maturity extension and interest rate reductions, while a substantially limited portion of such loans also became beneficiaries of debt forgiveness and deferral.

Loan Modification Programs for Loans Under Troubled Debt Restructuring

The Bank generally offers the following types of concessions in relation to restructured loans: reduction of interest rate, forgiveness of overdue interest, extension of the term for repayment of principal, conversion of debt into equity or a combination of the foregoing. The nature and degree of such concessions vary depending on, among other things, the creditworthiness of the borrower, the size of loans being restructured, the existing terms of the loans and other factors deemed relevant by the relevant creditors' committee. The Bank generally does not restructure an existing loan into multiple new loans.

Recently, various Government-led financial support programs have been introduced in response to the COVID-19 pandemic, rising inflation and economic slowdown, such as loan rescheduling and principal and interest payment deferral programs, have helped financial institutions, including Shinhan Bank, manage their asset quality at a stable level. Such financial support programs have been introduced since April 1, 2020 and are available to small- and medium-sized enterprises and SOHOs that meet certain criteria, such as that they have not been delinquent on their prior loans and are not subject to liquidation or bankruptcy proceedings. Such financial support programs expired on September 30, 2022. However, the Government has decided, based on discussions with financial institutions, to provide further financial support to the debtors using the financial support programs as of the expiration date of such financial support programs in the forms of (i) the extension of loan maturity dates up to 3 years, (ii) the postponement of repaying loans up to 1 year until September 2023, or (iii) the rescheduling of loans under the New Start Fund set up by the Government on October 4, 2022 or loan rescheduling programs led by the financial institutions. Our participation in such Government initiatives may lead us to extend credit to small- and medium-sized enterprises and SOHOs that we would not otherwise extend, or offer terms on such credit that we would not otherwise offer, in the absence of such initiatives. There is no guarantee that the financial condition and liquidity of the small- and medium-sized enterprises benefiting from such initiatives will improve sufficiently for them to service their debt on a timely basis or at all. Accordingly, an increase in our exposure to small- and medium-sized enterprise borrowers resulting from such Government initiatives may have a material adverse effect on our financial condition and results of operations. We have classified the loans subject to loan rescheduling and principal and interest payment deferral under such financial support programs into stage 2 loans. For further details of our exposures due to such financial support programs, see Note 3 to our audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 3 to our unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.. For a discussion of expected credit losses related to the COVID-19 pandemic, see Note 3 to our audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 3 to our unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

The following table presents a breakdown of the gross amount of loans under restructuring as of December 31, 2020, 2021, 2022 and as of June 30, 2023 by the Bank's loan modification programs, as further categorized according to the loan category and performing versus non-performing status at each fiscal year end.

As of December 31, 2020			
Modification Programs	**Non-Performing**	**Performing**	**Total**
		(in billions of Won)	
Extension of due date for principal and interest	₩—	₩ —	₩ —
Reduction of interest rate	26	186	212
Equity conversion	—	—	—
Additional lending[1]	—	1	1
Others[2]	28	33	61
Total:	₩54	₩220	₩274

As of December 31, 2021			
Modification Programs	**Non-Performing**	**Performing**	**Total**
		(in billions of Won)	
Extension of due date for principal and interest	₩ 5	₩ —	₩ 5
Reduction of interest rate	13	156	169
Equity conversion	—	—	—
Additional lending[1]	—	—	—
Others[2]	24	31	55
Total:	₩42	₩187	₩229

As of December 31, 2022			
Modification Programs	**Non-Performing**	**Performing**	**Total**
		(in billions of Won)	
Extension of due date for principal and interest	₩12	₩ 10	₩ 22
Reduction of interest rate	6	58	64
Equity conversion	—	—	—
Additional lending[1]	—	—	—
Others[2]	39	12	51
Total:	₩57	₩ 80	₩137

As of June 30, 2023			
Modification Programs	Non-Performing	Performing	Total
	(in billions of Won)		
Extension of due date for principal and interest	₩ 8	₩ 3	₩ 11
Reduction of interest rate	2	58	60
Equity conversion	—	—	—
Additional lending[(1)]	—	1	1
Others[(2)]	51	25	76
Total:	₩61	₩87	₩148

Notes:

(1) Represents additional loans provided to the borrower at favorable terms as part of the restructuring package, which may include extension of the due date or reduction of interest rate, among others.

(2) Principally consists of restructured loans whose restructuring terms were not determined as of the date indicated. A loan is deemed to be subject to restructuring upon the commencement of the recovery proceedings or when the relevant creditors' committee or the Bank's credit officer determines that the borrower will be subject to workout, and in many cases the restructuring terms for such loans are not determined at the time such loans are deemed to be subject to restructuring.

Debt-to-equity Conversion

The Bank distinguishes between loans that it considers to be collectible under modified terms and loans that it considers to be uncollectible regardless of any modification of terms. With respect to loans that are in the latter category, it converts a portion of such loans into equity securities following negotiation with the borrowers and charge off the remainder of such loans as further described below. The equity securities so converted are recorded at fair value, based on the market value of such securities if available or the appraisal value of such securities by an outside appraiser if a market value is unavailable. In the first half of 2023, the Bank did not have any loans restructured into equity securities.

Debt-to-equity conversion generally has two primary benefits. One, the debt-to-equity conversion reduces the amount of loans and related interest expenses of the borrower, resulting in lesser debt burden and greater liquidity for the borrower, a greater likelihood of its exit from restructuring and the repayment of its obligations to the Bank. Two, in the case of a successful turnaround of the borrower, the Bank is entitled to the upside gains from the increase in the value of the equity securities so converted. Notwithstanding these benefits, however, the resulting impact from the debt-to-equity conversion on the Bank's interest income is generally not material as the loans being converted as part of restructuring are generally deemed to be uncollectible regardless any modification of terms. As for the impact on the Bank's asset classification, the Bank generally applies the same asset classification standards to both non-restructured and restructured loans. As for restructured loans, the Bank also considers additional factors such as the borrower's adherence to its business plans and execution of the self-help measures, among others, to the extent applicable. In consideration of such criteria, the Bank generally classifies loans subject to workout as "precautionary." For a general discussion of our loan classifications, see *"— Supervision and Regulation — Principal Regulations Applicable to Banks — Capital Adequacy*."

Evaluation of Loan Modification Programs

The Bank currently does not conduct a systematic or quantitative evaluation of the success of any particular concession by type, whether historically, relative to each other or relative to other financial institutions in Korea, although it does monitor on an individual basis the compliance by the borrower with the modified terms of the restructured loans. This is principally due to the following reasons.

One, in the case of large corporations subject to or about to be subject to restructuring, which represent the most significant restructuring cases in Korea, the restructuring process is generally not driven by the Bank, but by a creditors' committee involving several large creditor financial institutions, and in the case of very large corporations or corporations that are members of large business conglomerates, the process frequently involves the guidance of the Government in light of the potential ripple effects of the restructuring on the general economy. Hence, it is difficult for the Bank to collect data that would help it to evaluate the success of a particular concession based on the credit profile of the borrower and the type of concessions offered.

Two, the unavailability of systematic analysis notwithstanding the Bank's general sense is that the restructuring cases in Korea have, to a large part, been successful as measured in terms of the ability of the borrowers to exit restructuring programs relatively quickly and further that the failed cases have not been particularly material.

As a result, to date, the Bank has not found it particularly necessary or helpful to expend the time and resources required to conduct a systematic analysis for purposes of evaluating the success of concessions by the type of a particular concession offered.

The Bank does, however, measure the success of concessions in limited ways, that is, principally in terms of how well the borrower complies with the terms and conditions of the restructuring plan as agreed between the borrower and its creditor institutions. A restructuring plan typically includes a business plan and self-help measures to be undertaken by the borrower. The Bank monitors the borrower's compliance with the restructuring plan on a periodic basis (namely, annual, semiannual or quarterly in accordance with the terms of the restructuring plan) and evaluates the success thereof principally in terms of three attributes: (i) the progress in the execution of the business plan, (ii) the progress in the execution of the self-help measures and (iii) other qualitative factors such as major developments in the general economy, the regulatory environment, the competitive landscape, the quality of senior management and personnel and transparency in management. The Bank also closely monitors the cash inflows and outflows of the borrower, and the creditors' committee typically has the right to participate in decision-making related to major spending and borrowings by the borrower.

Accrual Policy for Restructured Loans

For purposes of the Bank's accrual policy, the Bank classifies restructured loans principally into (i) loans subject to workout pursuant to the Corporate Restructuring Promotion Act and (ii) loans subject to recovery proceedings pursuant to the Debtor Rehabilitation and Bankruptcy Act, which is the comprehensive bankruptcy-related law in Korea. See "— *Credit Exposures to Companies in Workout and Recovery Proceedings*." As for loans subject to workout, the Bank's general policy is to discontinue accruing interest on a loan when payment of principal and/or interest thereon becomes past due by 90 days or more, as described above in "— *Nonaccrual Loans and Past Due Accruing Loans*." Interest is recognized on these loans on a cash basis (i.e., when collected) from the date such loan is reclassified as non-accruing, and such loans are not reclassified as accruing until the overdue principal and/or interest amounts are paid in full. This general policy also applies to loans subject to workout even if such loans are restructured loans. In the case of loans subject to recovery proceedings, the Bank discontinues accruing interest immediately upon the borrowers becoming subject to recovery proceedings (even if such loans are not yet delinquent) in light of the heightened uncertainty regarding the borrower's ability to repay. Interest on such loans are recognized on a cash basis and such loans are not reclassified as accruing until the borrower exits recovery proceedings. Accordingly, under to the Bank's accrual policy, the number of payments made on a nonaccrual restructured loan is not a relevant factor in determining whether to reinstate such loan to the accrual status.

Determination of Performance of Restructured Loans

In determining whether a borrower has satisfactorily performed its obligations under the existing loan terms, the Bank principally reviews the payment history of the borrower, namely whether the borrower has been delinquent by one day or more pursuant to the Bank's general interest accrual policy. In determining whether a borrower has shown the capacity to continue to perform under the restructured terms, the Bank primarily relies upon the assessment of its credit officers (or the creditors' committee in the case of large corporate borrowers with significant outstanding loans) of the likelihood of the borrower's ability to repay under the restructured terms, which assessment takes into account the size of the loans in question, the credit profile of the borrower, the original terms of the loans and other factors deemed relevant by the relevant credit officers. Depending on various factors such as the size of the loans in question and the credit profile of the borrower, the Bank or the relevant creditors' committee, as the case may be, sometimes engages an outside advisory firm to perform further due diligence in order to supplement the aforementioned assessment. In certain cases, the borrowers also submit self-help proposals to facilitate obtaining the approval for restructuring, which measures are then also taken into consideration by the Bank's credit officers or the relevant creditors' committees, as the case may be, in determining their future capacity to continue to perform under the restructured terms.

Charge-off of Restructured Loans

As for loans that the Bank considers to be collectible under modified terms (for example, by extending the due date for the payment of principal and/or interest or reducing the interest rate below the applicable interest rate to a rate below the prevailing market rate, or a combination of the foregoing), it generally restructures such loans under the modified terms and does not charge off any portion of such loans.

As for loans that the Bank considers to be uncollectible regardless of any modification of terms, it negotiates with the borrower to have a portion of such loans converted into equity securities (usually common stock) of the borrower in consideration, among others, of (i) the degree to which such conversion will alleviate the debt burdens and liquidity concerns of the borrower, (ii) the Bank's potential upside from the gain in the value of the equity securities compared to the likelihood of collection if the loans were not converted into equity securities, and (iii) the borrower's concerns regarding its shareholding structure subsequent to such conversion. The Bank then charges off the remainder of the loans not so converted into equity securities. The value of the equity securities so converted is recorded at fair value, based on the market value of such securities if available or the appraisal value of such securities by an outside appraiser if a market value is unavailable.

Since the Bank generally does not accrue interest on loans subject to a recovery proceeding while it generally accrues interest on loans subject to workout unless past due by 90 days or more, charge-off is not a relevant factor the Bank considers when determining the accrual status of a particular restructured loan.

The Bank continues to accrue interest on restructured loans if it concludes that repayment of interest and principal contractually due on the entire debt is reasonably assured. Such conclusion is reached only after the Bank has carefully reviewed the borrower's ability to repay based on an assessment, among others, of various factors such as the size of the loans in question and the credit quality of the borrower by the Bank's credit officer or the relevant creditors' committee as supplemented by the due diligence by outside advisory firms, as the case may be.

Potential Problem Loans

The Bank operates an "early warning system" in order to enable a more systematic and real-time monitoring of loans with a significant potential of default. This system assists the Bank's management in making decisions by identifying loans which have serious doubt as to the ability of the borrowers to comply with their respective loan repayment terms as well as loans with significant potential of non-repayment.

The Bank classifies potential problem loans as loans that are designated as "early warning loans" and reported to the FSS. The "early warning loans" designation applies to borrowers that have been (i) identified by the Bank's early warning system as exhibiting signs of credit risk based on the relevant borrower's financial data, credit information and/or transactions with banks and, following such identification and (ii) designated by the Bank's loan officers as potential problem loans on their evaluation of known information about such borrowers' possible credit problems. Such loans are required to be reported on a quarterly basis to the FSS. If a borrower's loans are designated as "early warning loans" pursuant to the process described above and included in the Bank's quarterly report to the FSS, the Bank considers this to be an indication of serious doubt as to such borrower's ability to comply with repayment terms in the near future. As of June 30, 2023, the Bank had ₩1,083 billion of potential problem loans.

Provisioning Policy

The Bank conducts periodic and systematic detailed reviews of its loan portfolios to identify credit risks and to establish the overall allowance for loan losses. The Bank's management believes the allowance for loan losses reflects the best estimate of the expected credit losses as of the date of each statement of financial position.

At each reporting date, the Bank assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Bank uses the change in the risk of a default occurring over the expected life of the financial instrument instead of the change in the amount of expected credit losses. To make that assessment, the Bank compares the risk of default of the financial instrument as at the reporting date with such risk of default as at the date of initial recognition, taking into account reasonable supporting information that is available without undue cost or effort and is indicative of significant increases in credit risk since initial recognition. Supporting information also includes historical default data held by the Bank and analysis conducted by internal credit risk rating specialists.

The Bank assigns an internal credit risk rating to each individual exposure based on observable data and historical experiences that have been found to have a reasonable correlation with the risk of default. The internal credit risk rating is determined by considering both qualitative and quantitative factors that indicate the risk of default, which may vary depending on the nature of the exposure and the type of borrower.

The Bank accumulates information after analyzing the information regarding exposure to credit risk and default information by the type of product and borrower as well as results of internal credit risk assessment. For some portfolios, the Bank uses information obtained from external credit rating agencies when performing these analyses.

The Bank applies statistical techniques to estimate (i) the probability of default for the remaining life of the exposure from the accumulated data and (ii) the changes in the estimated probability of default over time.

The Bank uses the indicators defined as per portfolio to determine the significant increase in credit risk. Such indicators generally consist of changes in the risk of default estimated from changes in the internal credit risk rating, qualitative factors, days of delinquency and others.

The Bank considers a financial asset to be in default if it meets one or more of the following conditions:

- if a borrower is overdue 90 days or more from the contractual payment date, or

- if the Bank determines that it is not possible to recover principal and interest without enforcing the collateral on a financial asset.

The Bank uses the following indicators when determining whether a borrower is in default:

- qualitative factors (e.g., breach of contract terms),

- quantitative factors (e.g., if the same borrower does not perform more than one payment obligations to the Bank, the number of days past due per payment obligation. However, in the case of a specific portfolio, the Bank uses the number of days past due for each financial instrument), and

- internal and external data.

The definition of default applied by the Bank generally conforms to the definition of default defined for regulatory capital management purposes. However, depending on the situation, the information used to determine whether default has incurred and the extent thereof may vary.

The Bank measures expected credit losses on a forward-looking basis, and expected credit losses reflects information presented by internal experts based on a variety of sources. For purposes of estimating such forward-looking information, the Bank utilizes economic outlook and projections published by domestic and overseas research institutes or government and public agencies.

The Bank reflects future macroeconomic conditions anticipated from a bias-free, neutral standpoint in measuring expected credit losses. Expected credit losses in this respect reflect conditions that are most likely to occur and are based on the same assumptions that the Bank uses in its business plan and management strategy.

Key variables used in measuring expected credit losses are as follows:

- Probability of default (PD),

- Loss given default (LGD), and

- Exposure at default (EAD).

These variables have been estimated from historical experience data by using statistical techniques developed internally by the Bank and have been adjusted to reflect forward-looking information. When measuring expected credit losses on financial assets, the Bank reflects a period of expected credit loss measurement based on a contractual maturity. The Bank takes into consideration the extension rights held by a borrower when deciding the contractual maturity.

Risk factors such as PD, LGD and EAD are collectively estimated according to the following criteria:

- Type of products,

- Internal credit risk rating,

- Type of collateral,
- Loan-to-value (LTV),
- Industry that the borrower belongs to,
- Location of the borrower or collateral, and
- Days of delinquency.

The criteria for classification of groups are periodically reviewed to maintain homogeneity of the group and are adjusted if necessary. The Bank uses external benchmark information to supplement internal information for a particular portfolio that does not have sufficient internal data accumulated from the past experience. See "— *Critical Accounting Policies — Expected credit loss on financial assets*."

Loan Aging Schedule

The following table shows the Bank's loan aging schedule (excluding accrued interest) for all loans as of the dates indicated.

	Current		Past Due Up to 3 Months		Past Due 3-6 Months		Past Due More Than 6 Months		Total
As of	**Amount**	**%**	**Amount**	**%**	**Amount**	**%**	**Amount**	**%**	**Amount**
	(in billions of Won, except percentages)								
December 31, 2020	298,548	99.54	748	0.25	214	0.07	427	0.14	299,937
December 31, 2021	326,664	99.60	657	0.20	214	0.07	425	0.13	327,960
December 31, 2022	345,245	99.58	828	0.24	220	0.06	405	0.12	346,698
June 30, 2023	342,039	99.48	1,080	0.31	284	0.08	444	0.13	343,847

Non-Performing Loans

Non-performing loans are defined as loans past due by more than 90 days. The following table shows, as of the dates indicated, the amount of the total non-performing loan portfolio and as a percentage of the Bank's total loans.

	As of December 31,			As of June 30,
	2020	**2021**	**2022**	**2023**
	(in billions of Won, except percentages)			
Total non-performing loans	₩ 641	₩ 639	₩ 625	₩ 728
As a percentage of total loans	0.21%	0.19%	0.18%	0.21%

Analysis of Non-Performing Loans

The following table sets forth, for the periods indicated, the total non-performing loans by the borrower type.

	As of December 31,									As of June 30,		
	2020			2021			2022			2023		
	Total Loans	Non-Performing Loans[(1)]	Ratio of Non-Performing Loans	Total Loans	Non-Performing Loans[(1)]	Ratio of Non-Performing Loans	Total Loans	Non-Performing Loans[(1)]	Ratio of Non-Performing Loans	Total Loans	Non-Performing Loans[(1)]	Ratio of Non-Performing Loans
	(in billions of Won, except percentages)											
Domestic:												
Corporate	₩141,505	₩257	0.18%	₩157,588	₩252	0.16%	₩176,066	₩239	0.14%	₩176,109	₩296	0.17%
Retail	125,863	249	0.20%	135,261	216	0.16	130,446	253	0.19	128,034	289	0.23
Total domestic	₩267,368	₩506	0.19%	₩292,849	₩468	0.16%	₩306,512	₩492	0.16%	₩304,143	₩585	0.19%
Foreign:												
Corporate	23,987	103	0.43	24,893	123	0.49	28,830	92	0.32	27,647	94	0.34
Retail	8,582	32	0.37	10,218	48	0.47	11,356	41	0.36	12,058	49	0.41
Total Foreign	₩ 32,569	₩135	0.41%	₩ 35,111	₩171	0.49%	₩ 40,186	₩133	0.33%	₩ 39,705	₩143	0.36%
Total	₩299,937	₩641	0.21%	₩327,960	₩639	0.19%	₩346,698	₩625	0.18%	₩343,848	₩728	0.21%

Note:

(1) Includes unsecured loans past due by more than six months.

Non-Performing Loans by Industry

The following table sets forth a breakdown of the Bank's non-performing corporate loans by industry as of June 30, 2023.

Industry	Aggregate Non-Performing Corporate Loan Balance	Percentage of Total Non-Performing Corporate Loan Balance
	(in billions of Won)	*(Percentages)*
Real estate, leasing and service	₩ 14	3.6%
Construction	10	2.6
Manufacturing	121	31.0
Retail and wholesale	67	17.2
Finance and insurance	41	10.5
Transportation, storage and communication	20	5.1
Hotel and leisure	38	9.7
Other service[(1)]	73	18.7
Other[(2)]	6	1.6
Total	₩390	100.0%

Notes:

(1) Includes other service industries such as publication, media and education.

(2) Includes other industries such as agriculture, forestry, mining, electricity and gas.

Top 20 Non-Performing Loans

As of June 30, 2023, the Bank's 20 largest non-performing loans accounted for 16.5% of its total non-performing loan portfolio.

The following table shows, at the date indicated, certain information regarding the Bank's 20 largest non-performing loans.

		As of June 30, 2023		
		Industry	Gross Principal Outstanding	Allowance for Loan Losses
		(in billions of Won)		
1	Borrower A	Finance and insurance	₩ 25	₩11
2	Borrower B	Finance and insurance	16	16
3	Borrower C	Manufacturing	13	5
4	Borrower D	Transportation, storage, and communication	11	9
5	Borrower E	Manufacturing	6	1
6	Borrower F	Retail and wholesale	5	2
7	Borrower G	Manufacturing	4	—
8	Borrower H	Other service	4	3
9	Borrower I	Manufacturing	4	4
10	Borrower J	Other service	4	1
11	Borrower K	Manufacturing	3	1
12	Borrower L	Other service	3	3
13	Borrower M	Retail and wholesale	3	3
14	Borrower N	Transportation, storage, and communication	3	3
15	Borrower O	Manufacturing	3	3
16	Borrower P	Hotel and leisure	3	1
17	Borrower Q	Retail and wholesale	3	1
18	Borrower R	Other service	3	1
19	Borrower S	Manufacturing	2	—
20	Borrower T	Manufacturing	2	1
			₩120	₩69

Non-Performing Loan Strategy

One of the Bank's primary objectives is to prevent its loans from becoming non-performing. Through the Bank's corporate credit rating system, which is designed to prevent the Bank's loan officers from extending new loans to borrowers with high credit risks based on the borrower's credit rating, the Bank seeks to reduce credit risk related to future non-performing loans. The Bank's early warning system is designed to bring any sudden increase in a borrower's credit risk to the attention of its loan officers, who then closely monitor such loans.

If a loan becomes non-performing notwithstanding such preventive mechanism, an officer at the branch level responsible for monitoring non-performing loans will commence due diligence on the borrower's assets, send a notice demanding payment or a notice that the Bank will take or prepare for legal action.

At the same time, the Bank also initiates its non-performing loan management process, which includes:

- identifying loans subject to a proposed sale by assessing the estimated losses from such sale based on the estimated recovery value of collateral, if any, for such non-performing loans;

- identifying loans subject to charge-off based on the estimated recovery value of collateral, if any, for such non-performing loans and the estimated rate of recovery of unsecured loans; and

- to a limited extent, identifying commercial loans subject to normalization efforts based on the cash-flow situation of the borrower.

Once the details of a non-performing loan are identified, the Bank pursues early solutions for recovery. Actual recovery efforts for non-performing loans are handled by the relevant department, depending on the nature of such loans and the borrower, among others.

The officers or agents of the responsible departments and units use a variety of methods to resolve non-performing loans, including:

- making phone calls and paying visits to the borrower to request payment;

- continuing to assess and evaluate assets of the Bank's borrowers; and

- if necessary, initiating legal action such as foreclosures, attachment and litigation.

In order to promote speedy recovery on loans subject to foreclosures and litigation, the branch responsible for handling these loans may transfer them to the relevant unit at headquarters.

The Bank's policy is to commence legal action within one month after default on promissory note and four months after delinquency of payment on other types of loans. For loans to insolvent or bankrupt borrowers or when the Bank concludes that it is not possible to recover through normal procedures, the Bank takes prompt legal actions regardless of the grace period.

In addition to making efforts to collect on these non-performing loans, the Bank also takes other measures to reduce the level of its non-performing loans, including:

- selling non-performing loans to third parties including the Korea Asset Management Corporation;

- entering into asset-backed securitization transactions with respect to non-performing loans;

- managing retail loans that are three months or more past due through Shinhan Credit Information under an agency agreement; and

- using third-party collection agencies including credit information companies.

In the first half of 2023, the Bank sold non-performing loans in the amount of ₩61 billion to third parties, including ₩33 billion transferred to Hana F&I Inc, an investment management company. Loans transferred to third parties generally meet the criteria of true sale and are derecognized accordingly.

The following table presents a roll-forward of the Bank's nonperforming loans in the first half of 2023.

	(in billions of Won)
Non-performing loans as of December 31, 2022	₩625
Additional non-performing loans due to delinquency	255
Loans sold	(61)
Loans charged off	(91)
Loans modified and returned to performing	—
Other adjustments[(1)]	—
Non-performing loans as of June 30, 2023	₩728

Note:

(1) Represents loans paid down or paid off and loans returned to performing other than as a result of modification. The Bank does not separately collect and analyze data relating to non-performing loans other than those that were sold, charged off, modified and returned to performing, or transferred to held-for-sale investment portfolio.

Allocation of Allowance for Loan Losses

The following table presents, as of the dates indicated, the allocation of the Bank's loan loss allowance by loan type.

	As of December 31,						As of June 30,	
	2020		2021		2022		2023	
	Amt.	Loans as% of Total Loans	Amt.	Loans as% of Total Loans	Amt.	Loans as% of Total Loans	Amt.	Loans as% of Total Loans
	(in billions of Won, except percentages)							
Domestic:								
Corporate	₩1,091	64.6%	₩1,020	60.9%	₩1,133	58.7%	₩1,321	61.4%
Retail	275	16.3	241	14.4	363	18.8	341	15.9
Total domestic	1,366	80.9	1,261	75.3	1,496	77.5	1,662	77.3
Foreign:								
Corporate	287	17.0	359	21.4	369	19.1	403	18.7
Retail	36	2.1	56	3.3	66	3.4	86	4.0
Total foreign	323	19.1	415	24.7	435	22.5	489	22.7
Total allowance for loan losses	₩1,689	100.0%	₩1,676	100.0%	₩1,931	100.0%	₩2,151	100.0%

The Bank's total allowance for loan losses increased by ₩220 billion, or 11.4%, to ₩2,151 billion as of June 30, 2023 from ₩1,931 billion as of December 31, 2022, primarily due to additional expected losses for some borrowers in light of termination of financial support programs related to COVID-19 and domestic and foreign economic uncertainty.

The Bank's total allowance for loan losses increased by ₩255 billion, or 15.2%, to ₩1,931 billion as of December 31, 2022 from ₩1,676 billion as of December 31, 2021, primarily due to consideration of the Worst scenario in addition to the three scenarios of Upside, Central and Downside in the forward-looking information to reflect the prolonged COVID-19 and economic uncertainties when estimating allowance for credit losses on retail loans. Allowance for credit losses on corporate loans increased to reflect the impact of potential insolvency. The historical default rate has remained stable because of various government supports in response to the COVID-19, however economic indicators have worsened since 2020 due to the economic contraction caused by the COVID-19. Given this situation, to reflect the impact of potential insolvency, borrowers in moratorium of interest payments or moratorium of repayment (i.e. financial relief programs) were classified into to Stage2, which in turn recognized additional allowance for credit losses on corporate loans.

The Bank's total allowance for loan losses decreased by ₩13 billion, or 0.8%, to ₩1,676 billion as of December 31, 2021 from ₩1,689 billion as of December 31, 2020, primarily due to a significant increase in provision for such allowances in 2020 resulting from the Bank's proactive measures in responding to changes in the financial environment, such as the spread of COVID-19.

Analysis of Allowance for Loan Losses

The following table presents an analysis of the Bank's loan loss experience for each of the periods indicated.

	For the year ended December 31,			For the six months ended June 30,	
	2020	2021	2022	2022	2023
	(in billions of Won, except percentages)				
Balance at the beginning of the period	₩1,527	₩1,689	₩1,676	₩1,676	₩1,931
Amounts charged against income	644	346	579	298	439
Gross charge-offs:					
Domestic:					
Corporate	(265)	(237)	(200)	(82)	(95)
Retail	(211)	(202)	(191)	(60)	(132)
Foreign:					
Corporate	(23)	(13)	(12)	(7)	(20)
Retail	(7)	(10)	(27)	(6)	(13)
Total gross charge-offs	(506)	(462)	(430)	(155)	(260)
Recoveries:					
Domestic:					
Corporate	44	57	39	18	22
Retail	68	76	79	41	37
Foreign:					
Corporate	1	—	1	1	17
Retail	1	1	1	—	1
Total recoveries	114	134	120	60	77
Net charge-offs	(392)	(328)	(310)	(95)	(183)
Allowance related to loan transferred	(30)	(20)	(14)	(11)	(29)
Other	(60)	(11)	—	19	(7)
Balance at the end of the period	₩1,689	₩1,676	₩1,931	₩1,887	₩2,151
Ratio of net charge-offs during the period to average loans outstanding during the period	0.14%	0.10%	0.09%	0.03%	0.05%
Corporate:	0.15%	0.11%	0.09%	0.04%	0.04%
Retail:	0.12%	0.10%	0.10%	0.02%	0.08%

Loan Charge-offs

The Bank's gross charge-offs increased by 68% to ₩260 billion in the first half of 2023 from ₩155 billion in the first half of 2022, primarily due to an increase in the amount of charge-offs for retail loans in the first half of

2023 compared to the first half of 2022 . The Bank's gross charge-offs decreased by 7% to ₩430 billion in 2022 from ₩462 billion in 2021, primarily due to a decrease in the amount of charge-offs for corporate loans in 2022 compared to 2021. The Bank's gross charge-offs increased/decreased by 9% to ₩462 billion in 2021 from ₩506 billion in 2020, primarily due to a decrease in the amount of charge-offs for corporate loans in 2021 compared to 2020.

In the first half of 2023, the charge-off on restructured loans amounted to ₩13 billion. In 2022, the charge-off on restructured loans amounted to ₩16 billion. With respect to a loan that the Bank considers to be uncollectible regardless of any modification of terms, the Bank converts a portion of such loan into equity securities following negotiation with the borrower and charge off the remainder of such loan as previously discussed in "— *Troubled Debt Restructurings*" The equity securities so converted are recorded at fair value, based on the market value of such securities if available or the appraisal value of such securities by an outside appraiser if a market value is unavailable.

Basic Principles

The Bank attempts to minimize loans to be charged off, by practicing a sound credit approval process based on credit risk analysis prior to extending loans and a systematic management of outstanding loans.

Loans to be Charged-off

Loans are charged off if they are deemed to be uncollectible by falling under any of the following categories:

- loans for which collection is not foreseeable due to insolvency or bankruptcy, dissolution or the termination of the debtor's business;
- loans for which collection is not foreseeable due to the death or disappearance of debtors;
- loans for which collection expenses exceed the collectible amount;
- loans for which collection is not possible through legal or any other means;
- payments outstanding on unsecured retail loans that are overdue for more than 12 months;
- payments in arrears in respect of leases that are overdue for more than 12 months;
- the portion of loans classified as "estimated loss," net of any recovery from collateral, which is deemed to be uncollectible; or

domestic loans that are required by the FSS to be charged-off, or loans held by the Bank's foreign subsidiaries or branches for which a charge-off or special provisioning is required by the relevant regulatory authority.

Timeline for Charge-off

Loans to be charged-off must be charged-off within one year of the month they are deemed to be uncollectible. If such loans are not charged-off within one year, the reason for the delay must be reported to the Bank's Audit Department.

Procedure for Charge-off Approval

An application for the Bank's loans to be charged-off is submitted by the relevant branch or department to the Credit Collection Department. The Credit Collection Department refers the application to the Audit Department for their review to ensure compliance with the Bank's internal procedures for charge-offs. The Credit Collection Department, after reviewing the application to confirm that it meets relevant requirements, seeks approval from the FSS for the charge-offs, which is typically granted. Once the FSS approves (except for household loans with estimated losses of ₩10 million or less, whose charge-off is considered automatically approved by the FSS), loans are charged-off upon approval by the President of the Bank.

Treatment of Loans Charged-off

Once loans are charged off, they are derecognized from the Bank's statements of financial position and are classified as charged-off loans. The Bank continues collection efforts in respect of these loans through third-party collection agencies. The General Manager of the Credit Collection Department must report to the FSS the amounts of loans permanently written off or recovered during each reporting period.

Treatment of Collateral

When the Bank determines that a loan collateralized by real estate cannot be recovered through normal collection channels, the Bank generally petitions a court to foreclose and sell the collateral through a court-supervised auction within one month after default and insolvency and within four months after delinquency. However, this procedure does not apply to companies under restructuring, recovery proceedings, workout or other court proceedings where there are restrictions on such auction procedures. Filing of such petition with the court generally encourages the debtor to repay the overdue loan. If a debtor ultimately fails to repay and the court grants its approval for foreclosure, the Bank will sell the collateral and recover the principal amount and interest accrued up to the sales price, net of expenses incurred from the auction. Foreclosure proceedings under the laws and regulations of Korea typically take seven months to one year from initiation to collection depending on the nature of the collateral.

Financial Statement Presentation

The Bank's financial statements generally report as charge-offs all unsecured retail loans that are overdue for more than 12 months. Leases are charged off when past due for more than twelve months. For collateral dependent loans, the Bank charges off the excess of the book value of the subject loan over the amount received or to be received from the sale of the underlying collateral when the collateral is sold as part of a foreclosure proceeding and its sale price becomes known through court publication as part of such proceeding.

Credit Types

The following table sets forth, as of the dates indicated, the Bank's credit portfolio on a separate basis as reported to the FSS pursuant to FSS regulations, which consists principally of the following:

- loans net of present value discounts and excluding certain items, principally interbank loans, call loans and securities purchased under resale agreements;

- confirmed guarantees and acceptances, which are off-balance sheet items, and loans from the Bank's trust accounts whose principal and/or interest are guaranteed by the Bank; and

- certain other items, principally merchant bank credits and suspense receivables.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Loans in Won	₩248,065	₩270,778	₩281,252	₩282,589
Loans in foreign currencies	12,320	15,505	17,976	17,499
Bills bought in foreign currencies	6,805	8,269	6,533	6,260
Privately placed bonds	187	86	56	54
Merchant banking loans	708	787	950	759
Trust account loans	348	396	601	503
Factoring receivables	190	189	144	142
Advances under guarantees and acceptances	14	9	4	8
Total loans(1)	₩268,637	₩296,019	₩307,516	₩307,814
Other credits:				
Guarantees and acceptances	₩ 10,698	₩ 11,167	₩12,619	₩12,498
Suspense receivables as credit	3	2	1	2
Total credits	₩279,338	₩307,188	₩320,136	₩320,314

Note:

(1) For purposes of calculating total credits as reported to the FSC, total loans are stated net of present value discounts, and certain loan items (consisting of interbank loans, call loans and securities purchased under resale agreements) are excluded from total loans.

Substandard or Below Credits

Substandard or below credits are defined as those credits that are classified as substandard or below based on the FSC's asset classification criteria.

The following table shows as of the dates indicated, certain details regarding the asset quality of the Bank's credits on a separate basis, net of present value discounts, including its substandard or below credits, as reported to the FSC.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won, except percentages)			
Credits:				
Normal	₩ 277,541	₩ 305,439	₩ 318,250	₩ 318,223
Precautionary	936	918	1,094	1,216
Substandard	531	495	497	568
Doubtful	203	143	148	149
Estimated loss	277	192	147	158
Total credits	₩ 279,488	₩ 307,187	₩ 320,136	₩ 320,314
Total substandard or below credits	₩ 1,011	₩ 830	₩ 792	₩ 875
Precautionary and substandard or below credits	1,947	1,748	1,886	2,091
Allowance for credit losses(1)(2)	3,721	3,443	3,636	3,621
Substandard or below credits as a percentage of total credits	0.36%	0.27%	0.25%	0.27%
Precautionary and substandard or below credits as a percentage of total credits	0.70%	0.57%	0.59%	0.65%
Allowance for credit losses as a percentage of substandard or below credits	368.05%	414.82%	459.09%	413.83%
Allowance for credit losses as a percentage of total credits	1.33%	1.12%	1.14%	1.13%

Notes:

(1) Allowance for credit losses consists of allowance for loan losses, allowance for suspense receivables, allowance for acceptances and guarantees and regulatory reserve for loan loss in accordance with Article 29 of the Regulation on Supervision of Banking Business.

(2) Excludes allowance for credit commitments and regulatory reserve for loan loss with regard to credit commitments.

Trust Accounts

Under Korean law, assets accepted in trust accounts by the Bank are segregated from other assets of the Bank and are not available to satisfy the claims of the depositors or other creditors of the Bank. Accordingly, the Bank's trust assets and liabilities (other than those which are guaranteed as to principal (or as to both principal and interest)) are accounted for and reported separately from the bank accounts.

The following table sets forth the assets and liabilities of the Bank's trust accounts as of the dates indicated.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Assets:				
Loans	₩ 348	₩ 396	₩ 461	₩ 433
Securities	21,427	22,438	22,316	21,379
Loans to bank accounts	2,767	2,804	2,831	3,647
Other[(1)]	71,728	66,440	70,247	96,025
Allowance for valuation of receivables	(1)	(1)	0	0
Total assets	₩96,269	₩92,077	₩95,855	₩121,484
Liabilities:				
Money trusts	₩51,998	₩53,763	₩61,110	₩ 65,165
Property trusts	42,963	37,014	33,351	54,241
Special reserves	118	119	119	117
Other	1,190	1,181	1,275	1,961
Total liabilities	₩96,269	₩92,077	₩95,855	₩121,484

Note:

(1) Includes principally real estate assets received under property trusts.

The Bank provides guarantees as to principal and/or interest for a limited amount of the assets and liabilities of its trust accounts. As of June 30, 2023, guaranteed fixed rate trust accounts, for which the Bank guarantees a fixed rate of interest, for 0.001% of the total money trusts in the Bank's trust accounts. As of June 30, 2023, the aggregate amount of money trusts guaranteed as to principal or as to principal and interest was ₩3,338 billion, or 5.1% of total money trusts for the Bank.

Money trusts for which the Bank provides guarantees as to principal and both principal and interest are consolidated under K-IFRS. The following table sets forth the assets and liabilities of the money trusts for which the Bank provides guarantees as to principal and both principal and interest and such money trusts as a percentage of the Bank's total trust assets:

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won, except percentages)			
Assets	₩4,588	₩4,414	₩3,911	₩3,782
Liabilities	₩4,588	₩4,414	₩3,911	3,782
As a percentage of total trust assets	4.77%	4.79%	4.08%	3.1%

Investment Portfolio

Investment Policy

The Bank invests in and trades Won-denominated and, to a lesser extent, foreign currency-denominated securities for its own account in order to:

- maintain the stability and diversification of the Bank's assets;
- maintain adequate sources of back-up liquidity to match the Bank's funding requirements; and
- supplement income from the Bank's core lending activities.

When making an investment decision with respect to particular securities, the Bank considers macroeconomic trends, industry analysis and credit evaluation, among others.

The Bank's securities investment activities are subject to a number of regulatory guidelines, including limitations prescribed under the Banking Act. Under these regulations, the Bank must limit its investments in shares and securities with a maturity in excess of three years (other than monetary stabilization bonds issued by the Bank of Korea and national government bonds) to 100.0% of the sum of Tier I and Tier II capital (less any deductions) of the Bank. Generally, the Bank is also prohibited from acquiring more than 15.0% of the shares with voting rights issued by any other corporation (other than for the purpose of establishing or acquiring a subsidiary). Further information on the regulatory environment governing the Bank's investment activities is set out in "*Supervision and Regulation — Principal Regulations Applicable to Banks — Restrictions on Shareholdings in Other Companies*."

Book Value and Market Value

The following tables set out the book value and market value of investments in the Bank's investment portfolio as of the dates indicated.

	As of June 30,	
	2023	
	Book Value	Market Value
	(in billions of Won)	
Securities at fair value through other comprehensive income:		
Equity securities	₩ 1,154	₩ 1,154
Debt securities:		
Government bonds	21,149	21,149
Financial institution bonds	16,374	16,374
Corporate bonds and others	9,344	9,344
Total — Securities at fair value through other comprehensive income	₩48,021	₩48,021
Securities at amortized cost:		
Debt securities:		
Government bonds	18,094	17,701
Financial institution bonds	6,068	6,075
Corporate bonds	5,674	5,450
Others	223	223
Total — Securities at amortized cost	₩30,059	₩29,449
Securities at fair value through profit or loss:		
Equity securities	262	262
Debt securities:		
Government bonds	970	970
Financial institution bonds	1,561	1,561
Corporate bonds	1,778	1,778
Bills bought	5,695	5,695
CMA	3,085	3,085
Others	5,610	5,610
Gold/silver deposits	100	100
Total — Securities at fair value through profit or loss	₩19,061	₩19,061
Total securities	₩97,141	₩96,531

	As of December 31,					
	2020		2021		2022	
	Book Value	Market Value	Book Value	Market Value	Book Value	Market Value
	(in billions of Won)					
Securities at fair value through other comprehensive income:						
Equity securities	₩ 633	₩ 633	₩ 716	₩ 716	₩ 1,216	₩ 1,216
Debt securities:						
Government bonds	11,342	11,342	17,874	17,874	20,706	20,706
Financial institution bonds	17,372	17,372	17,959	17,959	16,905	16,905
Corporate bonds and others	10,013	10,013	11,752	11,752	9,944	9,944
Total – Securities at fair value through other comprehensive income	₩39,360	₩39,360	₩48,301	₩48,301	₩48,771	₩48,771
Securities at amortized cost:						
Debt securities:						
Government bonds	12,666	12,982	14,228	14,254	17,241	16,725
Financial institution bonds	2,494	2,506	2,124	2,119	5,364	5,328
Corporate bonds	4,784	4,845	4,679	4,649	5,541	5,208
Others	234	235	294	294	234	234
Total — Securities at amortized cost	₩20,178	₩20,568	₩21,325	₩21,316	₩28,380	₩27,495
Securities at fair value through profit or loss:						
Equity securities	163	163	196	196	226	226
Debt securities:						
Government bonds	1,087	1,087	1,108	1,108	761	761
Financial institution bonds	4,148	4,148	3,396	3,396	3,354	3,354
Corporate bonds	2,516	2,516	3,313	3,313	2,358	2,358
Bills bought	4,922	4,922	5,041	5,041	4,110	4,110
CMA	2,806	2,806	3,592	3,592	3,850	3,850
Others	5,989	5,989	7,444	7,444	6,467	6,467
Gold/silver deposits	188	188	84	84	76	76
Total — Securities at fair value through profit or loss	₩21,819	₩21,819	₩24,174	₩24,174	₩21,202	₩21,202
Total securities	₩81,357	₩81,747	₩93,800	₩93,791	₩98,353	₩97,468

Maturity Analysis

The following table categorizes the Bank's securities at amortized cost by maturity and weighted average yield as of June 30, 2023.

	As of June 30, 2023									
	1 Year or Less		Over 1 but within 5 Years		Over 5 but within 10 Years		Over 10 Years		Total	
	Carrying Amount	Weighted Average Yield[1]	Carrying Amount	Weighted Average Yield[1]	Carrying Amount	Weighted Average Yield[1]	Carrying Amount	Weighted Average Yield[1]	Carrying Amount	Weighted Average Yield[1]
	(in billions of Won, except percentages)									
Securities at amortized cost:										
Government bonds	₩4,522	2.08%	₩10,772	2.85%	₩2,660	2.79%	₩140	3.73%	₩18,094	2.66%
Financial institution bonds	1,385	10.82	4,640	3.96	43	6.30	—	—	6,068	5.55
Corporate bonds	683	2.19	3,623	2.77	1,346	3.17	22	2.87	5,674	2.80
Others	190	7.39	33	4.40	—	—	—	—	223	6.94
Total	₩6,780	4.02%	₩19,068	3.11%	₩4,049	2.96%	₩162	3.62%	₩30,059	3.30%

Note:

(1) The weighted-average yield for the portfolio represents the yield to maturity for each individual security, weighted using its amortized cost.

Concentrations of Risk

The following table presents securities held by the Bank whose aggregate book value exceeded 10% of the Bank's stockholders' equity as of June 30, 2023, which was ₩3,211 billion as of such date.

	As of June 30, 2023	
	Book Value	Market Value
	(in billions of Won)	
Name of Issuer:		
Korean Government	₩35,377	₩34,953
Bank of Korea	6,432	6,436
Korea Housing Finance Corp	5,266	5,051
Korea Development Bank	4,664	4,661
Industrial Bank of Korea	4,183	4,189
Total	₩55,922	₩55,290

All of the above entities (other than the Government) are either an agency of the Government or an entity controlled by the Government.

Credit-Related Commitments and Guarantees

In the normal course of its operations, the Bank makes various commitments and guarantees to meet the financing and other business needs of its customers. Commitments and guarantees are usually in the form of, among others, commitments to extend credit, commercial letters of credit, standby letters of credit and performance guarantees. The contractual amount of these financial instruments represents the maximum possible loss amount if the account party draws down the commitment or the Bank should fulfill its obligation under the guarantee and the account party fails to perform under the contract.

The following table sets forth the Bank's credit-related commitments and guarantees as of the dates indicated.

	As of December 31,			As of June 30,
	2020	2021	2022	2023
	(in billions of Won)			
Commitments to extend credit	₩ 98,679	₩100,083	₩106,559	₩112,790
Commercial letters of credit	2,700	3,504	3,137	3,427
Others [1]	22,749	23,801	26,458	29,350
Total	₩124,128	₩127,388	₩136,154	₩145,567

Note:

(1) Consists of financial guarantees, performance guarantees, liquidity facilities to special purpose entities, acceptances, guarantee on trust accounts and endorsed bills.

The Bank has credit-related commitments that are not reflected on the Bank's statements of financial position, which primarily consist of commitments to extend credit and commercial letters of credit. Commitments to extend credit, including credit lines, represent unfunded portions of authorizations to extend credit in the form of loans. These commitments expire on fixed dates and a customer is required to comply with predetermined conditions to draw funds under the commitments.

Commercial letters of credit are undertakings on behalf of customers authorizing third parties to make drawdowns up to a stipulated amount under specific terms and conditions. They are generally short-term and collateralized by the underlying shipments of goods to which they relate.

The Bank also has guarantees that are recorded on the Bank's statements of financial position at their fair value at inception which are amortized over the life of the guarantees. Such guarantees generally include standby letters of credit, other financial and performance guarantees and liquidity facilities to special purpose entities.

Standby letters of credit are irrevocable obligations to pay third-party beneficiaries when the Bank's customers fail to repay loans or debt instruments, which are generally in foreign currencies. A substantial portion of these standby letters of credit are secured by collateral, including trade-related documents.

Other financial and performance guarantees are irrevocable assurances that the Bank will pay beneficiaries if its customers fail to perform their obligations under certain contracts. Liquidity facilities to special purpose entities represent irrevocable commitments to provide contingent liquidity credit lines to special purpose entities established by the Bank's customers in the event that a triggering event such as shortage of cash occurs.

The commitments and guarantees do not necessarily represent the Bank's exposure since they often expire unused.

Derivatives

As discussed under "*Business — Business Overview — The Bank's Principal Activities — Other Banking Services — Derivatives Trading*" above, the Bank engages in derivatives trading activities primarily on behalf of its customers so that they may hedge their risks and also enters into back-to-back derivatives with other financial institutions to cover exposures arising from such transactions. In addition, the Bank enters into derivatives transactions to hedge against risk exposures arising from its own assets and liabilities, some of which are non-trading derivatives that do not qualify for hedge accounting treatment.

The following table shows, as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the gross notional or contractual amounts of derivatives held or issued for (i) trading and (ii) non-trading that qualify for hedge accounting.

	As of June 30, 2023		
	Underlying Notional Amount[(1)]	Estimated Fair Value Assets	Estimated Fair Value Liabilities
	(in billions of Won)		
Trading:			
Foreign exchange derivatives:			
Future and forward contracts	₩141,663	₩1,505	₩1,110
Swaps	42,690	1,661	1,871
Options	1,538	13	15
Sub-total	185,891	3,179	2,996
Interest rate derivatives:			
Future and forward contracts	521	1	1
Swaps	70,370	548	557
Options	185	—	6
Sub-total	71,076	549	564
Equity derivatives:			
Options	248	1	3
Future contracts	57	—	—
Sub-total	305	1	3
Commodity derivatives:			
Swaps and forward contracts	150	—	2
Options	8	—	—
Sub-total	158	—	2
Total	₩257,430	₩3,729	₩3,565
Non-trading:			
Interest rate derivatives:			
Swaps	₩ 14,516	₩ 79	₩ 837
Foreign exchange derivatives:			
Future and forward contracts	696	5	4
Total	₩ 15,212	₩ 84	₩ 841

	As of December 31, 2020			As of December 31, 2021			As of December 31, 2022		
	Underlying Notional Amount[(1)]	Estimated Fair Value Assets	Estimated Fair Value Liabilities	Underlying Notional Amount[(1)]	Estimated Fair Value Assets	Estimated Fair Value Liabilities	Underlying Notional Amount[(1)]	Estimated Fair Value Assets	Estimated Fair Value Liabilities
					(in billions of Won)				
Trading:									
Foreign exchange derivatives:									
Future and forward contracts	₩106,833	₩2,812	₩2,819	₩131,629	₩2,038	₩1,632	₩113,618	₩2,668	₩2,445
Swaps	31,824	1,127	928	37,226	655	759	40,948	1,589	1,833
Options	2,499	33	32	2,274	12	12	1,328	15	14
Sub-total	141,156	3,972	3,779	171,129	2,705	2,403	155,894	4,272	4,292
Interest rate derivatives:									
Future and forward contracts	279	—	—	521	—	—	160	—	—
Swaps	67,969	272	281	61,687	131	193	69,145	536	589
Options	132	1	—	168	2	—	145	3	—
Sub-total	68,380	273	281	62,376	133	193	69,450	539	589
Equity derivatives:									
Options	232	1	4	160	1	2	218	1	1
Future contracts	55	—	—	66	—	—	25	—	—
Sub-total	287	1	4	226	1	2	243	1	1
Commodity derivatives:									
Swaps and forward contracts	—	—	—	355	5	—	241	11	—
Options	—	—	—	12	—	8	8	—	2
Sub-total	—	—	—	367	5	8	249	11	2
Total	₩209,823	₩4,246	₩4,064	₩234,098	₩2,844	₩2,606	₩225,836	₩4,823	₩4,884
Non-trading:									
Interest rate derivatives:									
Swaps	₩ 6,965	₩ 319	₩ 121	₩ 7,080	₩ 157	₩ 237	₩ 13,530	₩ 78	₩ 895
Foreign exchange derivatives:									
Future and forward contracts	218	11	10	237	—	10	254	3	1
Total	₩ 7,183	₩ 330	₩ 131	₩ 7,317	₩ 157	₩ 247	₩ 13,784	₩ 81	₩ 896

Note:

(1) Notional amounts in foreign currencies were converted into Won at prevailing exchange rates as of December 31, 2020, 2021 and 2022 and as of June 30, 2023, respectively.

Funding

For the Bank's banking activities, the Bank obtains funding from a variety of sources, both domestic and foreign. The Bank's principal source of funding is customer deposits obtained from its banking operations. In addition, the Bank acquires funding through call money, borrowings from the Bank of Korea, other short-term borrowings, corporate debentures and other long-term debt, including debt and equity securities issuances, asset-backed securitizations and repurchase transactions, to complement, or, if necessary, replace funding through customer deposits. See "*Management's Discussion and Analysis of Financial Condition and Results of Operations — Liquidity and Capital Resources*."

Deposits

Although the majority of the Bank's bank deposits are short-term, the majority of the Bank's depositors have historically rolled over their deposits at maturity, providing its banking operations with a stable source of funding.

The following table shows the average balances of the Bank's deposits and the average rates paid on the Bank's deposits for the periods indicated, and the outstanding balances of uninsured deposits as of the ends of periods indicated.

	For the Year Ended December 31,						For the Six Months Ended June 30,			
	2020		2021		2022		2022		2023	
	Average Balance (1)	Average Rate Paid	Average Balance (1)	Average Rate Paid	Average Balance (1)	Average Rate Paid	Average Balance (1)	Average Rate Paid	Average Balance (1)	Average Rate Paid
	(in billions of Won, except percentages)									
Non-interest-bearing deposits:	₩ 3,970		₩ 4,885		₩ 5,425		₩ 5,674		₩ 4,548	
Interest-bearing deposits:										
Demand deposits	₩ 48,078	0.33%	₩ 62,339	0.33%	₩ 64,764	0.47%	₩ 64,323	0.15%	₩ 59,484	0.45%
Time and savings deposits	240,693	1.03	254,123	0.70	276,256	1.40	269,464	0.48	291,124	1.38
Other deposits	8,473	1.42	11,141	0.91	17,012	1.97	17,588	0.70	12,808	1.83
Total interest-bearing deposits	₩297,244	0.93%	₩327,603	0.64%	₩358,032	1.26%	₩351,375	0.43%	₩363,416	1.25%

	Amount	Amount	Amount	Amount	Amount
Uninsured deposits	₩237,572	₩274,352	₩287,066	₩280,918	₩287,597

Note:

(1) Based on average daily balances.

For a breakdown of deposit products, see "*Business — Business Overview — The Bank's Principal Activities — Deposit-taking Activities*," except that cover bills sold are recorded on short-term borrowings and securities sold under repurchase agreements are recorded as secured borrowings.

Uninsured Time deposits

The following table shows the amount of time deposits that exceed the insurance limit as of June 30, 2023, and the amount of time deposits that are otherwise uninsured, segregated by remaining maturity as of June 30, 2023.

	As of June 30, 2023
	(in billions of Won)
Portion of Time deposits in excess of insurance limit:	₩95,163
Time deposits otherwise uninsured with a maturity of:	
Maturing within three months	₩27,443
After three but within six months	16,622
After six but within 12 months	15,432
After 12 months	4,984
Total	₩64,481

Short-term Borrowings

The following table presents information regarding the Bank's short-term borrowings (borrowings with an original maturity of one year or less) for the periods indicated.

	As of and for the year ended December 31, 2020				
	Balance Outstanding	Average Balance Outstanding[(1)]	Highest Balances at Any Month-end	Weighted Average Interest Rate[(2)]	Year-end Interest Rate
	(in billions of Won, except for percentages)				
Borrowings from:					
Bank of Korea[(3)]	₩ 5,208	₩ 3,388	₩ 5,208	0.30%	0.25–0.25%
Call money	1,655	1,082	1,655	1.68	0.00–0.55
Other short-term borrowings[(4)]	8,415	9,547	11,149	1.40	0.00–7.50
	₩15,278	₩14,017	₩18,012	1.16%	

Notes:

(1) Average balances are based on (a) daily balances of the Bank and (b) quarterly balances for the Bank's affiliates.

(2) Weighted-average interest rates are calculated by dividing the total interest expenses by the average amount borrowed.

(3) Borrowings from the Bank of Korea generally mature within one month for borrowings in Won and six months for borrowings in foreign currencies.

(4) Other short-term borrowings included bonds sold under repurchase agreements and borrowings in domestic and foreign currencies.

	As of and for the year ended December 31, 2021				
	Balance Outstanding	Average Balance Outstanding(1)	Highest Balances at Any Month-end	Weighted Average Interest Rate(2)	Year-end Interest Rate
	(in billions of Won, except for percentages)				
Borrowings from:					
Bank of Korea(3)	₩ 5,150	₩ 5,169	₩ 5,403	0.25%	0.25–0.25%
Call money	1,444	1,361	1,665	1.39	(0.30)–0.68
Other short-term borrowings(4)	12,574	9,743	12,574	0.93	(0.49)–5.15
	₩19,168	₩16,273	₩19,642	0.75%	

Notes:

(1) Average balances are based on (a) daily balances of the Bank and (b) quarterly balances for the Bank's affiliates.

(2) Weighted-average interest rates are calculated by dividing the total interest expenses by the average amount borrowed.

(3) Borrowings from the Bank of Korea generally mature within one month for borrowings in Won and six months for borrowings in foreign currencies.

(4) Other short-term borrowings included bonds sold under repurchase agreements and borrowings in domestic and foreign currencies.

	As of and for the year ended December 31, 2022				
	Balance Outstanding	Average Balance Outstanding(1)	Highest Balances at Any Month-end	Weighted Average Interest Rate(2)	Year-end Interest Rate
	(in billions of Won, except for percentages)				
Borrowings from:					
Bank of Korea(3)	₩ 4,999	₩ 4,967	₩ 5,031	0.62%	0.25–1.75%
Call money	1,200	2,009	3,666	2.81	0.05–6.30
Other short-term borrowings(4)	15,474	15,710	18,638	2.15	0.00–5.75
	₩21,673	₩22,686	₩27,335	1.88%	

Notes:

(1) Average balances are based on (a) daily balances of the Bank and (b) quarterly balances for the Bank's affiliates.

(2) Weighted-average interest rates are calculated by dividing the total interest expenses by the average amount borrowed.

(3) Borrowings from the Bank of Korea generally mature within one month for borrowings in Won and six months for borrowings in foreign currencies.

(4) Other short-term borrowings included bonds sold under repurchase agreements and borrowings in domestic and foreign currencies.

	As of and for the six months ended June 30, 2022				
	Balance Outstanding	Average Balance Outstanding(1)	Highest Balances at Any Month-end	Weighted Average Interest Rate(2)	Year-end Interest Rate
	(in billions of Won, except for percentages)				
Borrowings from:					
Bank of Korea(3)	₩ 5,010	₩ 4,967	₩ 5,031	0.17%	0.25–0.75%
Call money	1,292	2,204	3,179	0.98	0.00–4.90
Other short-term borrowings(4)	15,032	13,892	15,032	0.71	(0.48)–5.50
	₩21,334	₩21,063	₩23,242	0.61%	

Notes:

(1) Average balances are based on (a) daily balances of the Bank and (b) quarterly balances for the Bank's affiliates.

(2) Weighted-average interest rates are calculated by dividing the total interest expenses by the average amount borrowed.

(3) Borrowings from the Bank of Korea generally mature within one month for borrowings in Won and six months for borrowings in foreign currencies.

(4) Other short-term borrowings included bonds sold under repurchase agreements and borrowings in domestic and foreign currencies.

	As of and for the six months ended June 30, 2023				
	Balance Outstanding	Average Balance Outstanding(1)	Highest Balances at Any Month-end	Weighted Average Interest Rate(2)	Year-end Interest Rate
	(in billions of Won, except for percentages)				
Borrowings from:					
Bank of Korea(3)	₩ 4,198	₩ 4,711	₩ 4,954	0.66%	0.25–2.00%
Call money	2,041	2,694	3,962	2.51	0.04–5.68
Other short-term borrowings(4)	14,192	16,183	18,370	1.78	0.00–6.48
	₩20,431	₩23,588	₩27,286	1.64%	

Notes:

(1) Average balances are based on (a) daily balances of the Bank and (b) quarterly balances for the Bank's affiliates.

(2) Weighted-average interest rates are calculated by dividing the total interest expenses by the average amount borrowed.

(3) Borrowings from the Bank of Korea generally mature within one month for borrowings in Won and six months for borrowings in foreign currencies.

(4) Other short-term borrowings included bonds sold under repurchase agreements and borrowings in domestic and foreign currencies.

The Bank's short-term borrowings have maturities of less than one year and are generally unsecured with the exception of borrowings from the Bank of Korea, which are generally secured with securities at fair value through other comprehensive income or at amortized cost (previously classified as available-for sale or held-to-maturity securities under K-IFRS 1039) held by the Bank.

RISK MANAGEMENT

Overview

The Bank has a comprehensive system of risk management in order to manage the risks of the Bank within acceptable limits and ensure the soundness of its assets. The Bank strives to stabilize its long-term profitability through effective risk management.

The Board of Directors ("**Board**") sets basic guidelines with respect to the Bank's risk management and controls, such as total risk limits for the Bank. Under the supervision of the Board, the Risk Management Committee determines capital allocation and risk limits for each business group, and assists the management in formulating basic management guidelines for all banking operations.

In accordance with these basic policies and guidelines, the Risk Policy Committee and the Asset & Liability Management Committee ("**ALM Committee**"), both consisting of senior executives and group heads, oversee credit, market and operational risks. The Risk Management Group, which is independent from all business units, identifies, evaluates and controls all risks of the Bank and supports the Risk Management Committee.

Credit Risk Management

Credit risk, which is the risk of loss from default by borrowers, other obligors or other counterparties to the transactions that the Bank has entered into, is the greatest risk the Bank faces. The Bank's credit risk management encompasses all areas of credit that may result in potential economic loss, including not just transactions that are recorded on its balance sheets, but also off-balance-sheet transactions such as guarantees, loan commitments and derivatives transactions. The Bank's credit risk management is guided by the following principles:

- achieve a profit level corresponding to the level of risks involved;
- improve asset quality and achieve an optimal mix of asset portfolios;
- avoid excessive loan concentration in a particular borrower or sector;
- closely monitor the borrower's ability to repay the debt; and
- provide financial support to advance the growth of select customers.

Major policies for the Bank's credit risk management, including the Bank's overall credit risk management plan and credit policy guidelines, are determined by the Bank's Risk Policy Committee, the executive decision-making body for management of credit risk. The Risk Policy Committee is headed by the Chief Risk Officer, and also comprises of the Chief Credit Officer and the heads of each business unit. In order to separate the loan approval functions from credit policy decision-making, the Bank has a Credit Review Committee that performs credit review evaluations with a focus on improving the asset quality of and profitability from the loans being made, and operates separately from the Risk Policy Committee. Both the Risk Policy Committee and the Credit Review Committee make decisions by a vote of two-thirds or more of the attending members of the respective committees, which must constitute at least two-thirds of the respective committee members to satisfy the respective quorum.

The Bank complies with credit risk management procedures pursuant to internal guidelines and regulations and continually monitors and improves these guidelines and regulations. Its credit risk management procedures include:

- credit evaluation and approval;
- credit review and monitoring; and
- credit risk assessment and control.

Credit Evaluation and Approval

All loan applicants and guarantors are subject to credit evaluation before approval of any loans. Credit evaluation of loan applicants are carried out by senior officers of the Bank specifically charged with granting loan approvals. Loan evaluation is carried out by a group rather than by an individual reviewer through an objective and deliberative process. Credit ratings of loan applicants and guarantors influence loan interest rates, the level of internal approval required, credit exposure limits, calculation of potential losses and estimated cost of capital, and therefore are determined objectively and independently by the relevant business unit. The Bank uses a credit scoring system for retail loans and a credit-risk rating system for corporate loans.

Each of the Bank's borrowers is assigned a credit rating, which is based on a comprehensive internal credit evaluation system that considers a variety of criteria. For retail borrowers, the credit rating takes into account the borrower's biographic details, past dealings with the Bank and external credit rating information, among other things. For corporate borrowers, the credit rating takes into account financial indicators as well as non-financial indicators such as industry risk, operational risk and management risk, among other things. The credit rating, once assigned, serves as the fundamental instrument for the Bank's credit risk management, and is applied to a wide range of credit risk management processes, including credit approval, credit limit management, loan pricing and computation of allowance for loan losses. The Bank has separate credit evaluation systems for retail customers, SOHO customers and corporate customers, which are further segmented and refined to meet Basel II requirements, which requirements have not changed under Basel III. See "*Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies — Impairment of Financial Assets*."

Retail Loans

Loan applications for retail loans are reviewed in accordance with the Bank's credit scoring system and the objective statistics models for secured and unsecured loans maintained and operated by the Bank's Retail Banking Division. The Bank's credit scoring system is an automated credit approval system used to evaluate loan applications and determine the appropriate pricing for the loan, and takes into account factors such as a borrower's personal information, transaction history with the Bank and other financial institutions and other relevant credit information. The applicant is assigned a score, which is used to determine (i) whether to approve the applicant's loan, (ii) the amount of loan to be granted, and (iii) the interest rates thereon. The applicant's score also determines whether the applicant is approved for credit, conditionally approved, subject to further assessment, or denied. If the applicant becomes subject to further assessment, the appropriate discretionary body, either at the branch level or at the headquarter level, makes a reassessment based on qualitative as well as quantitative factors, such as credit history, occupation and past relationship with the Bank.

For mortgage and home equity loans and loans secured by real estate, the Bank evaluates the value of the real estate offered as collateral using a proprietary database, which contains information about real estate values throughout Korea. In addition, the Bank uses up-to-date information provided by third parties regarding the real estate market and property values in Korea. While the Bank uses internal staff from the processing centers to appraise the value of the real estate collateral, it also hires certified appraisers to review and co-sign the appraisal value of real estate collateral that have an appraisal value exceeding ₩3 billion, as initially determined by the processing centers. The Bank also reevaluates internally, on a summary basis, the appraisal value of collateral at least every year.

For loans secured by securities, deposits or other assets other than real estate, the Bank requires borrowers to observe specified collateral ratios in respect of secured obligations.

Corporate Loans

The Bank rates all of its corporate borrowers using internally developed credit evaluation systems. These systems consider a variety of criteria (quantitative, qualitative, financial and non-financial) in order to standardize credit decisions and focus on the quality of borrowers rather than the size of loans. The quantitative considerations include the borrower's financial and other data, while the qualitative considerations are based on the judgment of the Bank's credit officers as to the borrower's ability to repay. Financial considerations include financial variables and ratios based on customer's financial statements, such as return on assets and cash flow to total debt ratios, and non-financial considerations include, among other things, the industry to which the borrower's businesses belong, the borrower's competitive position in its industry, its operating and funding capabilities, the quality of its management and controlling stockholders (based in part on interviews with its officers and employees), technological capabilities and labor relations.

In addition, in order to enhance the accuracy of its internal credit reviews, the Bank also considers reports prepared by external credit rating services, such as Nice Information Service and Korea Rating & Data (KoDATA), and monitors and improves the effectiveness of the credit risk-rating systems using a database that it updates continually with actual default records.

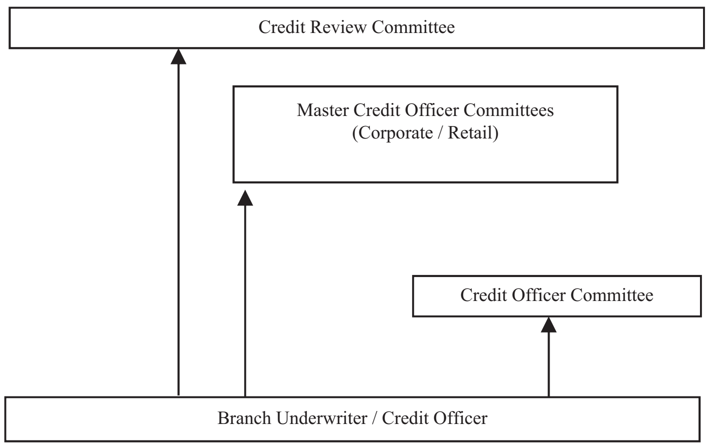
Based on the scores calculated under the credit rating system, which takes into account the evaluation criteria described above and the probability of default, the Bank assigns the borrower one of 23 grades (from the highest of AAA to the lowest of D3). Grades AA through B are further broken down into "+", "0" or "-." Grades AAA through B- are classified as normal, grade CCC precautionary, and grades CC through D3 non-performing. The credit risk-rating model is further differentiated by the size of the corporate borrower and the type of credit facilities.

Loan Approval Process

Loans are generally approved after evaluations and approvals by the relationship manager at the branch level as well as the committee of the applicable business unit at the Bank. The approval limit for retail loans is made based on the Bank's automated credit scoring system. In the case of large corporate loans, approval limits are also reviewed and approved by a Credit Officer at the headquarter level. Depending on the size and the importance of the loan, the approval process is further reviewed by the Credit Officer Committee or the Master Credit Officer Committee. If the loan is considered significant or the amount exceeds the discretion limit of the Master Credit Officer Committee, further evaluation is made by the Credit Review Committee, which is the Bank's highest decision-making body in relation to credit approval. The Credit Review Committee's evaluation and approval of loan limits vary depending on the borrower's credit ratings as determined by the Bank's internal credit rating system and the borrower's size of business.

For example, for borrowers with a credit rating of B-, the Credit Review Committee evaluates and approves unsecured loans in excess of ₩10 billion and secured loans in excess of ₩15 billion, whereas for borrowers with a credit rating of AAA, the Credit Review Committee evaluates and approves unsecured loans in excess of ₩60 billion and secured loans in excess of ₩120 billion. The Credit Review Committee holds at least two meetings a week to approve applications for large-sized loans whose principal amounts exceed prescribed levels set by it.

The chart below summarizes the Bank's credit approval process. The Master Credit Officer and the Head of Business Division do not make individual decisions on loan approval, but are part of the decision-making process at the group level.



The reviewer at each level of the review process may in its discretion approve loans up to a maximum amount per loan assigned to such level. The discretionary loan approval limit for each level of the loan approval process takes into account the total amount of loans extended to the borrower, the credit level of the applicant based on credit review, the existence and value of collateral, the size of business and the level of credit risk established by the credit rating system.

The discretionary loan amount approval limit ranges from ₩50 million for secured loans with a credit rating of B-, which are subject to approvals by the retail branch manager, to ₩120 billion for secured loans with a credit rating of AAA, which are subject to approvals by the Master Credit Officer Committee. Any loans exceeding the maximum discretionary loan amount approval limit must be approved by the Credit Review Committee.

Credit Review and Monitoring

The Bank continually reviews and monitors credit risks primarily with respect to borrowers. In particular, the Bank's automated early warning system conducts daily examination for borrowers using financial and non-financial factors, and the branch manager and the credit officer must conduct periodic loan monitoring and report to an independent Credit Review Department which analyzes the results in detail and adjusts monitoring grades and credit ratings accordingly. Based on these reviews, the Bank adjusts a borrower's credit rating, credit limit and credit policies. In addition, the group credit ratings of the main debtor groups, if applicable, may be adjusted followed by a periodic review of the main debtor groups, as identified by the Governor of the FSS based on their outstanding credit exposures. The Bank also continually reviews other factors, such as industry-specific conditions for the borrower's business and its domestic and overseas asset base and operations, in order to ensure that the assigned ratings are appropriate. The Credit Review Department provides credit review reports, independent of underwriting, to the Chief Risk Officer on a monthly basis.

The early warning system performs automatic daily checks for borrowers to whom the Bank credit exposure (which represents the total outstanding amount due from a borrower, net of collateral for deposit, installment savings, guarantees and import guarantee money). When the early warning systems detect warning signals, such signals and other findings from the loan monitoring are reviewed by the Credit Review Department. In addition, the Bank carries out credit review in a timely manner on each borrower in accordance with changes in credit risk factors based on changes in the economic environment. The results of such credit review are continually reported to the Chief Risk Officer of the Bank.

Depending on the nature of the signals detected by the early warning system, a borrower may be classified as "worsening credit" and become subject to evaluation for a possible downgrade in credit rating, or may be initially classified as "showing early warning signs" or become reinstated to the "normal borrower" status. For borrowers classified as "showing early warning signs," the relevant branch manager gathers information and conducts a review of the borrower to determine whether the borrower should be classified as a worsening credit or whether to impose management improvement warnings or implement joint creditors' management. If the borrower becomes non-performing, the Bank's collection department directly manages such borrower's account in order to maximize recovery rate, and conducts auctions, court proceedings, sale of assets or corporate restructuring as needed.

Pursuant to the foregoing credit review and monitoring procedures and in order to promptly prevent deterioration of loan qualities, the Bank classifies potentially problematic borrowers into (i) borrowers that show early warning signals, (ii) borrowers that require precaution, (iii) borrowers that require observation and (iv) normal borrowers, and treats them differentially accordingly.

In order to curtail delinquency among its corporate customers, the Bank primarily takes the following measures: (i) systematic monitoring of borrowers with outstanding loans, (ii) heightened monitoring of borrowers with bad credit history and/or borrowers that belong to troubled industries, and (iii) assignment of industry-specific lending caps, as adjusted for whether specific industries are particularly sensitive to general business cycles and/or are troubled at a given time.

Systematic monitoring of borrowers with outstanding loans. The Bank currently applies a heightened monitoring system to corporate borrowers with outstanding loans (other than guaranteed loans and loans secured by specified types of collaterals such as deposits with the Bank or letters of credit). Under this monitoring system, each borrower is assigned to one of the following ratings:

- "Normal Company" — a borrower who is determined to have a low probability of insolvency with a credit rating above CCC (sub-borrower rating applicable);

- "Observation Company" — a borrower that carries some risk of affecting the corporate insolvency in the future and is subject to consistent observation to detect any change of such risk;

- "Precaution Company" — a borrower with a possibility of insolvency due to an increase in risk of default and therefore requires detailed inspection of the credit quality of such borrower and precaution in extending any further loans;

- "Early Warning Company" — a borrower with a high possibility of insolvency; and

- "Problematic Reorganized Company" — a borrower currently undergoing rehabilitation procedures, such as management improvement plans, workout or corporate recovery or showing no signs of recovery

The Bank conducts systematic monitoring of the foregoing borrowers at intervals depending on the borrower's monitoring grade determined by the early warning system (for example, every 3 or 6 months for an "Observation Company", and 3 months for borrowers with a monitoring grade below "Precaution Company" or borrowers with a credit rating below CCC, and no regular monitoring for a "Normal Company"). In addition, the Review Credit Officer may request more frequent monitoring if the borrower is showing signs of deteriorated credit quality. For borrowers with outstanding loan amounts of ₩2 billion or more, the Bank also monitors the revenues and earnings of such borrower on a quarterly basis within five to seven weeks following the end of each quarter depending on the borrower's profile.

Heightened monitoring of borrowers with bad credit history and/or borrowers that belong to troubled industries. In addition to the systematic monitoring discussed above, the Bank also carries out additional monitoring for borrowers that, among others, (i) are rated as "requiring observation," "requiring precaution" or "with early warning signs" as noted above, (ii) have prior history of delinquency or restructuring or (iii) have borrowings that are classified as substandard or below. Based on the heightened monitoring of these borrowers, the Bank adjusts contingency planning as to how the overall asset quality of a specific industry should be managed for each phase of the business cycle, how the Bank should limit or reduce its credit exposure to such borrowers, and how the Bank's group-wide delinquency and non-performing ratio would be changed, among others.

Credit Risk Assessment and Control

In order to assess credit risk in a systematic manner, the Bank has developed and upgraded systems designed to quantify credit risk based on selection and monitoring of various statistics, including delinquency rate, non-performing loan ratio, expected loan loss and weighted average risk rating.

The Bank controls loan concentration by monitoring and managing loans at two levels: portfolio level and individual loan account level. In order to maintain portfolio-level credit risk at an appropriate level, the Bank manages its loans using value-at-risk ("**VaR**") limits for the entire bank as well as for each of its business units. In order to prevent concentration of risk in a particular borrower or borrower class, the Bank also manages credit risk by borrower, industry, country and other detailed categories.

The Bank measures credit risk using internally accumulated data. The Bank measures expected and unexpected losses with respect to total assets monthly, which the Bank refers to when setting risk limits for, and allocating capital to, its business groups. Expected loss is calculated based on the probability of default, the loss given default, the exposure at default and the past bankruptcy rate and recovery rate, and the Bank provides allowance for loan losses accordingly. The Bank makes provisioning at a level which is the higher of the FSS requirement or the Bank's internal calculation. Unexpected loss is predicted based on VaR, which is used to determine compliance with the aggregate credit risk limit for the Bank as well as the credit risk limit for the relevant department within the Bank. The Bank uses the AIRB method as proposed by the Basel Committee to compute VaR at the account-specific level as well as to measure risk adjusted performance.

Market Risk Management

Market risk is the risk of loss generated by fluctuations in market prices such as interest rates, foreign exchange rates and equity prices. The principal market risks to which the Bank is exposed are interest rate risk and, to a lesser extent, foreign exchange and equity price risk. These risks stem from the Bank's trading and non-trading activities relating to financial instruments such as loans, deposits, securities and financial derivatives. The Bank divides market risk into risks arising from trading activities and risks arising from non-trading activities.

The Bank's Risk Management Committee establishes overall market risk management principles for both the trading and non-trading activities of the Bank. Based on these principles, the Bank's Risk Policy Committee acts as the executive decision-making body in relation to market risks in terms of setting its risk management policies and risk limits in relation to market risks and assets and controlling market risks arising from trading and non-trading activities of the Bank. The Risk Policy Committee consists of deputy presidents in charge of the Bank's six business groups, the Chief Risk Officer and the Chief Financial Officer. At least on a monthly basis, the Risk Policy Committee reviews and approves reports relating to, among others, the position and market risk capital requirement with respect to the Bank's trading activities and the position and market value analysis and net interest income simulation with respect to its non-trading activities. In addition, the Bank's Risk Engineering Department comprehensively manages market risks on an independent basis from the Bank's operating departments, and functions as the middle office of the Bank. The Bank measures market risk with respect to all assets and liabilities in the bank accounts and trust accounts in accordance with the regulations promulgated by the FSC.

Market Risk Exposure from Trading Activities

The Bank's trading activities principally consist of:

- trading activities to realize short-term profits from trading in the equity and debt securities markets and the foreign currency exchange markets based on the Bank's short-term forecast of changes in market situation and customer demand, for its own account as well as for the trust accounts of its customers; and

- trading activities primarily to realize profits from arbitrage transactions involving derivatives such as swaps, forwards, futures and options, and, to a lesser extent, to sell derivative products to its customers and to cover market risk associated with those trading activities.

As a result of these trading activities, the Bank is exposed principally to interest rate risk, foreign currency exchange rate risk and equity risk.

Interest Rate Risk

The Bank's exposure to interest rate risk arises primarily from Won-denominated debt securities, directly held or indirectly held through beneficiary certificates, and, to a lesser extent, from interest rate derivatives. The Bank's exposure to interest rate risk arising from foreign currency-denominated trading debt securities is minimal since its net position in those securities is not significant. As the Bank's trading accounts are marked-to-market daily, it manages the interest rate risk related to its trading accounts using the standardised approach capital requirement.

Foreign Currency Exchange Rate Risk

The Bank's exposure to foreign currency exchange rate risk mainly relates to its assets and liabilities, including derivatives such as foreign currency forwards and futures and currency swaps, which are denominated in currencies other than the Won. The Bank manages foreign currency exchange rate risk, including the corresponding risks faced by its overseas branches, on a consolidated basis by covering all of its foreign exchange spot and forward positions in both trading and non-trading accounts.

The Bank's net foreign currency open position represents the difference between its foreign currency assets and liabilities as offset against forward foreign currency positions, and is the Bank's principal exposure to foreign currency exchange rate risk. The Risk Policy Committee oversees the Bank's foreign currency exposure for both trading and non-trading activities by establishing limits for the net foreign currency open position, loss limits and market risk capital requirement limits. The Bank centrally monitors and manages its foreign exchange positions through its Financial Engineering Center. Dealers in the Financial Engineering Center manage the Bank's consolidated position within preset limits through spot trading, forward contracts, currency options, futures and swaps and foreign currency swaps. The Bank sets a limit for net open positions by currency. The limits for currencies other than the U.S. dollar, Yen, Euro and Chinese Yuan are set in a conservative manner in order to minimize trading in such currencies.

The following table shows the Bank's net foreign currency open positions as of December 31, 2020, 2021 and 2022 and as of June 30, 2023. Positive amounts represent long exposures and negative amounts represent short exposures.

	As of December 31,			As of June 30,
Currency	**2020**	**2021**	**2022**	**2023**
	(in millions of U.S. dollars)			
U.S. dollar	US$ (299.4)	US$ (15.6)	US$ 40.8	US$ 288.1
Yen	3.9	447.3	467.7	441.8
Euro	12.4	23.6	5.3	85.4
Others	1,201.2	2,247.7	2,320.9	2,308.0
Total	US$ 918.0	US$2,703.1	US$2,834.6	US$3,123.4

Equity Risk

The Bank's equity risk related to trading activities mainly involves trading equity portfolios of Korean companies and Korea Stock Price Index futures and options. The trading equity portfolio consists of stocks listed on the KRX KOSPI Market or the KRX KOSDAQ Market of the Korea Exchange and nearest-month or second nearest-month futures contracts under strict limits on diversification as well as limits on positions. The Bank maintains strict scrutiny of these activities in light of the volatility in the Korean stock market and closely monitors the loss limits and the observance thereof. Although the Bank holds a substantially smaller amount of equity securities than debt securities in its trading accounts, the VaR of trading account equity risk is generally higher than that of trading account interest rate risk due to high volatility in the value of equity securities. As of December 31, 2020, 2021 and 2022 and as of June 30, 2023, the Bank held ₩13.7 billion, ₩171.7 billion, ₩74.0 billion and ₩80.9 billion, respectively, of equity securities in its trading accounts (including the trust accounts).

Management of Market Risk from Trading Activities

The following tables present an overview of market risk, measured by VaR, from trading activities of the Bank as of and for the six months ended June 30, 2023. For market risk management purposes, the Bank includes in the computation of total VaR its trading portfolio in bank accounts and assets in trust accounts, in each case, for which it guarantees principal or fixed return in accordance with the FSC regulations.

	Trading Portfolio VaR for the Six Months Ended June 30, 2023[1]			
	Average	Minimum	Maximum	As of June 30, 2023
	(in billions of Won)			
Sensitivities-based method risk				
GIRR	₩ 93.2	₩ 74.1	₩108.1	₩ 90.5
CSR: non-securitisations	106.9	88.9	120.6	120.2
CSR: securitisations (non-CTP)	27.9	23.2	32.5	26.9
CSR: securitisations (CTP)	0.0	0.0	0.0	0.0
Equity	82.9	63.1	101.8	80.9
FX	442.9	415.3	461.3	440.5
Commodity	0.2	0.0	0.3	0.2
Total	753.5	715.1	808.7	759.2
Default risk				
Non-securitisation	105.4	87.8	128.3	105.1
Securitisation(non-CTP)	56.0	50.9	59.8	58.4
Securitisation(CTP)	0.0	0.0	0.0	0.0
Total	161.4	140.0	184.4	163.5
The residual risk	2.3	2.1	2.5	2.1
Total[1]	₩917.1	₩917.1	₩990.4	₩924.8

Notes:

(1) Includes trading portfolios in the Bank's bank accounts and assets in trust accounts, in each case, for which it guarantees principal or fixed return.

The Bank generally manages its market risk from the trading activities of its portfolios on an aggregated basis. To control its trading portfolio market risk, the Bank uses position limits, market risk capital requirement limits, stop loss limits, Greek limits and stressed loss limits. In addition, it establishes separate limits for investment securities. The Bank maintains risk control and management guidelines for derivative trading based on the regulations and guidelines promulgated by the FSC, and measures market risk from trading activities to monitor and control the risk of its operating divisions and teams that perform trading activities. The Bank manages capital requirement measurements and limits on a daily basis based on automatic interfacing of its trading positions into its market risk measurement system. In addition, the Bank presets limits on loss, sensitivity, investment and stress for its trading departments and desks and monitors such limits and observance thereof on a daily basis.

Basel III The Standardised Approach Capital Requirement. The Bank uses the standardised approach capital requirement its market risk. The standardised approach capital requirement is the simple sum of three components: the capital requirement under the sensitivities-based method, the default risk capital(DRC) requirement and the residual risk add-on(RRAO). The capital requirement under the sensitivities-based method must be calculated by aggregating three risk measures — delta, vega and curvature. Delta is a risk measure based on sensitivities of an instrument to regulatory delta risk factors. Vega is a risk measure based on sensitivities to regulatory vega risk factors. Curvature is a risk measure which captures the incremental risk not captured by the delta risk measure for price changes in an option. Curvature risk is based on two stress scenarios involving an upward shock and a downward shock to each regulatory risk factor. The DRC requirement captures the jump-to-default risk for instruments subject to credit risk. Additionally, the Committee acknowledges that not all market risks can be captured in the standardised approach, as this might necessitate an unduly complex regime. An RRAO is thus introduced to ensure sufficient coverage of market risks.

Stress test. In addition to the standardised approach capital requirement, the Bank performs stress tests to measure market risk. As the standardised approach capital requirement assumes normal market situations, the Bank assesses its market risk exposure to unlikely abnormal market fluctuations through the stress test. Stress test is a valuable supplement to regulatory capital requirement since capital requirement does not cover potential loss if the market moves in a manner which is outside the Bank's normal expectations. Stress test projects the anticipated change in value of holding positions under certain scenarios assuming that no action is taken during a stress event to change the risk profile of a portfolio.

The Bank uses seven relatively simple but fundamental scenarios for stress test by taking into account four market risk components: foreign currency exchange rates, stock prices, and Won-denominated interest rates and foreign currency-denominated interest rates. For the worst case scenario, the Bank assumes instantaneous and simultaneous movements in four market risk components: appreciation of the Won by 20%, a decrease in Korea Exchange Composite Index by 30% and increases in Won-denominated and U.S. dollar-denominated interest rates by 200 basis points each, respectively. Under this worst-case scenario, the market value of the Bank's trading portfolio would have declined by ₩1,067 billion as of June 30, 2023. The Bank performs stress test on a daily basis and reports the results to its Risk Policy Committee on a monthly basis and its Risk Management Committee on a quarterly basis.

The Bank sets limits on stress testing for its overall operations. If the potential impact of market turmoil or other abnormalities is large, the Bank's head of Risk Management will notify such impact and may request a portfolio restructuring or other proper action.

Hedging and Derivative Market Risk

The principal objective of the Bank's group-wide hedging strategy is to manage its market risk within established limits. The Bank uses derivative instruments to hedge its market risk as well as to make profits by trading derivative products within preset risk limits. The Bank's derivative trading includes interest rate and cross-currency swaps, foreign currency forwards and futures, stock index and interest rate futures, and stock index and currency options.

While the Bank uses derivatives for hedging purposes, derivative transactions by nature involve market risk since the Bank takes trading positions for the purpose of making profits. These activities consist primarily of the following:

- arbitrage transactions to make profits from short-term discrepancies between the spot and derivative markets or within the derivative markets;

- sales of tailor-made derivative products that meet various needs of the Bank's corporate customers, and related transactions to reduce its exposure resulting from those sales;

- taking positions in limited cases when the Bank expects short-swing profits based on its market forecasts; and

- trading to hedge the Bank's interest rate and foreign currency risk exposure as described above.

In accordance with accounting requirements under K-IFRS 1109 'Financial Instruments', which has replaced K-IFRS 1039 'Financial Instruments: Recognition and Measurement' since January 1, 2019, the Bank has implemented internal processes which include a number of key controls designed to ensure that fair value is measured appropriately, particularly where a fair value model is internally developed and used to price a significant product.

The Bank assesses the adequacy of the fair market value of a new product derived from its internal model prior to the launch of such product. The assessment process involves the following:

- computation of an internal dealing system market value (based on assessment by the quantitative analysis team of the adequacy of the formula and the model used to compute the market value as derived from the dealing system);

- computation of the market value as obtained from an outside credit evaluation company; and

- following comparison of the market value derived from an internal dealing system to that obtained from outside credit evaluation companies, determination as to whether to use the internally developed market value based on inter-departmental consensus.

The dealing system market value, which is used officially by the Bank after undergoing the assessment process above, does not undergo a sampling process that confirms the value based on review of individual transactions, but is subject to an additional assessment procedure of comparing such value against the profits derived from the dealing systems based on the deal portfolio sensitivity. See "*Management's Discussion and Analysis of Financial Condition and Results of Operations — Critical Accounting Policies*" and Note 2 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 2 to the Bank's unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

Market Risk Management for Non-trading Activities

Interest Rate Risk

Interest rate risk represents the Bank's principal market risk from non-trading activities. Interest rate risk is the risk of loss resulting from interest rate fluctuations that adversely affect the financial condition and results of operations of the Bank. The Bank's interest rate risk primarily relates to the differences between the timing of rate changes for interest-earning assets and that for interest-bearing liabilities.

Interest rate risk affects the Bank's earnings and the economic value of the Bank's net assets as follows:

- *Earnings:* Interest rate fluctuations have an effect on the Bank's net interest income by affecting its interest-sensitive operating income and expenses.

- *Economic value of net assets:* Interest rate fluctuations influence the Bank's net worth by affecting the present value of cash flows from the assets, liabilities and other transactions of the Bank.

Accordingly, the Bank measures and manages interest rate risk for non-trading activities by taking into account the effects of interest rate changes on both its income and net asset value. The Bank measures and manages interest rate risk on a daily and monthly basis with respect to all interest-earning assets and interest-bearing liabilities in the Bank's bank accounts (including derivatives denominated in Won which are principally interest rate swaps entered into for the purpose of hedging) and in the trust accounts, except that the Bank measures VaRs on a monthly basis. Most of the Bank's interest-earning assets and interest-bearing liabilities are denominated in Won.

Interest Rate Risk Management

The principal objectives of the Bank's interest rate risk management are to generate stable net interest income and to protect the Bank's net asset value against interest rate fluctuations. Through its asset and liability management system, the Bank monitors and manages its interest rate risk based on various analytical measures such as interest rate gap, duration gap and net present value and net interest income simulations, and monitors on a monthly basis its interest rate VaR limits, interest rate earnings at risk ("**EaR**") limits and interest rate gap ratio limits. The Bank measures its interest rate VaR and interest rate EaR based on interest rate risk in the banking book standardized approach presented by the Bank for International Settlements (the "**IRRBB standardized approach**"). IRRBB, which is part of the Basel capital framework's Pillar 2 and subject to the Committee's guidance set out in the 2004 revised principles for the management and supervision of interest rate risk, refers to current or prospective risk to a bank's capital and earnings arising from adverse movements in interest rates that affect the bank's banking book position. Interest rate risk is managed by reflecting possible future interest rate environments and customer behavior based on the IRRBB standardized approach. Interest rate VaR is measured by the change in economic value of equity under six types of scenarios (parallel up, parallel down, stiffener, flattener, short-term interest rate-up and short-term interest rate-down). Interest rate EaR is measured by the largest loss amount based on two types of scenarios (parallel up and parallel down). The Risk Policy Committee sets the interest rate risk limits for the Bank's Won-denominated and foreign currency-denominated non-trading accounts and trust accounts, and the Risk Management Committee sets the Bank's overall interest rate risk limit, in both cases, at least annually. The Risk Engineering Department monitors the Bank's compliance with these limits and reports the monitoring results to the Risk Policy Committee on a monthly basis and the Risk Management Committee on a quarterly basis. The Bank uses interest rate swaps to control its interest rate exposure limits.

Interest rate VaR represents the maximum anticipated loss in a net present value calculation (computed as the present value of interest-earning assets minus the present value of interest-bearing liabilities), whereas interest rate EaR represents the maximum anticipated loss in a net earnings calculation (computed as interest income minus interest expenses) for the immediately following one-year period, in each case, as a result of negative movements in interest rates. Therefore, interest rate VaR is a more expansive concept than interest rate EaR in that the former covers all interest-earning assets and all interest-bearing liabilities, whereas the latter covers only those interest-earning assets and interest-bearing liabilities that are exposed to interest rate volatility for a one-year period.

Hence, for interest rate VaRs, the duration gap (namely, the weighted average duration of all interest-earning assets minus the weighted average duration of all interest-bearing liabilities) can be a more critical factor than the relative sizes of the relevant assets and liabilities in influencing interest rate VaRs. In comparison, for interest rate EaRs, the relative sizes of the relevant assets and liabilities in the form of the "one year or less interest rate" gap (namely, the volume of interest-earning assets with maturities of less than one year minus the volume of interest-bearing liabilities with maturities of less than one year) is the most critical factor in influencing the interest rate EaRs.

On a monthly basis, the Bank monitors whether the non-trading positions for interest rate VaR and EaR exceed their respective limits as described above.

Interest rate VaR cannot be meaningfully compared to the 10-day 99% confidence level based VaR ("**market risk VaR**") for managing trading risk principally because (i) the underlying assets are different (namely, non-trading interest-earning assets as well as liabilities in the case of the interest rate VaR, compared to trading assets only in the case of the market risk VaR), and (ii) interest rate VaR is sensitive to interest rate movements only while the market risk VaR is sensitive to interest rate movements as well as other factors such as foreign currency exchange rates, stock market prices and option volatility.

Even if comparison were to be made between the interest rate VaR and the interest rate portion only of the market risk VaR, the Bank does not believe such comparison would be meaningful since the interest rate VaR examines the impact of interest rate movements on both assets and liabilities (which will likely have offsetting effects), whereas the interest rate portion of the market VaR examines the impact of interest rate movements on assets only.

The Bank uses various analytical methodologies to measure and manage its interest rate risk for non-trading activities on a daily and monthly basis, including the following analyses:

- Interest rate gap analysis;
- Duration gap analysis;
- Market value analysis; and
- Net interest income simulation analysis.

Interest Rate Gap Analysis

The Bank performs an interest gap analysis to measure the difference between the amount of interest-earning assets and that of interest-bearing liabilities at each maturity and re-pricing date for specific time intervals by preparing interest rate gap tables in which the Bank's interest-earning assets and interest-bearing liabilities are allocated to the applicable time intervals based on the expected cash flows and re-pricing dates. On a daily basis, the Bank performs interest rate gap analysis for Won- and foreign currency-denominated assets and liabilities in its bank and trust accounts. The Bank's gap analysis includes Won-denominated derivatives (which are interest rate swaps for the purpose of hedging) and foreign currency-denominated derivatives (which are currency swaps for the purpose of hedging), which are managed centrally at the Financial Engineering Center. Through the interest rate gap analysis that measures interest rate sensitivity gaps, cumulative gaps and gap ratios, the Bank assesses its exposure to future interest risk fluctuations.

For interest rate gap analysis, the Bank assumes and uses the following maturities for different types of assets and liabilities:

- With respect to the maturities and re-pricing dates of the Bank's assets, the Bank assumes that the maturity of its prime rate-linked loans is the same as that of its fixed-rate loans. The Bank excludes equity securities from interest-earning assets.

- With respect to the maturities and re-pricing of the Bank's liabilities, the Bank assumes that money market deposit accounts and "non-core" demand deposits under the FSC guidelines have a maturity of one month or less for both Won-denominated accounts and foreign currency-denominated accounts.

- With respect to "core" demand deposits under the FSC guidelines, the Bank assumes that they have maturities of eight different intervals ranging from one month to five years.

The following tables show the Bank's interest rate gaps as of June 30, 2023 for (i) Won-denominated non-trading bank accounts, including derivatives entered into for the purpose of hedging and (ii) foreign currency-denominated non-trading bank accounts, including derivatives entered into for the purpose of hedging.

Won-denominated non-trading bank accounts[(1)]

	As of June 30, 2023						
	0-3 Months	3-6 Months	6-12 Months	1-2 Years	2-3 Years	Over 3 Years	Total
	(in billions of Won, except percentages)						
Interest-earning assets	136,484	75,818	61,788	40,002	18,938	33,154	366,185
Fixed rates	17,359	15,982	37,695	28,095	13,524	19,132	131,787
Floating rates	115,416	58,826	21,083	11,387	5,414	14,022	226,148
Interest rate swaps	3,710	1,010	3,010	520	0	0	8,250
Interest-bearing liabilities	165,539	70,598	65,937	23,253	18,774	30,180	374,281
Fixed liabilities	78,894	54,172	51,842	9,406	5,157	2,534	202,005
Floating liabilities	78,395	16,426	14,095	13,847	13,617	27,647	164,026
Interest rate swaps	8,250	0	0	0	0	0	8,250
Sensitivity gap	(29,054)	5,221	(4,149)	16,749	163	2,974	(8,096)
Cumulative gap	(29,054)	(23,834)	(27,983)	(11,234)	(11,071)	(8,096)	(8,096)
% of total assets	(7.93)%	(6.51)%	(7.64)%	(3.07)%	(3.02)%	(2.21)%	(2.21)%

Foreign currency-denominated non-trading bank accounts[(1)]

	As of June 30, 2023					
	0-3 Months	3-6 Months	6-12 Months	1-3 Years	Over 3 Years	Total
	(in millions of U.S. dollars, except percentages)					
Interest-earning assets	28,567	8,543	4,532	5,540	6,546	53,727
Interest-bearing liabilities	31,165	6,622	6,934	6,955	7,414	59,090
Sensitivity gap	(2,597)	1,921	(2,403)	(1,416)	(868	(5,363)
Cumulative gap	(2,597)	(677)	(3,079)	(4,495)	(5,363	(5,363)
% of total assets	(4.83)%	(1.26)%	(5.73)%	(8.37)%	(9.98%	(9.98)%

Note:

(1) Includes merchant banking accounts.

Duration Gap Analysis

The Bank performs a duration gap analysis to measure the differential effects of interest rate risk on the market value of its assets and liabilities by examining the difference between the durations of the Bank's interest-earning assets and those of its interest-bearing liabilities, which durations represent their respective weighted average maturities calculated based on their respective discounted cash flows using applicable yield curves. These measurements are done on a daily basis and for each operating department, account, product and currency, the respective durations of interest-earning assets and interest-bearing liabilities.

The following tables show duration gaps and market values of the Bank's Won-denominated interest-earning assets and interest-bearing liabilities in its non-trading accounts as of June 30, 2023 and changes in these market values when interest rate increases by one percentage point.

Duration as of June 30, 2023 (for non-trading Won-denominated bank accounts[1])

	Duration as of June 30, 2023
	(in months)
Interest-earning assets	11.34
Interest-bearing liabilities	9.81
Gap	1.52

Note:

(1) Includes merchant banking accounts and derivatives for the purpose of hedging.

Market Value Analysis

The Bank performs a market value analysis to measure changes in the market value of the Bank's interest-earning assets compared to that of its interest-bearing liabilities based on the assumption of parallel shifts in interest rates. These measurements are done on a monthly basis.

Market Value as of June 30, 2023 (for non-trading Won-denominated bank accounts[1])

	Market Value as of June 30, 2023		
	Actual	1% Point Increase	Changes
	(in billions of Won)		
Interest-earning assets	401,405	386,660	(14,745)
Interest-bearing liabilities	390,561	376,777	(13,784)
Gap	10,844	9,884	(961)

Note:

(1) Includes merchant banking accounts and derivatives for the purpose of hedging.

Net Interest Income Simulation

The Bank performs net interest income simulation to measure the effects of the change in interest rate on its results of operations. Such simulation uses the deterministic analysis methodology to measure the estimated changes in the Bank's annual net interest income (interest income less interest expenses) under the current maturity structure, using different scenarios for interest rates (assuming parallel shifts) and funding requirements. For simulations involving interest rate changes, based on the assumption that there is no change in funding requirements, the Bank applies three scenarios of parallel shifts in interest rate: (1) no change, (2) a 1% point increase in interest rates and (3) a 1% point decrease in interest rates.

The following table illustrates by way of an example the simulated changes in the Bank's annual net interest income for the first half of 2023 with respect to Won-denominated interest-earning assets and interest-bearing liabilities, using the Bank's net interest income simulation model, assuming (a) the maturity structure and funding requirement of the Bank as of June 30, 2023 and (b) the same interest rates as of June 30, 2023 and a 1% point increase or decrease in the interest rates.

	Simulated Net Interest Income for the first half of 2023 (For Non-Trading Won-Denominated Bank Accounts[(1)])						
	Assumed Interest Rates			Change in Net Interest Income		Change in Net Interest Income	
	No Change	1% Point Increase	1% Point Decrease	Amount (1% Point Increase)	% Change (1% Point Increase)	Amount (1% Point Decrease)	% Change (1% Point Decrease)
	(in billions of Won, except percentages)						
Simulated interest income	17,136	19,024	15,249	1,887	11.01%	(1,887)	(11.01)%
Simulated interest expense	10,036	11,655	8,417	1,619	16.13%	(1,619)	(16.13)%
Net interest income	7,100	7,368	6832	268	3.77%	(268)	(3.77)%

Note:

(1) Includes merchant banking accounts and derivatives entered into for the purpose of hedging.

The Bank's Won-denominated interest-earning assets and interest-bearing liabilities in non-trading accounts have a maturity structure that benefits from an increase in interest rates, because the re-pricing periods for interest-earning assets in the Bank's non-trading accounts are, on average, shorter than those of the interest-bearing liabilities in these accounts. This is primarily due to a sustained low interest rate environment in the recent years in Korea, which resulted in a significant increase in demand for floating rate loans (which tend to have shorter maturities or re-pricing periods than fixed rate loans) as a portion of the Bank's overall loans, which in turn led to the shortening, on average, of the maturities or re-pricing periods of the Bank's loans on an aggregate basis. As a result, the Bank's net interest income tends to decrease during times of a decrease in the market interest rates while the opposite is generally true during times of an increase in the market interest rates.

Interest Rate VaRs for Non-trading Assets and Liabilities

The Bank measures VaRs for interest rate risk from non-trading activities on a monthly basis. The following table shows, as of and for the year ended June 30, 2023, the VaRs of interest rate mismatch risk for other assets and liabilities, which arises from mismatches between the re-pricing dates for the Bank's non-trading interest-earning assets (including available-for-sale investment securities) and those for its interest-bearing liabilities. Under the regulations of the FSC, the Bank includes in calculation of these VaRs interest-earning assets and interest-bearing liabilities in its bank accounts and its merchant banking accounts.

	VaR for the half year 2023[1]			
	Average	Minimum	Maximum	As of June 30
	(in billions of Won)			
Interest rate mismatch — non-trading assets and liabilities	1,397	1,328	1,454	14,543

Note:

(1) One-year VaR results computed based on the interest rate risk in the banking book standardized approach presented by the Bank for International Settlements.

Equity Risk

Substantially all of the Bank's equity risk relates to its portfolio of common stock in Korean companies. As of June 30, 2023, the Bank held an aggregate amount of ₩372.8 billion of equity interest in unlisted foreign companies (including ₩0.03 billion invested in unlisted private equity funds).

The equity securities in Won held in the Bank's investment portfolio consist of stocks listed on the KRX KOSPI Market or the KRX KOSDAQ Market of the Korea Exchange and certain non-listed stocks. The Bank sets exposure limits for most of these equity securities to manage their related risk. As of June 30, 2023, the Bank held equity securities in an aggregate amount of ₩1,456.5 billion in its non-trading accounts, including equity securities in the amount of ₩316.8 billion that it held, among other reasons, for management control purposes and as a result of debt-to-equity conversion as a part of reorganization proceedings of the companies to which it had extended loans.

As of June 30, 2023, the Bank held Won-denominated convertible bonds in an aggregate amount of ₩21.0 billion and did not hold any Won-denominated exchangeable bonds or Won-denominated bonds with warrants, in each case, in its non-trading accounts. The Bank does not measure equity risk with respect to convertible bonds, exchangeable bonds or bonds with warrants, and the interest rate risk of these equity-linked securities are measured together with the other debt securities. As such, the Bank measures interest rate risk VaRs but not equity risk VaRs for these equity-linked securities.

Liquidity Risk Management

Liquidity risk is the risk of insolvency, default or loss due to disparity between inflow and outflow of funds, including the risk of having to obtain funds at a high price or to dispose of securities at an unfavorable price due to lack of available funds. The Bank seeks to minimize liquidity risk through early detection of risk factors related to the sourcing and managing of funds that may cause volatility in liquidity and by ensuring that it maintains an appropriate level of liquidity through systematic management. In addition, in order to preemptively and comprehensively manage liquidity risk, the Bank measures and monitors liquidity risk management using various indices, including the "limit management index," "early warning index" and "monitoring index."

The Bank applies the following basic principles for liquidity risk management:

- raise funds in sufficient amounts, at the optimal time at reasonable costs;

- maintain liquidity risk at appropriate levels and preemptively manage them through a prescribed risk limit system and an early warning signal detection system;

- secure stable sources of revenue and minimize actual losses by implementing an effective asset-liability management based on diversified sources of funding with varying maturities;

- monitor and manage daily and intra-daily liquidity positions and risk exposures for timely payment and settlement of financial obligations due under both normal and crisis situations;

- conduct periodic liquidity stress test in anticipation of any potential liquidity crisis and establish and implement contingency funding plans in case of an actual crisis; and

- consider liquidity-related costs, benefits of and risks in determining the pricing of its products and services, performance evaluations and approval of launching of new products and services.

The Bank manages liquidity risk in accordance with the risk limits and guidelines established internally and by the relevant regulatory authorities. Pursuant to principal regulations applicable to banks as promulgated by the FSC, the Bank is required to maintain a liquidity coverage ratio, a foreign currency liquidity coverage ratio and a net stable funding ratio. The Bank is required to maintain the relevant ratios above certain minimum levels.

The Bank manages its liquidity risk within the limits set on Won and foreign currency accounts in accordance with the regulations of the FSC. The FSC implemented a minimum liquidity coverage ratio requirement for Korean banks, including the Bank, of at least 90.0% as of January 1, 2017, 95.0% as of January 1, 2018 and 100.0% as of January 1, 2019. The FSC defines liquidity coverage ratio as high quality liquid assets that can be immediately converted into cash with little or no loss in value, as divided by the net amount of cash outflow for the next 30 day period, under the stress level established according to the liquidity coverage ratio, pursuant to the Regulation on the Supervision of the Banking Business, which was amended as of June 28, 2016 to implement the liquidity coverage ratio requirements under Basel III. In addition to the liquidity coverage ratio, the FSC introduced the net stable funding ratio into the Regulation on the Supervision of the Banking Business that came into effect in January 2018. Whereas liquidity coverage ratio is aimed at measuring liquidity for the next 30-day period, net stable funding ratio, calculated as the ratio of available stable funding to required stable funding, is aimed at measuring liquidity for the next one-year period. A bank's available stable funding is the portion of its capital and liabilities that are safely expected to remain with the bank for more than one year. A bank's required stable funding is the amount of stable funding that it is required to hold given the liquidity characteristics and residual maturities of its assets and the contingent liquidity risk arising from its off-balance sheet exposures. The Bank is required by the FSC to maintain a net stable funding ratio of at least 100%.

With respect to foreign currency liquidity coverage ratio, the Regulation on the Supervision of the Banking Business requires that financial institutions dealing with foreign exchange affairs (i.e., banks) whose foreign-currency denominated liabilities are equal to or greater than US$500 million or 5% of its total liabilities, as of the end of the immediately preceding half-year period, maintain a foreign currency liquidity coverage ratio of 60% or higher beginning January 1, 2017, 70% or higher beginning January 1, 2018 and 80% or higher beginning January 1, 2019. The term "foreign currency liquidity coverage ratio" means the ratio of high quality liquidity assets to the net cash outflow in respect of foreign-currency denominated assets and liabilities for the next 30 days.

In April 2020, in response to the COVID-19 pandemic, the FSC temporarily lowered the liquidity coverage ratio requirement from 100% to 85%. The FSC subsequently decided to gradually restore this ratio on a quarterly basis from the third quarter of 2022, to a ratio of 90% in the third quarter of 2022, 92.5% in the fourth quarter of 2022, 95% in the first quarter of 2023, 97.5% in the second quarter of 2023 and 100% from the third quarter of 2023. However, in October 2022, the FSC decided to apply the 92.5% ratio until the end of June 2023 in response to the increasing volatility and uncertainty in the short-term money market, as determined through a financial market inspection meeting. The FSC announced on June 20, 2023 that a 95% ratio will be applied from July 2023 until the end of 2023.

The Treasury Department is in charge of liquidity risk management with respect to the Bank's Won and foreign currency funds. The Treasury Department submits the Bank's monthly funding and asset management plans to the Bank's Asset and Liability Committee for approval, based on the analysis of various factors, including macroeconomic indices, interest rate and foreign exchange movements and maturity structures of the Bank's assets and liabilities. The Risk Engineering Department measures the Bank's liquidity coverage ratio on a daily basis and net stable funding ratio on a monthly basis and reports whether the Bank is in compliance with the respective limits to the Risk Policy Committee, which sets and monitors the Bank's liquidity coverage ratio and net stable funding ratio on a monthly basis.

The following tables show the Bank's (i) average liquidity coverage ratio, (ii) average foreign currency liquidity coverage ratio and (iii) net stable funding ratio, each for the month of June 2023 in accordance with the regulations of the FSC.

Average Liquidity Coverage Ratio for the Month of June 2023

	For the Month of June 2023
	(in billions of Won, except percentages)
High quality liquid assets (A)	₩ 81,181
Net cash outflows over the next 30 days (B)	80,561
Cash outflow	109,713
Cash inflow	29,152
Liquidity coverage ratio (A/B)	100.77%

Average Foreign Currency Liquidity Coverage Ratio for the Month of June 2023

	For the Month of June 2023
	(in millions of U.S. dollars, except percentages)
High quality liquid assets (A)	$ 5,965
Net cash outflows over the next 30 days (B)	4,050
Cash outflow	15,816
Cash inflow	11,767
Liquidity coverage ratio (A/B)	147.30%

Net Stable Funding Ratio for the Month of June 2023

	For the Month of June 2023
	(in billions of Won , except percentages)
Available Stable Funding (A)	₩293,366
Required Stable Funding (B)	259,208
Net stable funding ratio (A/B)	113.18%

The Bank maintains diverse sources of liquidity to facilitate flexibility in meeting its funding requirements. The Bank funds its operations principally by accepting deposits from retail and corporate depositors, accessing the call loan market (a short-term market for loans with maturities of less than one month), issuing debentures and borrowing from the Bank of Korea. The Bank uses the funds primarily to extend loans or purchase securities. Generally, deposits are of shorter average maturity than loans or investments.

In addition to liquidity risk management under the normal market situations, the Bank has contingency plans to effectively cope with possible liquidity crisis. Liquidity crisis arises when the Bank would not be able to effectively manage the situations with its normal liquidity management measures due to, among other reasons, inability to access the Bank's normal sources of funds or epidemic withdrawals of deposits as a result of various external or internal factors, including a collapse in the financial markets or abrupt deterioration of the Bank's credit. The Bank has contingency plans corresponding to different stages of liquidity crisis: namely "alert stage," "imminent-crisis stage" and "crisis stage," based on the following liquidity indices:

- indices that reflect the market movements such as interest rates and stock prices;

- indices that reflect financial market sentiments, an example being the size of money market funds; and

- indices that reflect the Bank's internal liquidity condition.

Operational Risk Management

Operational risk is difficult to quantify and subject to different definitions. The Basel Committee defines operational risk as the risk of loss resulting from inadequate or failed internal processes, people and systems or from other external events. Similarly, the Bank defines operational risk as the risks related to its overall management other than credit risk, market risk, interest rate risk and liquidity risk. These include risks arising from system failure, human error, non-adherence to policy and procedures, fraud, inadequate internal controls and procedures or environmental changes and resulting in financial and non-financial loss. The Bank monitors and assesses operational risks related to its business operations, including administrative risk, information technology risk (including cyber security risk), managerial risk and legal risk, with a view to minimizing such losses.

To monitor and manage operational risk, the Bank maintains, a system of comprehensive policies and has in place a control framework designed to provide a stable and well-managed operational environment throughout the organization. Currently, the primary responsibility for ensuring compliance with the Bank's banking operational risk procedures remains with each of the business units and operational teams. In addition, the Audit Department, the Risk Engineering Department and the Compliance Department of the Bank also play important roles in reviewing and maintaining the integrity of the Bank's internal control environment.

The operational risk management system of the Bank is managed by the operational risk team under the Risk Engineering Department. The current system principally consists of risk control self-assessment, risk quantification using key risk indicators, loss data collection, scenario analysis and operational risk capital measurement. The Bank operates several educational and awareness programs designed to have all of its employees to be familiar with this system. In addition, the Bank has a designated operational risk manager at each of its departments and branch offices, who serves as a coordinator between the operational risk team at the headquarters and the employees in the front office and seeking to provide centralized feedback to further improve the operational risk management system.

As of June 30, 2023, the Bank has conducted risk control self-assessments on its departments as well as domestic and overseas branch offices, from which it collects systematized data on all of its branch offices, and uses the findings from such self-assessments to improve the procedures and processes for the relevant departments or branch offices. In addition, the Bank has accumulated risk-related data since 2003, improved the procedures for monitoring operational losses and is developing risk simulation models. In addition, the Bank selects and monitors, at the department level, approximately 351 key risk indicators.

The Audit Committee of the Bank, which consists of one standing director and two outside directors, is an independent inspection authority that supervises the Bank's internal controls and compliance with established ethical and legal principles. The Audit Committee performs internal audits of, among other matters, the Bank's overall management and accounting, and supervises its Audit Department, which assists the Bank's Audit Committee. The Bank's Audit Committee also reviews and evaluates the Bank's accounting policies and their changes, financial and accounting matters and fairness of financial reporting.

The Bank's Audit Committee, Audit Department and Compliance Department supervise and perform the following duties:

- general audits, including full-scale audits performed annually for the overall operations, sectional audits of selected operations performed as needed, and periodic and irregular spot audits;

- special audits, performed when the Audit Committee deems it necessary or pursuant to requests by the chief executive officer or supervisory authorities such as the FSS;

- day-to-day audits, performed by the standing member of the Audit Committee for material transactions or operations that are subject to approval by the heads of the Bank's operational departments or senior executives;

- real-time monitoring audits, performed by the computerized audit system to identify any irregular transactions and take any necessary actions; and

- self-audits as a self-check by each operational department to ensure its compliance with the Bank's business regulations and policies, which include daily audits, monthly audits and special audits.

In addition to these audits and compliance activities, the Bank's Risk Engineering Department designates operational risk management examiners to monitor the appropriateness of operational risk management frameworks and the functions and activities of the board of directors, relevant departments and business units, and conducts periodic checks on the operational risk and reports such findings. The Bank's Audit Department also reviews in advance proposed banking products or other business or service plans with a view to minimizing operational risk.

General audits, special audits, day-to-day audits and real-time monitoring audits are performed by the Bank's examiners, and self-audits are performed by the self-auditors of the relevant operational departments.

In addition to internal audits and inspections, the FSS conducts general annual audits of the Bank's operations. The FSS also performs special audits as the need arises on particular aspects of the Bank's operations such as risk management, credit monitoring and liquidity. In the ordinary course of these audits, the FSS routinely issues warning notices where it determines that a regulated financial institution or such institution's employees have failed to comply with the applicable laws or rules, regulations and guidelines of the FSS. The Bank has in the past received, and expects in the future to receive, such notices and it has taken and will continue to take appropriate actions in response to such notices. For example, in October 2018, the FSS requested the Bank to submit supporting documents in connection with allegations of inadequate compliance controls. In November 2018, the FSS notified the Bank of an institutional caution for alleged deficiencies in its customer due diligence and imposed an administrative fine of ₩100 million citing negligence in carrying out its customer verification obligations. In December 2019, the FSS notified the Bank of an institutional caution and imposed an administrative fine of ₩3 billion for alleged prohibited activities, including promotional activities for specified money trusts, investment solicitation for derivatives and management of trust properties. In February 2021, the FSS notified the Bank of an institutional warning and imposed an administrative fine of ₩2.1 billion for alleged violation of internal regulations and reporting procedures in connection with the Bank's designation as the primary bank for Seoul Metropolitan Government in 2018. In March 2021, the FSS notified the Bank of an institutional caution and imposed an administrative fine of ₩31.2 million for alleged violation of the safety standard in operating its information system in respect of the electronic financial transaction and alleged negligence in notifying its customers of the errors occurred to the electronic financial transaction and measures taken to correct the errors.

The Bank considers legal risk as a part of operational risk. The uncertainty of the enforceability of obligations of the Bank's customers and counterparties, including foreclosure on collateral, creates legal risk. Changes in laws and regulations could also adversely affect the Bank. Legal risk is higher in new areas of business where the law is often untested in the courts although legal risk can also increase in the Bank's traditional business to the extent that the legal and regulatory landscape in Korea changes and many new laws and regulations governing the banking industry remain untested. The Bank seeks to minimize legal risk by using stringent legal documentation, employing procedures designed to ensure that transactions are properly authorized and consulting legal advisers. The Compliance Department operates the Bank's compliance system. This system is designed to ensure that all of the Bank's employees comply with the relevant laws and regulations. The compliance system's main function is to monitor the degree of improvement in compliance with the relevant laws and regulations, maintain internal controls (including ensuring that each department has established proper internal policies and that it complies with those policies) and educate employees about observance of the relevant laws and regulations. The Compliance Department also supervises the management, execution and performance of self-audits.

Upgrades to Risk Management System

In order to strengthen risk management of its overseas subsidiaries and effectively comply with local and domestic regulations, the Bank is in the process of laying out a global risk management system network, which records the risk data of its overseas subsidiaries. The Bank seeks to leverage the development of this system for further overseas expansion and stable growth of existing overseas subsidiaries. To date, the Bank has completed the development of such system for its subsidiaries in China, Japan, Vietnam, the United States, Canada, India, Europe and Mexico. The Bank also plans to expand the application of this system to its other overseas subsidiaries.

The Bank has also completed development of a system to calculate market risk capital requirement on Basel III standards in order to prepare for tail risk over VaR based on a 99.9% confidence level. The Bank has received approval for such system from the FSS in 2023.

In 2012, the Bank developed a system for improving collection and recovery of bad assets through enhanced loss given default (LGD) data processing. In addition, in 2012, the Bank received approvals from the FSS for upgrades to its credit evaluation modeling for risk assessment of small- to medium-sized enterprises that are not required to be audited by outside accounting firms and for SOHOs, which upgrades related to factoring in the credit profile of the head of such enterprises and SOHOs. In 2014, the Bank further upgraded the credit evaluation modeling for risk assessment of small- and medium-size enterprises that are not required to be audited by outside accounting firms by entirely revamping the modeling for enterprises subject to outside audits, enterprises that are not subject to outside auditors and enterprise heads. Such upgraded modeling was approved by the FSS, and the Bank began implementation of the upgraded system since 2014. In 2014, the Bank reclassified its credit evaluation models for risk assessment of enterprises into the following four categories: (i) IFRS (enterprises subject to external audits under K-IFRS), (ii) GAAP (enterprises subject to external audits under Generally Accepted Accounting Principles), (iii) small- and medium-size enterprises and (iv) SOHO. Such reclassification was approved by the FSS, and the Bank began to implement the system in 2015.

In addition, in 2013, the Bank obtained approval from the FSS to use an internal evaluation model with respect to Basel II credit risks related to the Bank's retail and SOHO exposures. In 2016, the Bank developed a new internal evaluation model and obtained approval from the FSS to use the new model with respect to Basel II credit risks related to the Bank's retail exposures. In addition, the Bank received another approval in 2016 for LGD data processing using the AIRB approach in order to reflect changes in economic conditions such as prolonged recovery periods and low interest rates, and the newly approved LGD data processing will replace existing LGD data processing for both retail and SOHO exposures.

The Bank also upgraded the asset and liability management system in 2012 in order to timely comply with Basel III, IFRS and other regulatory requirements as well as to upgrade the quality of risk-related data. In 2014, the Bank upgraded the liquidity coverage ratio and net stable funding ratio systems under Basel III in order to facilitate daily measurement and efficient management.

The Bank has re-established the operational risk management system in 2022 in order to comply with Basel III Operational Risk Management Framework (including PSMOR) and to further enhance its operational risk management capabilities.

MANAGEMENT AND EMPLOYEES

Management

Board of Directors

The Bank is managed by the Board of Directors of the Bank (the "**Board**"), which is responsible for policy and strategic matters, has the ultimate responsibility for the administration of the affairs of the Bank and oversees the day-to-day operations through several governing bodies. The address for each of the Directors of the Board is: c/o Shinhan Bank, 20, Sejong-Daero 9-Gil, Jung-Gu, Seoul, Korea 04513.

The Board is comprised of two Executive Directors, one Non-Standing Director and six Outside Directors.

The Executive Directors and Non-Standing Director are elected for a renewable term of up to three years as determined at the general meeting of the Bank's shareholders. The term of office for Outside Directors is up to two years. The Outside Director may be reappointed on a year-by-year basis up to six years. The Director who is a standing member of the Audit Committee (as described below) is elected for a renewable term of up to three years. The Board meets at least once every quarter and additional extraordinary meetings can be convened at the request of the chairman of the Board.

The Board has established four committees to carry out duties for the purpose of supporting the administration of various Board responsibilities: an Audit Committee, a Risk Management Committee, an Executive Recommendation Committee and a Compensation Committee.

The purpose of the Audit Committee is to (i) establish internal audit plans, carry out such plans, evaluate the results, take appropriate follow-up measures and propose appropriate reforms, (ii) evaluate and propose appropriate reforms regarding the comprehensive system of internal controls, (iii) approve the appointment(s) of external auditor(s) and (iv) perform various other functions similar to the foregoing.

The purpose of the Risk Management Committee is to (i) review risk, evaluation and limit policies of the Bank, (ii) review asset liability management and credit and market risk measures, and (iii) regulate asset quality, risk exposure and problem assets.

The purpose of the Executive Recommendation Committee is to nominate and recommend candidates for the President of the Bank, Outside Directors and members of the Audit Committee.

The purpose of the Compensation Committee is to evaluate management's performance and fix appropriate executive compensation, including incentives and bonuses.

As of the date of this offering circular, the Bank had two Executive Directors, who are full-time employees of the Bank and hold the executive position listed below.

Executive Director and Chief Executive Officer

Name	Age	Position	Executive Director Since	Date Term Ends
Sang Hyuk Jung	59	President, Chief Executive Officer and Executive Director	February 15, 2023	December 31, 2024

Sang Hyuk Jung has been the Bank's President, Chief Executive Officer and Executive Director since February 15, 2023. Mr. Jung previously served as Executive Vice President. Mr. Jung received his bachelor's degree in international economics from Seoul National University.

Executive Director and Member of the Audit Committee

Name	Age	Position	Executive Director Since	Date Term Ends
Chan Woo Ryu	59	Executive Director and standing member of the Audit Committee	January 1, 2022	December 31, 2023

Chan Woo Ryu has been the Bank's Executive Director and standing member of the Audit Committee since January 1, 2022. Mr. Ryu previously served as chief executive officer of Korea Finance Security Co., Ltd. and deputy governor of Financial Supervisory Service. Mr. Ryu received his bachelor's degree in economics from Seoul National University.

Non-Standing Director

As of the date of this offering circular, the Bank had one Non-Standing Director who is neither a full-time employee of the Bank nor holds an executive position with the Bank but is otherwise affiliated with the Bank.

Name	Age	Position	Executive Director Since	Date Term Ends
Een Kyoon Lee	56	Vice President of Shinhan Financial Group	January 1, 2023	December 31, 2023

Een Kyoon Lee has been the Vice President of Shinhan Financial Group and the Bank's Non-Director Executive Officer since January 1, 2023. Mr. Lee previously served as managing director of Shinhan Financial Group. Mr. Lee received his bachelor's degree in English language and literature from Hanyang University.

Outside Directors

As of the date of this offering circular, the Bank had six Outside Directors who are neither employees of the Bank nor hold executive positions with the Bank nor are otherwise affiliated with the Bank, as listed below.

Name	Age	Position	Director Since	Date Term Ends[1]
Ki Seok Seo	70	Chair-professor at Hanyang University	March 25, 2020	March 2024
Sang Hyun Im	63	Former Executive Director of the Industrial Bank of Korea	April 1, 2021	March 2024
In Jae Lee	59	Former Vice President of Samsung Card	December 28, 2021	March 2024
Hun Ya Lee	64	Former Executive Director of Korean Chamber of Commerce and Industry in Japan	March 25, 2020	March 2024
Joon ho Hahm	59	Former member of the Monetary Policy Board	March 22, 2023	March 2025
Sung nam Kim	65	Member of the International Ethics Standards Board for Accountants	March 22, 2023	March 2025

Note:

(1) The date on which each term will end will be the date of the general shareholders' meeting in the relevant year.

Ki Seok Seo has been an Outside Director since March 25, 2020. Mr. Seo is currently a chair-professor at Hanyang University. Mr. Seo received his bachelor's degree in law from Seoul National University.

Sang Hyun Im has been an Outside Director since April 1, 2021. Mr. Im was formerly the chief executive officer of IBK Savings Bank Co., Ltd. and executive director of the Industrial Bank of Korea. Mr. Im received his bachelor's degree in business administration from Chungnam National University.

In Jae Lee has been an Outside Director since December 28, 2021. Ms. Lee was vice president of Samsung Card. Ms. Lee received her bachelor and master's degree in industrial engineering from Seoul National University.

Hun Ya Lee has been an Outside Director since March 25, 2020. Mr. Lee was formerly an executive director of the Korean Chamber of Commerce and Industry in Japan. Mr. Lee received his bachelor's degree from Osaka Art University.

Joon ho Hahm has been an Outside Director since March 22, 2023. Mr. Hahm was formerly a member of the Monetary Policy Board. Mr. Hahm received his bachelor's degree in English language and literature from Seoul National University.

Sung nam Kim has been an Outside Director since March 22, 2023. Mr. Kim is currently a member of the International Ethics Standards Board for Accountants. Mr. Kim received his bachelor's degree and MBA in accounting from Sung Kyun Kwan University.

All of the Outside Directors hold positions with companies or organizations other than the Bank (such principal positions are specified above).

Management

As of the date of this offering circular, the management of the Bank consists of 20 Non-Director Executive Officers.

Non-Director Executive Officers	Age	Department	Executive Officer Since	Date Term Ends
Pil Hwan Jeon	58	Digital Innovation Unit And Open Innovation Group	January 1, 2021	December 31, 2023
Sung Hyun Park	57	Institutional Banking Group	January 1, 2022	December 31, 2023
Keun Soo Jung	57	Global Investment Banking and Large Corporate Banking Group	January 1, 2021	December 31, 2023
Jun Sik Ahn	58	Brand & PR Group	January 1, 2021	December 31, 2023
Yong Uk Jung	56	Retail Business Unit and Retail Banking & Wealth Management Group	January 1, 2021	December 31, 2023
Hyun Ju Park	58	Consumer Protection Group	January 1, 2022	December 31, 2023
Han Sup Oh	58	Credit Group	January 1, 2022	December 31, 2023
Yong Gi Jeong	58	Sales Management Group	January 1, 2022	December 31, 2023
Seung Hyeon Seo	56	Global Business Group	January 1, 2022	December 31, 2023
Youn Hong Kim	56	Corporate Business Unit and Corporate Banking Group	January 1, 2023	December 31, 2024
Ki Heung Kim	54	Management Planning Group	January 1, 2023	December 31, 2024
In Ha Hwang	57	Information & Communication Technologies Group	January 1, 2023	December 31, 2024
Yoon Ho Yong	56	Management Support Group	January 1, 2023	December 31, 2024
Soo Han Lim	54	Digital Strategic & Business Group	January 1, 2023	December 31, 2024
Jong Hwa Bae	57	Risk Management Group	January 1, 2022	December 31, 2023
Seok Ryoung Hong	57	Investment Product and Solution Group	January 1, 2022	December 31, 2023
Eui Sik Park	54	Pension Business Group	January 1, 2023	December 31, 2024
Jun Ho Yoon	55	Information Security Division	January 1, 2023	December 31, 2024
Young Ho Lee	52	Chief Compliance Officer	January 1, 2023	December 31, 2024
Sang Keun Kim	53	Capital Market & Trading Group	February 16, 2023	December 31, 2023

Pil Hwan Jeon has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2021. Mr. Jeon previously served as Vice President of Shinhan Bank Japan and General Manager of the Bank's Incheon International Airport Branch. Mr. Jeon received his bachelor's degree in public administration from Sungkyunkwan University.

Sung Hyun Park has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2022. Mr. Park previously served as Vice President of Shinhan Financial Group and General Manager of Institutional Banking Department. Mr. Park received his bachelor's degree in economics from Seoul National University.

Keun Soo Jung has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2021. Mr. Jung previously served as Head of the Bank's Investment Banking Division and Global Investment Banking Division. Mr. Jung received his bachelor's degree in Chinese language and literature from Korea University.

Jun Sik Ahn has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2021. Mr. Ahn previously served as Head of the Bank's Seocho Business Division and Busan Gyeongnam Business Division. Mr. Ahn received his bachelor's degree in economics from Busan University.

Yong Uk Jung has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2021. Mr. Jung previously served as General Manager of the Bank's Human Resources Department and Sales Promotion 2 Department. Mr. Jung received his bachelor's degree in Korean language and literature from Hanyang University.

Hyun Ju Park has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2022. Ms. Park previously served as Head of Consumer Protection Division and General Manager of International Trade Business Support Department. Ms. Park graduated from Seoul Girls' Commercial High School.

Han Sup Oh has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2022. Mr. Oh previously served as Head of PRM Marketing Department and Head of Corporate Credit Analysis & Assessment Department. Mr. Oh received his bachelor's degree in public administration from Korea University.

Yong Gi Jeong has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2022. Mr. Jeong previously served as Head of Sales Promotion Department and Head of Mi-Sa Branch Community. Mr. Jeong received his bachelor's degree in business administration from Chung-Ang University.

Seung Hyeon Seo has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2022. Mr. Seo previously served as Head of Global Business Division and General Manager of London Branch. Mr. Seo received his bachelor's degree in agricultural economics from Korea University.

Youn Hong Kim has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2023. Mr. Kim previously served as Head of Gyeonggi Seobu Business Division and Head of Corporate Credit Analysis & Assessment Department. Mr. Kim received his bachelor's degree in business administration from Sogang University.

Ki Heung Kim has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2023. Mr. Kim previously served as Head of Strategic & Financial Planning Department and General Manager of the Strategic Planning Department. Mr. Kim received his bachelor's degree in economics from Yonsei University.

In Ha Hwang has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2023. Mr. Jang previously served as Head of ICT Planning Department and General Master of ICT Planning Department. Mr. Hwang received his bachelor's degree in accounting from Sejong University.

Yoon Ho Yong has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2023. Mr. Yong previously served as Head of Large Corporate Gangbuk Business Division and General Manager of Corporate Banking Center 1. Mr. Yong received his bachelor's degree in Spanish from Hankuk University of Foreign Studies.

Soo Han Lim has been the Bank's Executive Vice President and Non-Director Executive Officer since January 1, 2023. Mr. Lim previously served as Head of Digital Strategy Department and General Manager of Digital Strategy Department. Mr. Lim received his bachelor's degree in mathematics from Hanyang University.

Jong Hwa Bae has been the Bank's Managing Director and Non-Director Executive Officer since January 1, 2022. Mr. Bae previously served as Head of Risk Management Department and General Manager of Credit Planning Department. Mr. Bae received his bachelor's degree in agricultural economics from Seoul National University.

Seok Ryoung Hong has been the Bank's Managing Director and Non-Director Executive Officer since January 1, 2022. Mr. Hong previously served as General Manager of Shinhan PWM Privilege Seoul Center and Shinhan PWM Privilege Gang-Nam Center. Mr. Hong received his bachelor's degree in business administration from Cheongju University.

Eui Sik Park has been the Bank's Managing Director and Non-Director Executive Officer since January 1, 2023. Mr. Park previously served as General Manager of Pension Business Department and Yeoksamdong Branch. Mr. Park received his bachelor's degree in economics from Kyungpook National University.

Jun Ho Yoon has been the Bank's Managing Director and Non-Director Executive Officer since January 1, 2023. Mr. Yoon previously served as General Manager of Global IT System Development Department and Madu-Yeok Branch. Mr. Yoon received his bachelor's degree in public administration from Sungkyunkwan University.

Young Ho Lee has been the Bank's Managing Director and Non-Director Executive Officer since January 1, 2023. Mr. Lee previously served as General Manager of Compliance Department. Mr. Lee received his bachelor's degree in law from Sogang University.

Sang Keun Kim has been the Bank's Managing Director and Non-Director Executive Officer since February 16, 2023. Mr. Kim previously served as Head of Global Markets & Securities Division and General Manager of FI Banking Center. Mr. Kim received his bachelor's degree in business administration from Seoul National University.

Audit Committee

The Bank has an Audit Committee under the Board. The rights and responsibilities of the Audit Committee include the following: (i) conduct the audit of accounting and business of the Bank, (ii) investigate the agenda and documents to be submitted at general shareholders meetings and state at general shareholders meetings its opinion on whether there exists any violation of laws, regulations or articles of incorporation or remarkable illegality, (iii) demand the convening of extraordinary shareholders meetings, (iv) request reports on business of subsidiaries and if necessary, investigate business or status of properties of subsidiaries, (v) approve the appointment of external auditors and (vi) handle other matters delegated by the Board.

As of the date of this offering circular, the Audit Committee of the Bank consists of the following members.

Name	Age	Position	Audit Committee Member Since	Date Term Ends
Sung nam Kim	65	Member of the International Ethics Standards Board for Accountants	March 22, 2023	March 2025
Chan Woo Ryu	59	Member of the Audit Committee; Executive director	January 1, 2022	December 31, 2023
In Jae Lee.....................	59	Member of the Audit Committee	December 28, 2021	March 2024

Risk Management Committee

The Risk Management Committee currently consists of two Outside Directors, Sang Hyun Im and Joon ho Hahm, and one Non-Standing Director, Een Kyoon Lee. The committee oversees and makes determinations on significant issues relating to the Bank's comprehensive risk management function. In order to ensure the Bank's stable financial condition and to maximize its risk-adjusted profits, the committee monitors the Bank's overall risk exposure and reviews the Bank's compliance with risk policies and processes. In addition, the committee examines and amends risk and control strategies and policies and the Bank's overall risk management system, evaluates whether each risk is at an adequate level and reviews risk-based capital allocations. The committee holds a regular meeting every quarter.

Executive Recommendation Committee

The Executive Recommendation Committee is comprised of four Outside Directors and one Non-Standing Director. The committee currently consists of five directors, namely Sang Hyun Im, Ki Seok Seo, Sung nam Kim, Hun Ya Lee and Een Kyoon Lee. The committee recommends candidates for the President of the Bank, the Bank's Outside Director positions and the Bank's Audit Committee positions to be nominated at the general meeting of the Bank's shareholders. Resolutions require a majority of votes cast at a meeting of a majority of the members present. However, resolutions require at least two-thirds of the votes of the committee members for the recommendation of candidates for the Bank's Audit Committee positions.

Compensation Committee

The Compensation Committee currently consists of two Outside Directors, In Jae Lee and Joon ho Hahm, and one Non-Standing Director, Een Kyoon Lee. The committee evaluates management's performance and deliberates and decides the compensation of directors, including the performance-related compensation of the Bank's executive officers. The committee holds meetings as necessary.

Remuneration

The aggregate remuneration and benefits in kind granted by the Bank to its directors and executive officers during the six months ended June 30, 2023 was ₩8,099 million.

Employees

As of June 30, 2023, the Bank's workforce consisted of 12,417 regular employees and 965 contract-based employees of the Bank. As of June 30, 2023, 8,761 employees were members of the Bank's labor union. The Bank maintains a good relationship with its labor union and there has been no material labor dispute in the past three years.

Share Ownership

All of the Bank's share capital is owned by Shinhan Financial Group.

Stock Options

Prior to April 1, 2010, Shinhan Financial Group granted stock options to select members of senior management. On March 16, 2016, the exercise period for all outstanding stock options expired, and there are currently no stock options outstanding.

CERTAIN RELATIONSHIPS AND RELATED PARTY TRANSACTIONS

As of June 30, 2023, there were no loans outstanding made by the Bank to the members of the Bank's board of directors or the Bank's executive officers. There are no guarantees provided by the Bank and its consolidated subsidiaries for the benefit of any of the Bank's directors or executive officers. Other than housing-related legacy loans in the aggregate of ₩1 billion, none of the directors or executive officers has or has had any interest in any transactions effected by the Bank which are or were unusual in their nature or conditional or significant to the business of the Bank and which were effected during the current or immediately preceding year or were effected during an earlier year and remain in any respect outstanding or unperformed.

Directors, executive officers and certain employees of the Bank, as is the case with certain other subsidiaries of Shinhan Financial Group, receive from time to time shares of Shinhan Financial Group's common stock and/or stock options exercisable into such shares, as part of their compensation. See "*Management and Employees — Share Ownership" and "Management and Employees — Stock Options*."

As a subsidiary of Shinhan Financial Group, the Bank engages from time to time in ordinary course of business activities with other subsidiaries of Shinhan Financial Group, including cross-selling activities. See Note 41 to the Bank's audited consolidated financial statements as of and for the years ended December 31, 2020, 2021 and 2022 and Note 35 to the Bank's unaudited interim consolidated financial statements of the Bank as of June 30, 2023 and for the six months ended June 30, 2022 and 2023 included elsewhere in this offering circular.

SHINHAN FINANCIAL GROUP

Introduction

Shinhan Financial Group is one of the leading financial institutions in Korea in terms of total assets, revenues, profitability and capital adequacy, among others. Incorporated on September 1, 2001, Shinhan Financial Group is the first privately-held financial holding company to be established in Korea. Since its inception, Shinhan Financial Group has developed and introduced a wide range of financial products and services in Korea and aimed to deliver comprehensive financial solutions to clients through a convenient one-portal network. According to reports by the FSS, Shinhan Financial Group is the largest financial services provider in Korea (as measured by consolidated total assets as of September 30, 2022) and operates the second largest banking business (as measured by consolidated total assets as of September 30, 2022) and the largest credit card business (as measured by the total credit purchase volume in 2022) in Korea.

Shinhan Financial Group has experienced substantial growth through several mergers and acquisitions. Most notably, Shinhan Financial Group's acquisition of Chohung Bank in 2003 has enabled Shinhan Financial Group to have the second largest banking operations in Korea. In addition, Shinhan Financial Group's acquisition in March 2007 of LG Card, the then largest credit card company in Korea, has enabled to have the largest credit card operations in Korea and significantly expand Shinhan Financial Group's non-banking business capacity so as to achieve a balanced business portfolio. In September 2018, Shinhan Financial Group announced the acquisition of a 59.15% interest in Orange Life Insurance, Ltd. ("**Orange Life**"), the former Korean unit of ING Life Insurance, as part of its efforts to diversify and enhance its non-banking businesses. The acquisition was approved by the FSC on January 16, 2019 and closed on February 1, 2019. On January 28, 2020, Shinhan Financial Group acquired the remaining interests in Orange Life by effecting a comprehensive stock exchange under Articles 360-2 of the Korean Commercial Code whereby holders (other than us) of Orange Life's common stock transferred all of their shares to Shinhan Financial Group and in return receive shares of Shinhan Financial Group's common stock, and hence Orange Life has become Shinhan Financial Group's wholly owned subsidiary as of such date. Orange Life was subsequently merged with and into Shinhan Life Insurance Co., Ltd., which is another wholly owned subsidiary of Shinhan Financial Group, in July 2021.

Shinhan Financial Group currently has 15 direct subsidiaries and 32 indirect subsidiaries offering a wide range of financial products and services, including commercial banking, corporate banking, private banking, credit card, asset management, brokerage and insurance services. Shinhan Financial Group believes that such breadth of services will help it to meet the diversified needs of the Group's present and potential clients. Shinhan Financial Group currently serves approximately 19 million active customers, which Shinhan Financial Group believes is the largest customer base in Korea, through 23,883 employees at 1,369 network branches group-wide. While over 80% of Shinhan Financial Group's revenues have been historically derived from Korea, it aims to serve the needs of the Group's customers through a global network of 252 offices in the United States, Canada, the United Kingdom, Japan, the People's Republic of China, Germany, India, Australia, Hong Kong, Vietnam, Cambodia, Kazakhstan, Singapore, Mexico, Uzbekistan, Myanmar, Poland, Indonesia, the Philippines and the United Arab Emirates.

History and Organization

On September 1, 2001, Shinhan Financial Group was formed as a financial holding company under the Financial Holding Companies Act, as a result of acquiring all of the issued shares of the following four entities from their former shareholders in exchange for shares of Shinhan Financial Group's common stock: (i) the Bank, a nationwide commercial bank listed on the Korea Exchange, (ii) Shinhan Securities Co., Ltd., a securities brokerage company listed on the Korea Exchange, (iii) Shinhan Capital Co., Ltd., a leasing company listed on the Korea Exchange Korean Securities Dealers Automated Quotations ("**KRX KOSDAQ**"), and (iv) Shinhan Investment Trust Management Co., Ltd., a privately held investment trust management company. On September 10, 2001, the common stock of Shinhan Financial Group's holding company was listed on what is currently the KRX KOSPI Market.

Since its inception, Shinhan Financial Group has expanded its operations, in large part, through strategic acquisitions, establishing subsidiaries or formation of joint ventures. Shinhan Financial Group's key acquisitions, capital contributions and joint venture formations are described as below:

Date of Acquisition	Entity	Principal Activities	Method of Establishment
April 2002	Jeju Bank	Regional banking	Acquisition from Korea Deposit Insurance Corporation
July 2002	Shinhan Securities Co., Ltd.(1)	Securities and investment	Acquisition from the SsangYong Group
August 2002	Shinhan BNP Paribas Investment Trust Management Co., Ltd.(2)	Investment advisory	50:50 joint venture with BNP Paribas
August 2003	Chohung Bank	Commercial banking	Acquisition from creditors
December 2005	Shinhan Life Insurance Co., Ltd.	Life insurance services	Acquisition from shareholders
March 2007	LG Card	Credit card services	Acquisition from creditors
January 2012	Tomato Mutual Savings Bank(3)	Savings bank	Purchase and assumption of assets and liabilities from creditors
January 2013	Yehanbyoul Savings Bank(4)	Savings bank	Acquisition from Korea Deposit Insurance Corporation
October 2017	Shinhan REITs Management	Real estate asset management	Newly established
February 2019, January 2020	Orange Life Insurance(5)	Life insurance services	Acquisition from majority shareholders and subsequent comprehensive stock exchange
May 2019	Asia Trust Co. Ltd.(6)	Real estate trust business	Acquisition from majority shareholders
August 2019	Shinhan AI. Co., Ltd.	Investment advisory	Incorporated and joined as a wholly-owned subsidiary
September 2020, December 2020	Shinhan Venture Investment)(7)	Venture capital	Acquisition from majority shareholders and subsequent comprehensive stock exchange
January 2021	Shinhan Asset Management(8)	Asset management services	Acquisition of remaining interests from BNP Paribas Asset Management Holding
June 2022	Shinhan EZ General Insurance(9)	General insurance services	Acquisition of remaining shares from formerly, BNP Paribas Cardif Insurance Ltd.

Notes:

(1) Renamed as Shinhan Investment Corp. from Goodmorning Shinhan Securities Co., Ltd. effective August 2009 and renamed again as Shinhan Securities Co., Ltd. from Shinhan Investment Corp. effective October 2022.

(2) In January 2009, SH Asset Management Co., Ltd. and Shinhan BNP Paribas Investment Trust Management merged to form Shinhan BNP Paribas Asset Management.

(3) Shinhan Hope Co., Ltd. was established on December 12, 2011, to purchase and assume certain assets and liabilities of Tomato Mutual Savings Bank. On December 28, 2011, Shinhan Hope Co., Ltd. obtained a savings bank license, changed its name to Shinhan Savings Bank and became Shinhan Financial Group's direct subsidiary.

(4) In January 2013, Shinhan Financial Group entered into a share purchase agreement with Korea Deposit Insurance Corporation for the acquisition of Yehanbyoul Savings Bank, a savings bank located in Korea, for ₩45.3 billion, and received regulatory approval to merge Yehanbyoul Savings Bank into Shinhan Financial Group's existing subsidiary Shinhan Saving Bank. On April 1, 2013, Shinhan Savings Bank and Yehanbyoul Savings Bank merged into a single entity, with Yehanbyoul Savings Bank being the surviving entity and the newly merged bank being named Shinhan Savings Bank.

(5) On February 1, 2019, Shinhan Financial Group acquired a 59.15% interest in Orange Life Insurance, the former Korean unit of ING Life Insurance, as part of Shinhan Financial Group's efforts to diversify and enhance Shinhan Financial Group's non-banking businesses. On January 28, 2020, Shinhan Financial Group acquired the remaining interests in Orange Life Insurance by effecting a comprehensive stock exchange under Articles 360-2 of the Korean Commercial Code whereby holders (other than Shinhan Financial Group) of Orange Life Insurance's common stock transferred all of their shares to Shinhan Financial Group and in return receive shares of Shinhan Financial Group's common stock, and hence Orange Life Insurance became Shinhan Financial Group's wholly owned subsidiary as of such date. Orange Life Insurance was subsequently merged with and into Shinhan Life Insurance in July 2021.

(6) In October 2018, Shinhan Financial Group announced the acquisition of a 60.0% interest in Asia Trust Co. Ltd. According to the transaction agreement, Shinhan Financial Group seek to complete the acquisition by acquiring the remaining 40.0% shares in Asia Trust Co. Ltd. by 2022. The acquisition was approved by the Financial Services Commission on February 17, 2019 and closed on May 2, 2019. Upon closing, Asia Trust Co. Ltd. became Shinhan Financial Group's direct subsidiary.

(7) On September 29, 2020, Shinhan Financial Group acquired a 96.8% interest in Neoplux, a venture capital company formerly under the Doosan Group. On December 30, 2020, Shinhan Financial Group acquired the remaining interest in Neoplux by effecting a small-scale stock exchange under Article 360-10 of the Korean Commercial Code, and hence Neoplux has become Shinhan Financial Group's wholly owned subsidiary as of such date. On January 11, 2021, Neoplux changed its legal name to Shinhan Venture Investment.

(8) On January 15, 2021, Shinhan Financial Group acquired the remaining 35% interest in Shinhan BNP Paribas Asset Management from BNP Paribas Asset Management Holding and changed its legal name to Shinhan Asset Management, and hence Shinhan Asset Management has become Shinhan Financial Group's wholly-owned subsidiary as of such date.

(9) On June 30, 2022, SFG acquired remaining 94.54% stake from BNP Paribas Cardiff and it became our wholly-owned subsidiary (changed its legal name to Shinhan EZ General Insurance). On November 03,2022, KT and Douzone Bizon acquired 9.9% and 5% shares of Shinhan EZ General Insurance, respectively.

All of Shinhan Financial Group's subsidiaries are incorporated in Korea, except for the following:

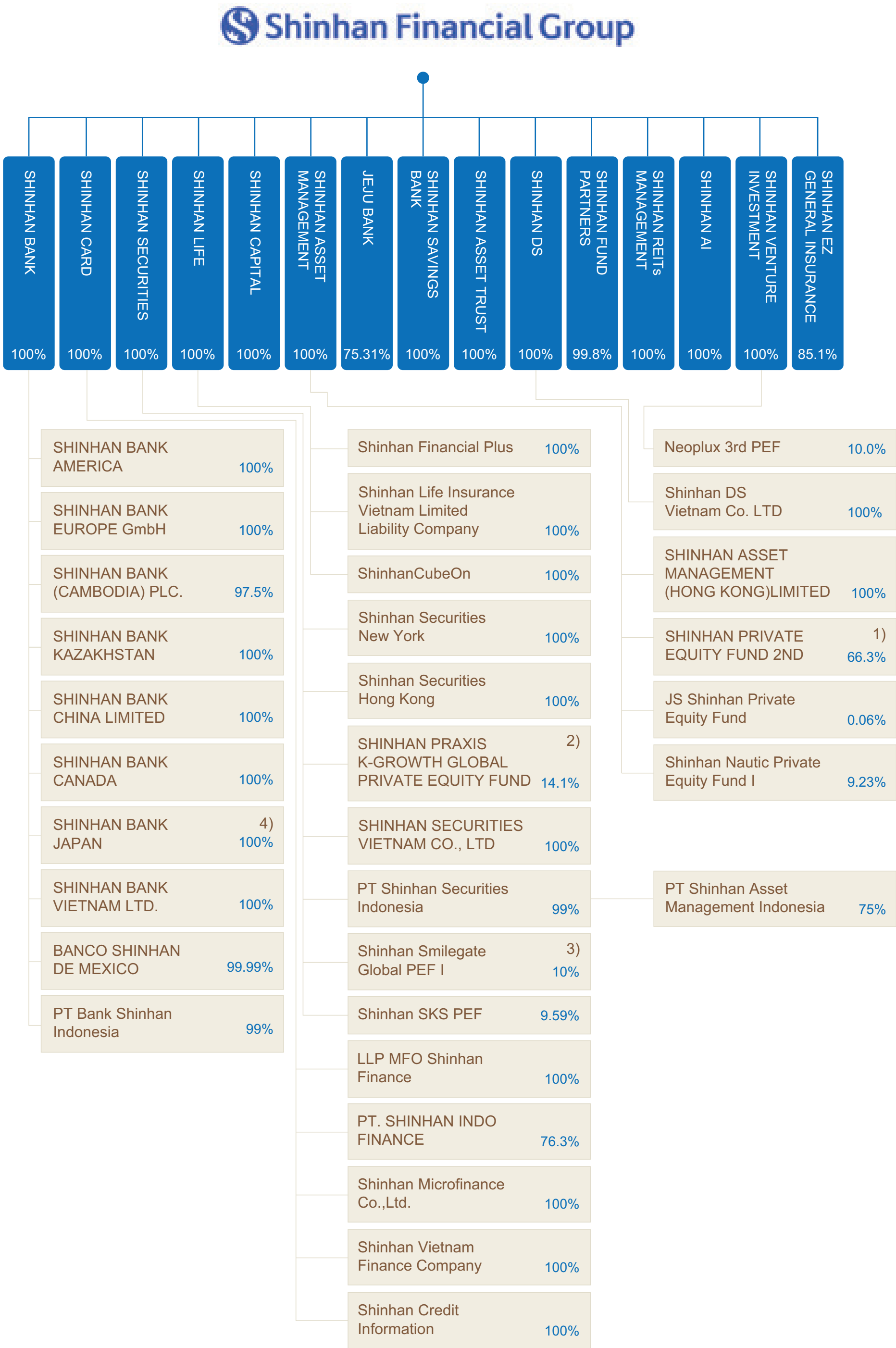
Investor	Investee(*1)	Location	Ownership (%) June 30, 2023	Ownership (%) June 30, 2022
Shinhan Bank	Shinhan Bank America	USA	100.0	100.0
Shinhan Bank	Shinhan Bank Europe GmbH	Germany	100.0	100.0
Shinhan Bank	Shinhan Bank Cambodia	Cambodia	97.5	97.5
Shinhan Bank	Shinhan Bank Kazakhstan Limited	Kazakhstan	100.0	100.0
Shinhan Bank	Shinhan Bank Canada	Canada	100.0	100.0
Shinhan Bank	Shinhan Bank (China) Limited	China	100.0	100.0
Shinhan Bank	Shinhan Bank Japan	Japan	100.0	100.0
Shinhan Bank	Shinhan Bank Vietnam Ltd	Vietnam	100.0	100.0
Shinhan Bank	Banco Shinhan de Mexico	Mexico	99.9	99.9
Shinhan Bank	PT Bank Shinhan Indonesia	Indonesia	99.0	99.0
Shinhan Bank Japan	SBJDNX	Japan	100.0	100.0
Shinhan Card Co., Ltd.	LLP MFO Shinhan Finance	Kazakhstan	100.0	100.0
Shinhan Card Co., Ltd.	PT. Shinhan Indo Finance	Indonesia	76.3	50.0+1 share
Shinhan Card Co., Ltd.	Shinhan Microfinance Co., Ltd.	Myanmar	100.0	100.0
Shinhan Card Co., Ltd.	Shinhan Vietnam Finance Co., Ltd.	Vietnam	100.0	100.0
Shinhan Securities Co., Ltd.	Shinhan Investment Corp. USA Inc.	USA	100.0	100.0
Shinhan Securities Co., Ltd.	Shinhan Investment Asia Ltd.	Hong Kong	100.0	100.0
Shinhan Securities Co., Ltd.	SHINHAN SECURITIES VIETNAM CO., LTD.	Vietnam	100.0	100.0
Shinhan Securities Co., Ltd.	PT. Shinhan Sekuritas Indonesia	Indonesia	99.0	99.0
PT Shinhan Sekuritas Indonesia	PT. Shinhan Asset Management Indonesia	Indonesia	75.0	75.0
Shinhan Life Insurance Co., Ltd.	Shinhan Life Insurance Vietnam Co., Ltd.(*2)	Vietnam	100.0	100.0
Shinhan Asset Management Co., Ltd.	SHINHAN ASSET MGT HK, LIMITED(*3)	Hong Kong	100.0	100.0
Shinhan DS	SHINHAN DS VIETNAM CO., LTD.	Vietnam	100.0	100.0

(*1) Subsidiaries such as trust, beneficiary certificate, corporate restructuring fund and private equity fund which are not actually operating their own business are excluded.

(*2) Included in the scope of consolidation as the subsidiary was newly invested for the year ended December 31, 2021. Shinhan Insurance Vietnam Co., Ltd. changed its name to Shinhan Life Insurance Vietnam Co., Ltd.

(*3) In 2021, SHINHAN BNP ASSET MGT HK, LIMITED changed its name to SHINHAN ASSET MGT HK, LIMITED.

As of the date hereof, Shinhan Financial Group has 15 direct and 32 indirect subsidiaries. The following diagram shows Shinhan Financial Group's organization structure as of June 30, 2023:



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1) We and our subsidiaries currently own 96.74% in the aggregate.

2) We and our subsidiaries currently own 18.9% in the aggregate.

3) We and our subsidiaries currently own 14.21% in the aggregate.

4) SBJ BANK own 100% in the aggregate.

The following table sets forth certain information relating to the beneficial ownership of Shinhan Financial Group's common shares (unless otherwise indicated) as of December 31, 2022.

Name of Shareholder	Number of Common Shares Beneficially Owned	Beneficial Ownership (%)
National Pension Service	40,476,692	7.96%
BlackRock Fund Advisors[(1)]	30,250,549	5.95%
Shinhan Financial Group Employee Stock Ownership Association	26,121,183	5.13%
Centennial Investment Limited	20,239,539	3.98%
BNP Paribas SA	18,690,310	3.67%
Supreme, L.P.	18,690,000	3.67%
Citibank, N.A. (ADR Department)	15,254,583	3.00%
The Government of Singapore	13,078,530	2.57%
KT	10,877,651	2.14%
Vanguard Total International Stock Index	6,602,322	1.30%
Norges Bank	5,168,159	1.02%
Others	303,335,351	59.62%
Total	508,784,869	100.00%

Note:

(1) Based on Form SC 13G filed by BlackRock, Inc. on February 13, 2023.

Other than those listed above, no other person or entity known by us, jointly or severally, directly or indirectly own more than 1% of our issued and outstanding voting securities or otherwise exercise control or could exercise control over us. None of our shareholders have different voting rights.

SUMMARY OF THE PRINCIPAL DOCUMENTS

Trust Deed

The Trust Deed, made between the Issuer and the Trustee on the Programme Date, is the principal agreement governing the Covered Bonds. The Trust Deed contains provisions relating to, among others:

- the constitution of the Covered Bonds and the Terms and Conditions of the Covered Bonds;
- the covenants of the Issuer;
- the enforcement procedures relating to the Covered Bonds;
- the appointment, powers and responsibilities of the Trustee and the circumstances in which the Trustee may resign or retire or be removed; and
- matters related to the holding of meetings of the Covered Bondholders.

The Trust Deed will be governed by English law.

Establishment Deed

Establishment and Segregation of the Cover Pool

Under the terms of the Establishment Deed, made between the Issuer, the Asset Monitor and the Trustee on the Initial Filing Date, the Issuer will establish the Cover Pool by filing the Covered Bond Issuance Plan with the FSC in accordance with the Korean Covered Bond Laws on the Initial Filing Date which will constitute the registration of the initial assets specified in the Covered Bond Issuance Plan as part of the Cover Pool. The Issuer will provide the Asset Monitor and the Trustee with evidence satisfactory to the Asset Monitor of such filing on or prior to the Programme Date.

Subject to compliance with the Korean Covered Bond Laws, the Issuer will ensure that each asset in the Cover Pool is segregated at all times from any other assets of the Issuer that do not form part of the Cover Pool (including assets in any cover pool in respect of covered bonds registered under any issuance plans other than the Covered Bond Issuance Plan) from the Relevant Filing Date until the earlier of (i) the deregistration of such asset from the FSC register of the Cover Pool or (ii) the termination of the Programme by:

(a) preparing and maintaining a separate ledger (the "**Cover Pool Ledger**") on its computer information system to identify each Mortgage Loan, other Underlying Assets, any Liquid Assets, any Other Assets and any Swap and related rights under such Swap(s) that are registered with the FSC as comprising the Cover Pool from time to time;

(b) registering the details of any Swap in connection with the Cover Pool with the FSC;

(c) opening and maintaining segregated accounts with each of the Account Banks, the Securities Depositary or Euroclear (as applicable) as described in the section entitled "— *Cover Pool Accounts*" below, registering such accounts as part of the Cover Pool with the FSC, and ensuring that amounts related to the Cover Pool are paid into such accounts as described in the section entitled "— *Cover Pool Accounts*" below; and

(d) ensuring that no cash or other assets may be removed from the Cover Pool except:

(i) any withdrawal or substitution of Liquid Assets (including in the form of cash), Underlying Assets or any Other Assets with the prior written consent of the Asset Monitor (save where the Asset Monitor has given its upfront consent as described below), and provided that such assets are deregistered with the FSC as comprising part of the Cover Pool by, where applicable, the filing of an amendment to the Covered Bond Issuance Plan with the FSC on or prior to such withdrawal or substitution;

(ii) for application in accordance with the section entitled "— *Payments and Cash Release*" and the Cover Pool Priority of Payments summarised in the section entitled "— *Cover Pool Priority of Payments*" below;

(iii) for disposal by the Asset Monitor following any Cause of Disposal Event (as defined in "— *Registration and Amendment of the Covered Bond Issuance Plan*") in accordance with the Asset Monitor Agreement; or

any removal of a Swap from the Cover Pool with the prior written consent of the Asset Monitor.

The Asset Monitor has given its consent to the withdrawal of any Underlying Assets, Liquid Assets or Other Assets from the Cover Pool pursuant to paragraph (d)(i) above from time to time for so long as at the time of withdrawal:

(a) no Issuer EOD Notice has been served; and

(b) the Issuer has confirmed to the Asset Monitor in writing that:

(i) the Asset Coverage Test was satisfied on the immediately preceding Calculation Date and would have been satisfied on such immediately preceding Calculation Date after taking into account the removal of the assets that are proposed to be removed from the Cover Pool, provided that the Asset Coverage Test will be deemed to have been satisfied from and including the Programme Date to and excluding the Calculation Date immediately following the first Issue Date under the Programme and this paragraph (b)(i) will not apply where no Covered Bonds are issued and remain outstanding at the time of withdrawal;

(ii) the Required Collateralization Ratio is satisfied and would continue to be satisfied immediately after the withdrawal of such assets from the Cover Pool; and

(iii) the Pre-Maturity Test Cure Requirement (if applicable) is satisfied.

The Issuer may not register New Mortgage Loans with the FSC as part of the Cover Pool unless it has delivered to each of the parties to the Establishment Deed and the Rating Agencies a solvency certificate substantially in the form set out in the Establishment Deed dated the proposed Additional Filing Date of the relevant New Mortgage Loans and signed by an authorised signatory of the Issuer.

Registration and Amendment of the Covered Bond Issuance Plan

The Issuer has agreed to deliver to the Asset Monitor and the Trustee evidence (with copies provided to each Rating Agency in a timely manner) satisfactory to the Asset Monitor and the Trustee of:

(a) in the case of the initial Series of Covered Bonds, the registration with the FSC of the Covered Bond Issuance Plan, such evidence to be delivered on or prior to the relevant Issue Date; and

(b) in respect of any further Series or Tranche of Covered Bonds, the amendment or supplement to the Covered Bond Issuance Plan in connection with such further Series or Tranche at the time and in the manner required by the FSC (which, as of the date of the Establishment Deed, may be done by way of an annual update of the Covered Bond Issuance Plan in respect of all the Series and/or Tranches of Covered Bonds to be issued in the forthcoming year), such evidence to be delivered within five Korean Business Days of the filing of such amendment or supplement with the FSC.

Following registration of the Initial Cover Pool, the Issuer will effect:

(a) without prejudice to paragraph (d) of the section entitled "— *Establishment and Segregation of the Cover Pool*" above) any proposed addition, substitution or withdrawal of any Underlying Assets, Liquid Assets or Other Assets from the Cover Pool;

(b) the proposed addition or removal of any bank account or securities account to or from the Cover Pool (including as the result of any replacement of the relevant Account Bank in accordance with each relevant Account Bank Agreement); or

(c) the proposed addition or removal of any Swap to or from the Cover Pool,

by filing any required amendment to the Covered Bond Issuance Plan for the registration or deregistration of the relevant asset, account or Swap in relation to the Programme simultaneously with or prior to such proposed addition, substitution, withdrawal or removal and the Issuer will simultaneously provide written notice to the Asset Monitor of any registration or deregistration of the relevant asset, account or Swap in relation to the Programme.

The Issuer will ensure that each of the following events is specified in the Covered Bond Issuance Plan as a cause of disposal of the Cover Pool under Article 6(1) of the Korean Covered Bond Act (each, a "**Cause of Disposal Event**"):

(a) the service of an Issuer EOD Notice; and

(b) the service of an Acceleration Notice.

Issuer Covenants

The Issuer has undertaken to the Trustee that, for so long as any Covered Bonds are issued and remain outstanding, it will ensure that at all times:

(a) the Required Collateralization Ratio is satisfied;

(b) the Maximum Liquid Assets Requirement is satisfied;

(c) the Issuer and the Cover Pool maintained by the Issuer will each comply with the requirements of the Korean Covered Bond Laws in all material respects;

(d) the Issuer will comply with all applicable laws, rules, regulations and orders, provided that there will be no breach of this covenant unless failure to so comply would result in a Material Adverse Effect;

(e) the Underlying Assets in the Cover Pool will only comprise Mortgage Loans and assets falling within paragraph (b) of the definition of Pre-Maturity Liquidity Assets (if any); and

(f) the Issuer's other obligations set out in the Establishment Deed, the Asset Monitor Agreement and the Account Bank Agreements are complied with, provided that there will be no breach of this covenant unless failure to so comply would result in a Material Adverse Effect.

The Trustee will hold the benefit of the covenants in the immediately preceding paragraph (the "**Issuer Covenants**") on trust for itself and the Covered Bondholders and Couponholders of each Series of Covered Bonds.

Mortgage Loan Warranties

The Issuer has made and will make the Mortgage Loan Warranties in relation to each Mortgage Loan in the Initial Cover Pool (i) as at the Initial Filing Date; and (ii) on each subsequent Calculation Date on which each such Mortgage Loan remains part of the Cover Pool, in each case in favour of the Trustee.

The Issuer will make the Mortgage Loan Warranties in relation to each New Mortgage Loan (i) on the Relevant Filing Date in respect of such New Mortgage Loan; and (ii) on each subsequent Calculation Date on which each such Mortgage Loan remains part of the Cover Pool, in each case in favour of the Trustee.

The Mortgage Loan Warranties, in relation to each Mortgage Loan, are as follows:

(a) each of the Eligibility Criteria is true;

(b) at the time that the Issuer entered into the Mortgage relating to the Mortgage Loan, each Mortgage, each Mortgage Loan Agreement and Collateral Security complied in all material respects with Korean Privacy Laws and, as at the date of the Establishment Deed (or, in relation to each New Mortgage Loan, as at the date such New Mortgage Loan is registered with the FSC as part of the Cover Pool) the Issuer is not aware of any failure by it to comply with Korean Privacy Laws in relation to the Mortgage Loan;

(c) the Mortgage Loan has been originated and serviced by the Issuer in accordance with all policies, practices, procedures and other requirements applicable to its mortgage loan business as of the date of origination and thereafter;

(d) the Issuer has full, sole and perfected title to and ownership of each Mortgage Loan and the related Mortgages and Collateral Security;

(e) the Issuer holds all documents relating to the Mortgage Loan, each Mortgage and Collateral Security which are necessary for the proper and efficient servicing and to enforce the provisions of, and the security created by, the Mortgage Loan;

(f) all documents relating to the Mortgage Loan, each Mortgage and Collateral Security is in full force and effect and constitutes legal, valid and binding obligations of the relevant Borrowers, enforceable against such Borrowers in accordance with the terms of such documents, except as such enforcement may be limited by applicable bankruptcy, insolvency, moratorium, reorganisation or other similar laws affecting the enforcement of the rights of creditors generally;

(g) there are no governmental or regulatory approvals, permits, authorisations, filings, registrations, recordings or other formalities which are necessary to ensure the validity, effectiveness, enforceability or admissibility in evidence of any documentation relating to any Mortgage Loan other than those which have already been obtained or made and are currently valid and in full force and effect;

(h) the Issuer is lawfully entitled to sell and assign the Mortgage Loans and no consent to the sale and assignment of the Mortgage Loan is required to be given by the Borrower;

(i) so far as the Issuer is aware, no default, breach or failure by any Borrower or Collateral Security Provider of its obligations under any Mortgage Loan or any of the documentation relating thereto has occurred which has not been remedied;

(j) none of the Mortgage Loans (or any part thereof) is terminable at the option of any related Borrower (whether as a result of the occurrence of an event of default (howsoever described) or otherwise) other than upon prepayment in full by or on behalf of the relevant Borrower of all amounts, present or future, actual or contingent, payable in respect of such Mortgage Loan; and

(k) all the payments under the Mortgage Loans are made by automatic bank transfers.

Eligibility Criteria

Any Mortgage Loan in the Cover Pool will have to comply with the Eligibility Criteria as set out in the Establishment Deed.

The "Eligibility Criteria" for each Mortgage Loan in the Cover Pool is as follows:

(a) the Mortgage Loan is secured by a valid, enforceable and first-ranking registered mortgage over the related Mortgaged Property;

(b) the related Mortgaged Property is a private residential property as set forth in Article 2 Item 1 of the Housing Act located in Korea;

(c) the amounts payable by each Borrower in respect of the Mortgage Loan are denominated in Korean Won only;

(d) no payment in respect of the Mortgage Loan has been rescheduled, amended, re-aged or changed to avoid or eliminate a delinquency or default or following a delinquency or default;

(e) there are no proceedings, actions or investigations pending or, to the knowledge of the Issuer, having made all due enquiries, threatened against the related Borrower before any court, regulatory body, administrative or governmental agency, or other tribunal;

(f) each Borrower is a natural person who is a Korean citizen or permanent resident, residing in Korea, and aged at least 20 years old at the time of origination;

(g) no Borrower is entitled to draw any further advance under the Mortgage Loan;

(h) the Borrower in respect of the Mortgage Loan is not an employee of the Issuer;

(i) the Mortgage Loan is compliant with the requirements applicable to the composition of the cover pool pursuant to the Korean Covered Bond Act;

(j) the Mortgage Loan has a loan-to-value ratio ("**LTV**") of 70% or lower; and

(k) the inclusion of the Mortgage Loan in the Cover Pool must not cause a breach of the Portfolio Criteria,

provided that, in case of any amendment to the Korean Covered Bond Laws that requires revision to the Eligibility Criteria, the Eligibility Criteria will be deemed to be revised automatically to reflect such amendment.

The "Portfolio Criteria" referred to in the Eligibility Criteria is as follows:

(a) at least 20% of the Mortgage Loans in the Cover Pool must have a debt-to-income ratio ("**DTI Ratio**") of 70% or less, where the DTI Ratio is calculated in accordance with Table 18 of the Detailed Enforcement Rules on Supervision of Banking Business of Korea, inter alia, which, as of the date of the Establishment Deed, provides for the debt-to-income ratio to be calculated by dividing the sum of annual repayment of principal and payment of interest obligations with respect to residential mortgage loans and annual interest payment obligations with respect to other debt obligations by the annual income of the debtor and for the calculation of annual repayment of principal and payment of interest obligations for residential mortgage loans that are of the bullet repayment type to be calculated by adding the annual interest payment amount to the total debt obligations divided by the term of such debt obligations;

(b) at least 30% of the aggregate nominal amount of Mortgage Loans in the Cover Pool must be in relation to Fixed Rate Loans, where "Fixed Rate Loan" means any of the following loans which are considered as fixed rate loans in the relevant FSC rulings for the purpose of the Korean Covered Bond Laws, subject to any change in the interpretation of the FSC of the meaning of fixed rate loans for such purpose as may be published by the FSC from time to time:

(i) any fixed rate loan originated on or after January 1, 2014 with a maturity of three years or longer but less than five years, provided that the principal amount outstanding of such loan multiplied by the multiplier that is equal to the number of years from the drawdown date of such loan until maturity divided by the following divisor shall be treated as the nominal amount of such fixed rate loan:

(1) 10 for a loan originated between 1 January 2014 and 31 December 2014;

(2) 15 for a loan originated between 1 January 2015 and 31 December 2015;

(3) 20 for a loan originated between 1 January 2016 and 31 December 2016; or

(4) 30 for a loan originated on or after 1 January 2017;

(ii) any fixed rate loan originated on or after January 1, 2014 with a maturity of five years or more, in respect of which the principal amount outstanding of such loan shall be treated as the nominal amount of such fixed rate loan;

(iii) any fixed rate loan originated on or before December 31, 2013 with a maturity of three years or longer but less than ten years, provided that the principal amount outstanding of such loan multiplied by the multiplier that is equal to the number of years from the drawdown date of such loan until maturity divided by 10 shall be treated as the nominal amount of such fixed rate loan;

(iv) any fixed rate loan originated on or before December 31, 2013 with a maturity of ten years or more, in respect of which the principal amount outstanding of such loan shall be treated as the nominal amount of such fixed rate loan;

(v) any floating rate loan of which the interest rate resets every five years or more;

(vi) any fixed rate loan that converts into a floating rate loan after five years, provided that if such loan does not satisfy the requirement in item (v) above after conversion into a floating rate loan, such loan will cease to be a fixed rate loan at the time of conversion for the purpose of the Korean Covered Bond Laws; and

(vii) any floating rate loan with an interest rate cap with a maturity of three years or more, if (i) the maximum interest rate increase is limited to 1% or less or (ii) any of the following conditions are satisfied:

(I) in the case where the interest rate cap applies for three years or longer but less than five years, the maximum interest rate increase of the loan is limited to 1.5% and the annual permitted interest rate increase of the loan is limited to 1% or less; or

(II) in the case where the interest rate cap applies for five years or longer, the maximum interest rate increase of the loan is limited to 2% and the annual permitted interest rate increase of the loan is limited to 1% or less,

in each case subject to adjustment to nominal amount of the loan specified in items (i) and (ii) above; and

(c) not more than 10% of the Mortgage Loans in the Cover Pool are Mortgage Loans in respect of which 50% or more of their outstanding principal balance may be set off against the Issuer, provided that, in case of any amendment to the Korean Covered Bond Laws that requires revision to the Portfolio Criteria, the Portfolio Criteria will be deemed to be revised automatically to reflect such amendment.

Asset Coverage Test

Under the terms of the Establishment Deed, for so long as any Covered Bonds are issued and remain outstanding, the Issuer will procure that as of each Calculation Date prior to the earlier to occur of (i) the service of an Issuer EOD Notice and (ii) the Calculation Date from which the Amortisation Test is required to be satisfied, the Adjusted Aggregate Loan Amount (as defined below) will be in an amount at least equal to the KRW Equivalent of the aggregate outstanding principal amount of all the Covered Bonds on that Calculation Date (the "**Asset Coverage Test**").

On or prior to each Test Date, the Issuer will calculate the Adjusted Aggregate Loan Amount and the KRW Equivalent of the aggregate outstanding principal amount of all Covered Bonds as of the immediately preceding Calculation Date.

"Adjusted Aggregate Loan Amount" means, in respect of a Calculation Date:

$$A+B+C-X-Y$$

Where:

"A" means the lower of:

(a) the aggregate of the LTV Adjusted Loan Amount of each Mortgage Loan in the Cover Pool; and

(b) the aggregate of the Asset Percentage Adjusted Loan Amount of each Mortgage Loan in the Cover Pool,

minus the aggregate sum of the Deemed Reductions in respect of each Mortgage Loan in the Cover Pool.

"LTV Adjusted Loan Amount" means, in respect of a Mortgage Loan, the lower of:

(a) the outstanding current principal balance of such Mortgage Loan; and

(b) the Indexed Valuation relating to such Mortgage Loan multiplied by the LTV Limit,

each as multiplied by N.

"LTV Limit" means 70%, or such other percentage as may be specified under the Korean Covered Bond Laws as the applicable LTV limit on such Calculation Date.

"Asset Percentage Adjusted Loan Amount" means, in respect of a Mortgage Loan, the product of the Asset Percentage and the outstanding current principal balance of such Mortgage Loan.

"N" means:

(a) 1 for any Mortgage Loan that is not in arrears or in arrears for 90 days or less; and

(b) 0 for any Mortgage Loan that is more than 90 days in arrears.

"Deemed Reductions" means (i) in respect of each Mortgage Loan that was, in the immediately preceding Calculation Period, determined to be an Ineligible Mortgage Loan, an amount equal to the lower of the LTV Adjusted Loan Amount and the Asset Percentage Adjusted Loan Amount of such Mortgage Loan (calculated on such Calculation Date) or (ii) otherwise, zero.

"B" means the aggregate amount of cash standing to the credit of the Transaction Account on such Calculation Date.

"C" means (without double counting) the sum of (i) the Liquid Assets Value (other than such portion that relates to Pre-Maturity Liquidity Assets) on such Calculation Date; and (ii) the Pre-Maturity Liquidity Assets Value as of such Calculation Date.

"X" means zero, unless the Issuer is the Transaction Account Bank and the Covered Bonds are rated by Fitch, in which case "X" will mean, where the Issuer maintains a short-term or, as the case may be, long-term issuer default rating by Fitch of:

(a) at least "F 1 " or "A," zero;

(b) at least "A-" (provided that paragraph (a) above does not apply), 50% of the Commingling Exposure Amount;

(c) "BBB+," 75% of the Commingling Exposure Amount;

(d) "BBB" or below, 100% of the Commingling Exposure Amount; or

(e) any other minimum ratings or percentage of the Commingling Exposure Amount as required as per the then most recent public criteria of Fitch which are required to maintain the then current ratings of the Covered Bonds.

"Commingling Exposure Amount" means, in respect of a Calculation Date, an amount equal to:

(a) the aggregate of all collections in respect of Mortgage Loans forming part of the Cover Pool received in the Transaction Account during the Calculation Period ending on such Calculation Date; multiplied by

(b) the KRW Equivalent of the aggregate outstanding principal amount of all Covered Bonds as at such Calculation Date, divided by the Asset Percentage figure applicable in respect of Fitch (as determined in accordance with sub-paragraph (b) of the definition of "Asset Percentage" below) as at such Calculation Date; divided by

(c) the aggregate outstanding current principal balance of all Mortgage Loans forming part of the Cover Pool as of such Calculation Date.

"Y" means (i) zero or (ii) if a Set-Off Rating Event is continuing, the Set-Off Amount.

"Set-Off Amount" means, as of such Calculation Date, the sum for all Borrowers of the lowest of:

(a) for each Borrower, the lower of the LTV Adjusted Loan Amount and the Asset Percentage Adjusted Loan Amount of such Mortgage Loan (calculated on such Calculation Date);

(b) the total of all deposits maintained by such Borrower with the Issuer as of such Calculation Date; and

(c) for each Borrower, out of the total of all deposits maintained by such Borrower with the Issuer as of the date of the receipt of the Perfection Notice by such underlying Borrower, the amount of such deposit remaining as of such Calculation Date.

"Set-Off Rating Event" means the short-term issuer default rating of the Issuer ceases to be rated equal to or above "Fl" by Fitch and the long-term issuer default rating of the Issuer ceases to be rated equal to or above "A" by Fitch (or any other minimum ratings required as per the then most recent public criteria of Fitch which are required to maintain the then current ratings of the Covered Bonds) or the long-term counterparty risk assessment rating of the Issuer, or, if such long-term counterparty risk assessment rating of the Issuer is not available, the senior unsecured rating or the issuer rating, ceases to be rated equal to or above "A3" by Moody's.

"Asset Percentage" means the lowest of:

(a) 95%;

(b) such percentage figure determined by the Issuer on the relevant Calculation Date, being the percentage figure that is necessary to ensure that the Covered Bonds maintain the then current ratings assigned to them by Fitch; and

(c) such percentage figure (1) as may be determined from time to time by the Issuer and notified in writing to Moody's and the Asset Monitor on such Calculation Date or (2) where the Issuer has not notified Moody's and the Asset Monitor in writing of the minimum percentage figure on the relevant Calculation Date, on the last date of any prior notification, and such percentage figure in (1) or (2) being in each case the difference between 100% and the amount of credit enhancement required to support the then current ratings of the Covered Bonds under Moody's expected loss methodology, provided that for as long as any Covered Bonds remain outstanding whose ratings have been downgraded by Moody's at any point since their relevant original Issue Date, the Asset Percentage shall not be greater than the higher of (a) the Asset Percentage last notified to Moody's and the Asset Monitor in writing by the Issuer prior to the first such downgrade, or (b) the lowest value for (X) in respect of each downgrade where (X) in respect of each such downgrade is equal to the respective Attributed Moody's Asset Percentage specified in the relevant Investor Report most recently delivered prior to such downgrade,

provided that there is no obligation on the Issuer to maintain a rating by Fitch and/or Moody's and the Issuer is under no obligation to change the percentage figure determined by it and notified in writing to Fitch or Moody's, as applicable, in line with the level of credit enhancement required to ensure a rating is maintained by Fitch and/or Moody's.

"Attributed Moody's Asset Percentage" means the percentage figure for Moody's as set out in each Investor Report which notwithstanding the percentage figure that may be selected by the Issuer from time to time and notified in writing to the Asset Monitor and Moody's, is the percentage figure as at each Calculation Date, which is the difference between 100% and the amount of credit enhancement required to support the then current ratings of the Covered Bonds under Moody's expected loss methodology.

"Indexed Valuation" means, in respect of a Mortgaged Property relating to a Mortgage Loan, for the purpose of determining compliance with the Asset Coverage Test on each Calculation Date, the indexed valuation relating to that Mortgaged Property then in force as determined by the Issuer on the Calculation Date immediately preceding the relevant Calculation Date (or, if the relevant Calculation Date is the first Calculation Date, on the Programme Date), by reference to:

(a) if KB Market Prices are available, KB Market Prices; or

(b) if KB Market Prices are not available, the valuation of the Mortgaged Property calculated pursuant to Shinhan Bank's internal valuation policy and within the scope of applicable regulatory guidelines, as increased or decreased as appropriate by reference to the increase or decrease since the date of such valuation in any index of house prices in Korea that a Reasonable Prudent Mortgage Lender would use for valuation purposes.

"Reasonable, Prudent Mortgage Lender" means the Issuer, acting in accordance with the standards of a reasonably prudent residential mortgage lender lending to borrowers in Korea, who generally satisfy the lending criteria of traditional sources of residential mortgage capital.

For the purposes of the definitions of "Asset Percentage" and "Attributed Moody's Asset Percentage" above, the delivery of an Investor Report containing the relevant percentage figure information to a Rating Agency or the Asset Monitor, as the case may be, will be deemed to satisfy the requirement for notice in writing to be given to such person of such percentage figure information.

If, on any Test Date, the Adjusted Aggregate Loan Amount is less than the KRW Equivalent of the aggregate outstanding principal amount of all Covered Bonds as calculated as of the Calculation Date immediately preceding that Test Date, the Asset Coverage Test will be breached and the Issuer will immediately notify the Rating Agencies, the Asset Monitor and the Trustee in writing thereof, whereupon the Asset Monitor will serve an Asset Coverage Test Breach Notice on the Issuer as soon as reasonably practicable. Subject to the paragraphs below, non-compliance with the Asset Coverage Test does not constitute an Issuer Event of Default or a Covered Bond Event of Default, but the Issuer will not issue any further Covered Bonds under the Programme and no Daily Cash Release will be permitted in accordance with the section entitled "— *Payments and Cash Release — Daily Cash Release*" below until such breach has been remedied.

The Asset Monitor will be deemed to have revoked an Asset Coverage Test Breach Notice if, on any Test Date following service of an Asset Coverage Test Breach Notice, the Asset Coverage Test (as of the immediately preceding Calculation Date) is satisfied (as notified to the Asset Monitor in writing by the Issuer, and copied to the Rating Agencies and the Trustee) and neither an Issuer EOD Notice nor an Acceleration Notice has been served.

If an Asset Coverage Test Breach Notice has been served and remains outstanding and has not been revoked or deemed to have been revoked on or before the second Calculation Date after service of such Asset Coverage Test Breach Notice on the Issuer, an Issuer Event of Default will occur pursuant to Condition 10(a)(xi).

If the Asset Monitor determines that there have been errors in the relevant calculations of the Asset Coverage Test performed by the Issuer such that the Asset Coverage Test was not satisfied on the previous Calculation Date (where the Issuer had recorded it as being satisfied on that date), then the Asset Monitor will (i) notify the Rating Agencies of such errors; and (ii) determine if the Asset Coverage Test was, in addition, not satisfied on the two Calculation Dates prior to the most recent Calculation Date (where the Issuer had recorded it as being satisfied on those dates). Where there have not been two Calculation Dates prior to the most recent Calculation Date, the Asset Monitor will carry out (ii) above only in relation to any Calculation Date prior to the most recent Calculation Date. If the Asset Monitor determines that the Asset Coverage Test was not satisfied on the previous three Calculation Dates (if applicable, and only where the Issuer had recorded it as being satisfied on those dates), then the Asset Monitor will immediately serve an Asset Coverage Test Breach Notice on the Issuer (copied to the Trustee and the Rating Agencies). An Issuer Event of Default will occur pursuant to Condition 10(a)(xi) if such breach of the Asset Coverage Test is not cured within 60 days of receipt of that Asset Coverage Test Breach Notice.

The Trustee will not be obliged to monitor or be responsible for monitoring the Cover Pool, including, without limitation, whether or not the Cover Pool is in compliance with the Asset Coverage Test or the Amortisation Test.

Unless and until the Trustee has actual written notice to the contrary, it will be entitled to assume that the Cover Pool is in compliance with the Asset Coverage Test and the Amortisation Test and that no breach thereof has occurred, and will not be liable to any person for any loss or liability occasioned thereby.

Pre-Maturity Liquidity

The following applies if Hard Bullet Covered Bonds, specified as such in the Pricing Supplement, have been issued and remain outstanding.

On each Korean Business Day (each a "**Pre-Maturity Test Date**") during the period starting from, but excluding, 12 months prior to the Maturity Date of a Series of Hard Bullet Covered Bonds and ending on, and including, such Maturity Date (the relevant "**Pre-Maturity Test Period**"), the Issuer will determine whether it is in compliance with the Pre-Maturity Test in respect of the relevant Series of Hard Bullet Covered Bonds. If it is not, the Issuer will immediately notify the Rating Agencies, the Asset Monitor and the Trustee in writing thereof.

The Issuer will fail and be in breach of the "Pre-Maturity Test" in relation to a Series of Hard Bullet Covered Bonds on a Pre-Maturity Test Date if the Issuer ceases to have the applicable Minimum Required Ratings from one or both Rating Agencies.

Following a failure of the Pre-Maturity Test in respect of any Series of Hard Bullet Covered Bonds but prior to the occurrence of an Issuer Event of Default (and only for so long as the Issuer is in breach of the Pre-Maturity Test), the Issuer will as soon as practicable (i) add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account (as applicable), with the intention that the aggregate Pre-Maturity Liquidity Assets Value on each relevant Pre-Maturity Test Date will at least be equal to the Required Redemption Amount for all Series of Hard Bullet Covered Bonds which are scheduled to mature within 12 months of such Pre-Maturity Test Date (the "**Pre-Maturity Test Cure Requirement**"); and (ii) if the Pre-Maturity Liquidity Assets are required to be added, appoint the relevant Reserve Account Bank (if not already appointed) to open and maintain the Reserve Cash Account and, if not already opened, open and maintain the Reserve Securities Account with the Securities Depositary or Euroclear in accordance with the section entitled "— *Cover Pool Accounts*" below, in each case to enable the Issuer to be able to add any relevant

Pre-Maturity Liquidity Assets before the required time as set out below. Any Pre-Maturity Liquidity Assets added to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account in accordance with this paragraph may be liquidated and applied by the Issuer or the Asset Monitor towards redemption of the relevant Series of Hard Bullet Covered Bonds on their Maturity Date.

The Issuer's obligations as described in the preceding paragraph to add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account will be subject always to the Maximum Liquid Assets Requirement. For the avoidance of doubt, if the Issuer is at any time restricted from adding further Liquid Assets to the Cover Pool due to the Maximum Liquid Assets Requirement, the Issuer will comply with its obligations as described in the preceding paragraph by adding other Pre-Maturity Liquid Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account.

Upon the Issuer satisfying the Pre-Maturity Test Cure Requirement, the Issuer will be entitled to withdraw (subject to paragraph (d) of the section entitled "— *Establishment and Segregation of the Cover Pool*") any Pre-Maturity Liquidity Assets from the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account, provided that such withdrawal will not cause the Issuer to breach any of its other covenants under the Establishment Deed or any provision of the Korean Covered Bond Laws.

If the Pre-Maturity Test in respect of any Series of Hard Bullet Covered Bonds is breached during the Pre-Maturity Test Period of such Series of Hard Bullet Covered Bonds and the Issuer does not add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account with a Pre-Maturity Liquidity Assets Value at least equal to the Series Required Redemption Amount on or before the earlier of (i) 20 Korean Business Days following such failure of the Pre-Maturity Test and (ii) the Maturity Date of such Series of Hard Bullet Covered Bonds (such earlier date, the "**Series Required Redemption Amount Cut-off Date**"), an Issuer Event of Default under Condition 10(a)(x) will occur, provided that there will be no Issuer Event of Default if the Pre-Maturity Test Cure Requirement is satisfied in respect of all Series of Hard Bullet Covered Bonds which are scheduled to mature within 12 months of such Pre-Maturity Test Date on or prior to the Series Required Redemption Amount Cut-off Date.

In relation to each Series of Hard Bullet Covered Bonds in respect of which either (i) the Issuer has taken the action required as described in the immediately preceding paragraph or (ii) the proviso in the immediately preceding paragraph applies (so that no Issuer Event of Default has occurred as described in the preceding paragraph in respect of each such Series) (each, a "**PMT Ongoing Test Series**"), the Issuer will on each PMT Shortfall Valuation Date determine the PMT Shortfall Amount in respect of such PMT Shortfall Valuation Date and will add Pre-Maturity Liquidity Assets to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account with a Pre-Maturity Liquidity Assets Value at least equal to the PMT Shortfall Amount on or before the immediately succeeding PMT Shortfall Valuation Date, and if it fails to do so, an Issuer Event of Default under Condition 10(a)(x) will occur, provided that there will be no Issuer Event of Default if the Pre-Maturity Test Cure Requirement is satisfied on any Pre-Maturity Test Date during the period from the date of determination of such PMT Shortfall Amount to (and including) such immediately succeeding PMT Shortfall Valuation Date.

The failure by the Issuer to pay the full amount due in respect of a Series of Hard Bullet Covered Bonds on the Maturity Date thereof (subject to applicable cure periods) will constitute, first, an Issuer Event of Default and subsequently (after the applicable further cure period, if not remedied) a Covered Bond Event of Default and the Issuer will immediately notify the Trustee, the Account Banks, the Asset Monitor and the Rating Agencies in writing of such Issuer Event of Default and Covered Bond Event of Default.

Reserve Fund

If, on any day after the Programme Date, the Issuer ceases to have the applicable Minimum Required Ratings of one or both Rating Agencies, the Issuer will immediately notify the Trustee and the Asset Monitor in writing thereof and the Issuer will, within 14 calendar days of such day, (i) appoint the relevant Reserve Account Bank (if not already appointed) to open and maintain the Reserve Cash Account in accordance with the section entitled "— *Cover Pool Accounts*" below and register the Reserve Cash Account with the FSC in accordance with paragraph (c) of the section entitled "— *Establishment and Segregation of the Cover Pool*" above; and (ii) fund the Reserve Ledger of the Reserve Cash Account with an amount equal to the Reserve Fund Required Amount. To the extent that the Issuer's credit ratings are restored to at least the applicable Minimum Required Ratings of both Rating Agencies, the Issuer will immediately notify the Trustee and the Asset Monitor in writing thereof and, subject to certain conditions described in the section entitled "— *Establishment and Segregation of the Cover Pool*" above, will thereafter be entitled to withdraw the balance of the Reserve Ledger from the Reserve Cash Account provided that such withdrawal will not cause the Issuer to breach any of its covenants under the Establishment Deed or any provision of the Korean Covered Bond Laws.

Perfection Notices

The Issuer will, as soon as practicable and in any event within 15 Korean Business Days following the occurrence of a Cause of Disposal Event, provide Perfection Notices by content and delivery proof mail (*Naeyong Jeungmyung / Baedal Jeungmyung* in Korean) to the Borrowers and to SGIC, in accordance with the Korean Covered Bond Laws and the Korean Civil Code, signed by the Issuer. If such mail fails to reach the Borrower and to SGIC no less than twice, the Issuer shall publish the registration of Mortgage Loans as part of the Cover Pool pursuant to the Korean Covered Bond Laws and the Asset Monitor's right to dispose of the Cover Pool following the occurrence of any Cause of Disposal Event, in at least two daily papers and the Issuer's website pursuant to the Korean Covered Bond Laws.

Such Perfection Notices, in the form set out in the Establishment Deed, will be sent to each Borrower and to SGIC with respect to each Mortgage Loan Asset which, as at the date of the occurrence of the relevant Cause of Disposal Event, has not been fully repaid by the relevant Borrower, and will relate to the registration of Mortgage Loans as part of the Cover Pool pursuant to the Korean Covered Bond Laws and the Asset Monitor's right to dispose of the Cover Pool following the occurrence of any Cause of Disposal Event, and will be sufficient to perfect the Asset Monitor's right to dispose of such Mortgage Loans.

The Issuer will provide the Asset Monitor satisfactory evidence of the serving of the Perfection Notices within five Korean Business Days of the Asset Monitor's request. If the Issuer fails to provide the Asset Monitor satisfactory evidence of the serving of the Perfection Notices within such time, then the Asset Monitor may execute and serve such Perfection Notices on the relevant Borrowers and on SGIC in the manner specified in the paragraphs above (including publication pursuant to the paragraphs above).

The Issuer has appointed the Asset Monitor to be its true and lawful attorney for the purposes of signing any Perfection Notices on behalf of the Issuer and has undertaken to execute on or about the Programme Date a power of attorney. The Issuer has undertaken to ratify whatever the Asset Monitor does or lawfully causes to be done under the authority or purported authority under such power of attorney. The Issuer may not revoke the power of attorney granted to the Asset Monitor unless the Issuer obtains the approval from the FSC or the consent from the holders of more than 75% in nominal amount of the Covered Bonds outstanding.

The Issuer shall indemnify the Asset Monitor and keep the Asset Monitor indemnified against any and all costs, claims and liabilities which the Asset Monitor may incur as a result of anything done by the Asset Monitor in the exercise of any of the powers conferred, or purported to be conferred, on it by such power of attorney; provided that nothing in such power of attorney will indemnify the Asset Monitor against any liability that would otherwise obtain to it in respect of any act of negligence, wilful default or fraud which it may have committed in relation to its powers under such power of attorney as determined by a final non-appealable judgment or order of court having jurisdiction. The power of attorney granted by the Issuer to the initial Asset Monitor will automatically terminate upon the termination of the appointment of the initial Asset Monitor.

Cover Pool Accounts

The Issuer will open the Transaction Account with the Transaction Account Bank in the name of the Issuer but indicating the Cover Pool in the account name, on or about the Initial Filing Date, subject to the terms of the relevant Account Bank Agreement. The Issuer may also open Swap Cash Collateral Accounts with the relevant Reserve Account Bank and Swap Securities Collateral Accounts with the Custodian Bank, each in the name of the Issuer but indicating the Cover Pool in the account name, and in each case subject to and in accordance with the terms of the relevant Account Bank Agreements.

The Issuer will, when required to do so pursuant to the sections entitled "— *Pre-Maturity Liquidity*" or "— *Reserve Fund*" above or where a payment is due to be made to such account pursuant to the section entitled "— *Cover Pool Priority of Payments — Pre-Issuer EOD Cover Pool Priority of Payments*" below, or when it exercises its election to do so pursuant to the Korean Account Bank Agreement, open the Reserve Cash Account with the relevant Reserve Account Bank in the name of the Issuer but indicating the Cover Pool in the account name, subject to and in accordance with the terms of the Korean Account Bank Agreement. For the avoidance of doubt, nothing in the Establishment Deed prevents the Issuer opening the Reserve Cash Account with the relevant Reserve Account Bank prior to a date on which it is required to do so.

The Issuer will open the Reserve Securities Account with the Securities Depositary or Euroclear and may open Swap Securities Collateral Accounts with the Custodian Bank pursuant to the paragraphs above and the relevant Account Bank Agreement, in each case in the name of the Issuer but indicating the Cover Pool in the account name prior to:

(a) in respect of each Swap Securities Collateral Account, the first date on which Swap Collateral may be required to be transferred to the Issuer by the relevant Swap Provider pursuant to the terms of the relevant Swap; and

(b) in respect of the Reserve Securities Account, the first date on which it is required to do so pursuant to the section entitled "— *Pre-Maturity Liquidity*" above.

For the avoidance of doubt, nothing in the Establishment Deed prevents the Issuer opening any Reserve Securities Account with the Securities Depositary or Euroclear, or Swap Securities Collateral Account(s) with the Custodian Bank prior to a date on which it is required to do so.

The Issuer may, pursuant to clause 2.1.3 of the Korean Account Bank Agreement or clause 2.1.2 of the Hong Kong Account Bank Agreement, open and maintain one or more additional Swap Cash Collateral Accounts and/or KRW and/or non-KRW denominated cash accounts with the relevant Reserve Account Bank(s) or such other bank (which will be subject to the Reserve Account Bank Required Ratings as if such other bank is a Reserve Account Bank) as may be approved by the Asset Monitor in the name of the Issuer but indicating the Cover Pool in the account name, subject to and in accordance with the terms of the Korean Account Bank Agreement or the

Hong Kong Account Bank Agreement, provided that upon the occurrence of a Convertibility Notice Event, the Issuer will open and maintain, as soon as reasonably practicable, one or more additional onshore Swap Cash Collateral Accounts for the deposit of Swap Collateral by each Swap Provider onshore (to the extent the Issuer does not already have an onshore Swap Cash Collateral Account for the deposit of Swap Collateral in respect of the relevant Swap Agreement at such time) and one or more additional onshore Swap Payment Accounts for the payment of Swap Payment Amounts to the Issuer by each Swap Provider onshore for as long as the Convertibility Occurrence subsists. If any accounts are opened in accordance with this section entitled "— *Cover Pool Accounts*" with a bank that is not a Reserve Account Bank, the Issuer shall enter into an account bank agreement with such bank which includes provisions for the replacement of such account bank if it did not have the Reserve Account Bank Required Ratings on substantially the same terms as those between the Issuer and the Reserve Account Bank.

The Issuer will register, and will register as soon as reasonably practicable in the case of any accounts opened after the Programme Date, the accounts opened pursuant to the paragraphs above with the FSC in accordance with the section entitled "— *Establishment and Segregation of the Cover Pool*" above.

Promptly and in any event within 30 calendar days of the occurrence of a Transaction Account Bank Termination Event, the Issuer (or the Asset Monitor on its behalf) will procure that a new Transaction Account is opened with a replacement Transaction Account Bank and that the Cover Pool assets held in the Transaction Account held with the initial Transaction Account Bank are transferred to the replacement Transaction Account at such replacement Transaction Account Bank in accordance with the Korean Account Bank Agreement.

Promptly, and in any event within 30 calendar days of the occurrence of a Reserve Account Bank Termination Event, the Issuer (or the Asset Monitor on its behalf) will procure that new Cover Pool Cash Accounts (other than the Transaction Account) are opened with a replacement Reserve Account Bank and that the Cover Pool assets held in the relevant Cover Pool Cash Accounts (other than the Transaction Account) held with such initial Reserve Account Bank are transferred to the replacement Cover Pool Cash Accounts (other than the Transaction Account) at such replacement Reserve Account Bank in accordance with the relevant Account Bank Agreement. If any Swap Securities Collateral Accounts have been opened in accordance with the relevant Account Bank Agreement, promptly and in any event within 30 calendar days of the occurrence of a Custodian Bank Termination Event in respect of the Custodian Bank, the Issuer (or the Asset Monitor on its behalf) will procure that the relevant new Swap Securities Collateral Accounts are opened with a replacement Custodian Bank and that the Cover Pool assets held in the relevant Swap Securities Collateral Accounts held with such initial Custodian Bank are transferred to the relevant replacement Swap Securities Collateral Accounts at such replacement Custodian Bank in accordance with each relevant Account Bank Agreement.

Cover Pool Cash Accounts

The Issuer will, for so long as any Covered Bonds are issued and remain outstanding, at all times:

(a) maintain a Transaction Account with the Transaction Account Bank and before a replacement Transaction Account is opened, deposit any collections or proceeds in respect of Mortgage Loans identified in the Cover Pool Ledger into such Transaction Account within one Korean Business Day of its receipt of such collections or proceeds in the general collection account(s) of the Issuer, or once a replacement Transaction Account is opened, arrange for the deposit of any collections or proceeds in respect of Mortgage Loans identified in the Cover Pool Ledger directly into such Transaction Account by way of automatic direct debit;

(b) once opened as described in the sections entitled "— *Pre-Maturity Liquidity*" or "— *Reserve Fund*" above or the Korean Account Bank Agreement, maintain a Reserve Cash Account with the relevant Reserve

Account Bank, and deposit any Liquid Assets in the form of cash which the Issuer may from time to time add to the Cover Pool, any cash amount required to be paid by the Issuer as summarised under the sections entitled "— *Pre-Maturity Liquidity*" or "— *Reserve Fund*" above or "— *Cover Pool Priority of Payments — Pre-Issuer EOD Cover Pool Priority of Payments*" below into the relevant ledger of such Reserve Cash Account;

(c) maintain one or more Swap Cash Collateral Accounts with the relevant Reserve Account Bank, and deposit any Swap Collateral in the form of cash received from any Swap Provider into such Swap Cash Collateral Accounts; and

(d) once opened pursuant to the section entitled "— *Cover Pool Accounts*" above, maintain one or more non-KRW denominated cash accounts with the relevant Reserve Account Bank(s) or such other bank as may be approved by the Asset Monitor, and deposit any non-KRW denominated amounts received from any Swap Provider, including any amounts due to the Issuer under the Swaps following a Convertibility Notice Event (as applicable), into such accounts.

Cover Pool Securities Account

The Issuer will, for so long as any Covered Bonds are issued and remain outstanding, at all times:

(a) once opened as described in the section entitled "— *Cover Pool Accounts*" above, maintain a Reserve Securities Account with the Securities Depositary or Euroclear, and deposit (i) any Pre-Maturity Liquidity Assets other than cash delivered by the Issuer as summarised under the section entitled "— *Pre-Maturity Liquidity*" above into such Reserve Securities Account; and (ii) any securities identified in the Cover Pool Ledger as Liquid Assets forming part of the Cover Pool in the Reserve Securities Account; and

(b) once opened as described in the section entitled "— *Cover Pool Accounts*" above, maintain one or more Swap Securities Collateral Accounts with the Custodian Bank pursuant to the section entitled "— *Cover Pool Accounts*" and the relevant Account Bank Agreement, and deposit any Swap Collateral in the form of securities received from any Swap Provider into such Swap Securities Collateral Accounts,

and the Issuer will procure that all coupons or other distributions arising from assets credited to the Swap Securities Collateral Account and disposal and redemption proceeds in respect thereto are credited to the Swap Cash Collateral Account and all coupons or other distributions arising from assets credited to the Liquid Assets Ledger of the Reserve Securities Account and disposal and redemption proceeds in respect thereto are credited to the Liquid Assets Ledger of the Reserve Cash Account, and all coupons or other distributions arising from assets credited to the Reserve Securities Account and disposal and redemption proceeds in respect thereto are credited to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account, as applicable.

Ledgers

The Issuer will maintain the following ledgers:

(a) a Pre-Maturity Liquidity Ledger in the Reserve Cash Account, to record the credits and debits of Pre-Maturity Liquidity Assets in the form of cash available to repay any Series of Hard Bullet Covered Bonds on the Maturity Date thereof if the Pre-Maturity Test has been breached in accordance with the terms of the Establishment Deed;

(b) a Liquid Assets Ledger in the Reserve Cash Account, to record the crediting and debiting of Liquid Assets in the form of cash in accordance with the terms of the Establishment Deed;

(c) a Reserve Ledger in the Reserve Cash Account, to record the crediting and debiting of the Reserve Fund in accordance with the terms of the Establishment Deed;

(d) a Pre-Maturity Liquidity Ledger in the Reserve Securities Account, to record the credits and debits of Pre-Maturity Liquidity Assets other than in the form of cash available to repay any Series of Hard Bullet Covered Bonds on the Maturity Date thereof if the Pre-Maturity Test has been breached in accordance with the terms of the Establishment Deed; and

(e) a Liquid Assets Ledger in the Reserve Securities Account, to record the crediting and debiting of Liquid Assets other than in the form of cash in accordance with the terms of the Establishment Deed.

The Issuer has acknowledged and agreed that the Asset Monitor has full signing rights in respect of the Cover Pool Accounts upon the occurrence of an Issuer Event of Default in accordance with the Korean Covered Bond Laws.

Payments and Cash Release

Costs and Expenses

Prior to the service of an Issuer EOD Notice, any and all fees, all costs and expenses (including legal fees and expenses) properly incurred and any liabilities, claims, losses and indemnities incurred by the Trustee, the Asset Monitor, any Account Bank, any Agent and/or any Replacement Servicer and their respective directors, officers, employees, delegates and agents (each an "**indemnified party**"), as the case may be, in relation to the Covered Bonds, the Transaction Documents and the managing, maintenance and disposal of all or part of the Cover Pool will be for the account of the Issuer, and the Issuer will pay, and will indemnify each indemnified party against, any and all such fees, claims, losses, liabilities, indemnities, costs and expenses incurred or suffered by such indemnified party (each, a "**Claim**"), and will pay an amount equal to the same to such indemnified party within five Korean Business Days upon receipt by the Issuer of a demand, which shall specify the grounds for any Claims and the basis for the calculation of the amount with respect to the Claims, that such costs and expenses have been incurred or suffered by any such indemnified party; provided that (i) this indemnity will not apply in respect of an indemnified party to the extent that a court of competent jurisdiction determines that any such fees, claims, losses, liabilities, indemnities, costs and expenses incurred or suffered by or brought against such indemnified party arises directly from the fraud, wilful default or gross negligence of such indemnified party and (ii) this indemnity is without prejudice to the indemnities provided under the Trust Deed and the Agency Agreement. Any indemnified party may enforce the indemnity provisions of this paragraph in accordance with The Contracts (Rights of Third Parties) Act 1999. Following the service of an Issuer EOD Notice, any such fees, claims, losses, liabilities, indemnities, costs and expenses will be paid in accordance with the Cover Pool Priority of Payments described below.

Daily Cash Release

Subject to the section entitled "*— Cover Pool Priority of Payments — Pre-Issuer EOD Cover Pool Priority of Payments*" below, on each Korean Business Day from and including the Initial Filing Date and prior to the service of an Issuer EOD Notice, cash standing to the credit of the Transaction Account may be withdrawn by the

Issuer (a "**Daily Cash Release**"), provided that each of the following conditions (the "**Cash Release Conditions**") are satisfied:

(a) the amount standing to the credit of the Reserve Ledger of the Reserve Cash Account (if any) is not less than the Reserve Fund Required Amount;

(b) for so long as the Issuer is in breach of the Pre-Maturity Test, the Pre-Maturity Test Cure Requirement has been satisfied;

(c) the Asset Coverage Test was satisfied on the immediately preceding Calculation Date and would have been satisfied on such immediately preceding Calculation Date after taking into account the proposed withdrawal of cash, provided that the Asset Coverage Test will be deemed to have been satisfied from and including the Programme Date to and excluding the Calculation Date immediately following the first Issue Date under the Programme and this paragraph (c) will not apply where no Covered Bonds are issued and remain outstanding at the time of withdrawal; and

(d) there is no breach of the Korean Covered Bond Act both before and after the withdrawal.

Swap Collateral

The Issuer (or the Asset Monitor on its behalf) will credit to the Swap Cash Collateral Account(s) or Swap Securities Collateral Account(s) any Swap Collateral deposited by any Swap Provider, together with any income, interest and/or distributions thereof, in respect of any Swap Agreement in accordance with the terms of any such Swap Agreement.

The Issuer (or the Asset Monitor on its behalf) will debit to the relevant Swap Cash Collateral Account or Swap Securities Collateral Account any Swap Collateral returned to the relevant Swap Provider or otherwise withdrawn in respect of such Swap Agreement in accordance with the terms of any such Swap Agreement.

Swap Payments

Upon occurrence of a Convertibility Notice Event, the Issuer will open one or more additional onshore Swap Cash Collateral Accounts and onshore Swap Payment Accounts in accordance with the section entitled "— *Cover Pool Accounts*" above and will notify each Swap Provider and each Rating Agency of such accounts within one Business Day of opening such accounts.

Upon the termination of a Swap Agreement, the Issuer or the relevant Swap Provider may be liable to make a termination payment to the other in accordance with the provisions of such Swap Agreement. Any termination payment made by a Swap Provider to the Issuer in respect of the relevant Swap Agreement (together with any Swap Collateral Available Amounts) will first be used by the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor, to the extent necessary prior to the service of an Acceleration Notice, to pay a replacement Swap Provider to enter into a replacement Swap with the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor on behalf of the Issuer, unless a replacement Swap Agreement has already been entered into by or on behalf of the Issuer. Thereafter, any excess amounts will be transferred to the Transaction Account and applied in accordance with the applicable Cover Pool Priority of Payments.

Any premium received by the Issuer from a replacement Swap Provider entering into a replacement Swap Agreement will first be used by the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor to make any termination payment due and payable by the Issuer with respect to the Swap Agreement which is being replaced, unless such termination payment has already been made by or on behalf of the Issuer. Thereafter, any excess amounts will be transferred to the Transaction Account and applied in accordance with the applicable Cover Pool Priority of Payments.

Swap Collateral Excluded Amounts, if applicable and if due to be returned to the Swap Provider in accordance with the relevant Swap Agreement, will be returned by the Issuer or (following the service of an Issuer EOD Notice) the Asset Monitor to the Swap Provider directly and not via the Cover Pool Priority of Payments.

Following the service of an Issuer EOD Notice, any late amounts received by the Issuer under a Swap Agreement (other than amounts in respect of Swap Collateral Excluded Amounts) on or after a Monthly Distribution Date but prior to the next following Monthly Distribution Date will be applied by the Asset Monitor, to the extent that any amounts were not able to be paid or provided for under the Cover Pool Priority of Payments on the relevant Monthly Distribution Date due to the Issuer receiving a late payment from a Swap Provider, promptly to pay or provide for those amounts in the order of priority specified in the Cover Pool Priority of Payments. Thereafter, any excess amounts after such payment or provision will be transferred to the Transaction Account and applied in accordance with the Cover Pool Priority of Payments on the next succeeding Monthly Distribution Date (or the relevant Interest Payment Date or Swap Payment Date, as applicable).

The Issuer (or, following the service of an Issuer EOD Notice, the Asset Monitor) shall provide prior written notices to the relevant Reserve Account Bank with respect to the termination of a relevant Swap Agreement and/or the entry of a relevant replacement Swap, provided that the Issuer maintains an account with such Reserve Account Bank for such terminated Swap and/or replacement Swap at the time of such events.

Cover Pool Priority of Payments

Pre-Issuer EOD Cover Pool Priority of Payments

Prior to the service of an Issuer EOD Notice, funds standing to the credit of the Transaction Account will be applied by the Issuer on each Korean Business Day in making the following payments and provisions in the following priority:

(a) to deposit into the Reserve Cash Account (and credit to the Reserve Ledger) an amount equal to the amount by which the Reserve Fund Required Amount exceeds the balance standing to the credit of the Reserve Ledger of the Reserve Cash Account;

(b) for so long as the Issuer is in breach of the Pre-Maturity Test, if the Pre-Maturity Test Cure Requirement has not been satisfied, to deposit into the Reserve Cash Account (and credit to the Pre-Maturity Liquidity Ledger) an amount equal to the amount which would be required in order to satisfy the Pre-Maturity Test Cure Requirement; and

(c) any remainder to be applied as Daily Cash Release if permitted in accordance with the section entitled "— *Payments and Cash Release — Daily Cash Release*" above, or otherwise to be retained in the Transaction Account.

For the avoidance of doubt, prior to the service of an Issuer EOD Notice, amounts due and payable to any Swap Provider (including any Swap Termination Payments) will be paid by the Issuer and will not be paid from the assets in the Cover Pool.

Application of funds following an Issuer EOD Notice or an Acceleration Notice

Following the service of an Issuer EOD Notice but prior to the service of an Acceleration Notice on the Issuer, assets in the Cover Pool will be applied by the Asset Monitor as described in the sections entitled "— *Application of funds in the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and of the Reserve Securities Account*" and "— *Pre-Acceleration Cover Pool Priority of Payments*" below. Following the service of an Acceleration Notice on the Issuer, assets in the Cover Pool will be applied by the Asset Monitor in accordance with the section entitled "— *Post-Acceleration Cover Pool Priority of Payments*" below.

Application of funds in the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and of the Reserve Securities Account

Following the service of an Issuer EOD Notice, any cash or proceeds from any assets credited to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and of the Reserve Securities Account will be applied by the Asset Monitor in making the following payments and provisions in the following priority:

(a) to redeem any Hard Bullet Covered Bonds that are scheduled to mature during the relevant Pre-Maturity Test Period;

(b) to pay costs and expenses relating to the preparation and delivery of KFTC Notices in accordance with the Korean Account Bank Agreement and Perfection Notices in accordance with the Establishment Deed; and

(c) any remainder towards application in accordance with the section entitled "— *Pre-Acceleration Cover Pool Priority of Payments*" below.

Pre-Acceleration Cover Pool Priority of Payments

Following the service of an Issuer EOD Notice, subject to the section entitled "— *Application of funds in the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and of the Reserve Securities Account*" above in respect of the application of any cash or proceeds from any assets credited to the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and of the Reserve Securities Account, funds in the Transaction Account, the Liquid Assets Ledger of the Reserve Cash Account, the Reserve Ledger of the Reserve Cash Account and the proceeds from any disposal of assets in the Liquid Assets Ledger of the Reserve Securities Account as at the end of each Calculation Period will be applied by the Asset Monitor on the Monthly Distribution Date falling in the month following such Calculation Period (or the relevant Interest Payment Date or Swap Payment Date, if specified below) in making the following payments and provisions in the following priority:

(a) in or towards satisfaction *pro rata* and *pari passu* according to the respective amounts thereof of:

  (i) any costs, claims, losses, liabilities, indemnities, fees, expenses (including legal fees and expenses) and other amounts due and payable (including by way of indemnity), or to become due and payable (and for which payment has not been otherwise provided) prior to the following Monthly Distribution Date (together with applicable Taxes thereon to the extent provided for), to the Asset Monitor and its Delegates pursuant to the terms of the relevant Transaction Documents or applicable fee letters; and

(ii) any costs, claims, losses, liabilities, indemnities, fees, expenses (including legal fees and expenses) and other amounts due and payable (including by way of indemnity), or to become due and payable (and for which payment has not been otherwise provided) prior to the following Monthly Distribution Date (together with applicable Taxes thereon to the extent provided for), to the Trustee and any Appointee, in each case pursuant to the terms of the relevant Transaction Documents or applicable fee letters;

(b) in or towards satisfaction *pro rata* and *pari passu* according to the respective amounts thereof of costs, claims, losses, liabilities, indemnities, fees, expenses (including legal fees and expenses) and other amounts due and payable (including by way of indemnity), or to become due and payable (and for which payment has not been otherwise provided) prior to the following Monthly Distribution Date (together with applicable Taxes thereon to the extent provided for), to the Agents, Replacement Servicer, Transaction Account Bank, Reserve Account Banks and Custodian Bank, in each case pursuant to the terms of the relevant Transaction Documents or applicable fee letters;

(c) in or towards payment *pro rata* and *pari passu* of any Swap Termination Payment due and payable to each relevant Swap Provider (other than due to Swap Provider Default) (except to the extent that such amounts have been paid out of any premiums received from each relevant replacement Swap Provider);

(d) in or towards payment *pro rata* and *pari passu* of any amounts due or to become due prior to the following Monthly Distribution Date in respect of interest on any Series of Covered Bonds by making the following payments in the following priority:

(i) on the relevant Swap Payment Date related to a Series of Covered Bonds, in or towards payment of any amount (in respect of interest) due to the relevant Swap Providers by the Issuer *pro rata* and *pari passu* in respect of each relevant Swap; and

(ii) on the relevant Interest Payment Date, after taking into account any amounts receivable from the Swap Providers on such Interest Payment Date (including any Swap Payment Amounts paid by the Swap Providers into any Swap Payment Accounts following a Convertibility Notice Event), or the proceeds of any spot exchange in accordance with the section entitled "— *Currency Exchange*" below, in or towards payment of any amounts due in respect of interest on each relevant Series of Covered Bonds on a *pro rata* and *pari passu* basis;

provided that if the amount available for distribution under this paragraph (d) (excluding any amounts received or to be received from a relevant Swap Provider) would be insufficient to pay the KRW Equivalent of the interest that is or will be due for payment in respect of each Series of Covered Bonds under sub-paragraph (ii) above, the shortfall will be divided amongst all such Series of Covered Bonds on a *pro rata* and *pari passu* basis and the amount payable by the Asset Monitor to any Swap Provider under the relevant Swap Agreement in respect of each relevant Series of Covered Bonds or provision to be made in respect thereof under sub-paragraph (i) above will be correspondingly reduced to take into account the shortfall applicable to the Covered Bonds in respect of which such payment is to be made;

(e) in or towards payment *pro rata* and *pari passu* of any amounts due or to become due prior to the following Monthly Distribution Date in respect of principal on any Series of Covered Bonds of which the relevant Maturity Date falls prior to the following Monthly Distribution Date by making the following payments in the following priority:

(i) on the relevant Swap Payment Date related to a Series of Covered Bonds, in or towards payment of any amount (in respect of principal) due to the relevant Swap Providers by the Issuer *pro rata* and *pari passu* in respect of each relevant Swap; and

(ii) on the relevant Maturity Date, after taking into account any amounts receivable from the Swap Providers on such Interest Payment Date in respect of principal (including any Swap Payment Amounts paid by the Swap Providers into any Swap Payment Accounts following a Convertibility Notice Event), or the proceeds of any spot exchange in accordance with the section entitled "— *Currency Exchange*" below, in or towards payment of any amounts due in respect of principal on each relevant Series of Covered Bonds on a *pro rata* and *pari passu* basis;

provided that if the amount available for distribution under this paragraph (e) (excluding any amounts received or to be received from the relevant Swap Provider) would be insufficient to pay the KRW Equivalent of the principal that is or will be due for payment in respect of each Series of Covered Bonds under sub-paragraph (ii) above, the shortfall will be divided amongst all such Series of Covered Bonds on a *pro rata* and *pari passu* basis and the amount payable by the Asset Monitor to any Swap Provider under the relevant Swap Agreement in respect of each relevant Series of Covered Bonds or provision to be made in respect thereof under sub-paragraph (i) above will be correspondingly reduced to take into account the shortfall applicable to the Covered Bonds in respect of which such payment is to be made;

(f) in respect of any Series of Extended Covered Bonds in or towards payment *pro rata* and *pari passu* of any amounts due or to become due prior to the following Monthly Distribution Date in respect of principal on such Series of Covered Bonds by making the following payments in the following priority:

(i) on the relevant Swap Payment Date related to such Series of Covered Bonds, in or towards payment of any amount (in respect of principal) due to the relevant Swap Providers by the Issuer *pro rata* and *pari passu* in respect of each relevant Swap; and

(ii) on the relevant Interest Payment Date, after taking into account any amounts receivable from the Swap Providers on such Interest Payment Date in respect of principal (including any Swap Payment Amounts paid by the Swap Providers into any Swap Payment Accounts following a Convertibility Notice Event), or the proceeds of any spot exchange in accordance with the section entitled "— *Currency Exchange*" below, in or towards payment of the Final Redemption Amount or the relevant proportion thereof in respect of each relevant Series of Extended Covered Bonds on a *pro rata* and *pari passu* basis;

provided that if the amount available for distribution under this paragraph (f) (excluding any amounts received or to be received from the relevant Swap Provider) would be insufficient to pay the KRW Equivalent of the principal that is or will be due for payment in respect of each Series of Extended Covered Bonds under sub-paragraph (ii) above, the shortfall will be divided amongst all such Series of Extended Covered Bonds on a *pro rata* and *pari passu* basis and the amount payable by the Asset Monitor to any Swap Provider under the relevant Swap Agreement in respect of each relevant Series of Extended Covered Bonds or provision to be made in respect thereof under sub-paragraph (i) above will be correspondingly reduced to take into account the shortfall applicable to the Covered Bonds in respect of which such payment is to be made;

(g) in or towards payment *pro rata* and *pari passu* according to the respective amounts thereof on the Final Exchange Date of each relevant Swap, any Extension Charges Balance due but unpaid under the relevant Swap Agreement to each relevant Swap Provider;

(h) in or towards payment *pro rata* and *pari passu* of any Swap Termination Payment to each relevant Swap Provider due to Swap Provider Default (except to the extent that such amounts have been paid out of any premiums received from each relevant replacement Swap Provider); and

(i) any remainder to be credited to the Transaction Account, until all Priority Payment Rights are repaid in full, and thereafter to the Issuer as the Issuer may direct.

Post-Acceleration Cover Pool Priority of Payments

Following the service of an Acceleration Notice, the Asset Monitor will arrange for the disposal of all assets in the Cover Pool, and all funds in the Transaction Account, the Reserve Cash Account, the proceeds from disposal of assets in the Cover Pool and any cash or proceeds from any assets credited to the Reserve Securities Account will be applied by the Asset Monitor on any date selected by the Asset Monitor in making the following payments and provisions in the following priority:

(a) in or towards satisfaction *pro rata* and *pari passu* according to the respective amounts thereof of:

(i) any costs, claims, losses, liabilities, indemnities, fees, expenses (including legal fees and expenses) and other amounts due and payable (including by way of indemnity), or to become due and payable (and for which payment has not been otherwise provided) (together with applicable Taxes thereon to the extent provided for), to the Asset Monitor and its Delegates pursuant to the terms of the relevant Transaction Documents or applicable fee letters; and

(ii) any costs, claims, losses, liabilities, indemnities, fees, expenses (including legal fees and expenses) and other amounts due and payable (including by way of indemnity), or to become due and payable (and for which payment has not been otherwise provided) (together with applicable Taxes thereon to the extent provided for), to the Trustee and any Appointee, in each case pursuant to the terms of the relevant Transaction Documents or applicable fee letters;

(b) in or towards satisfaction *pro rata* and *pari passu* according to the respective amounts thereof of costs, claims, losses, liabilities, indemnities, fees, expenses (including legal fees and expenses) and other amounts due and payable (including by way of indemnity), or to become due and payable (and for which payment has not been otherwise provided) (together with applicable Taxes thereon to the extent provided for), to the Agents, Replacement Servicer, Transaction Account Bank, Reserve Account Banks and Custodian Bank, in each case pursuant to the terms of the relevant Transaction Documents or applicable fee letters;

(c) in or towards payment *pro rata* and *pari passu* of any Swap Termination Payment due and payable to each relevant Swap Provider (other than due to Swap Provider Default) (except to the extent that such amounts have been paid out of any premiums received from each relevant replacement Swap Provider);

(d) in or towards payment of all amounts in respect of interest and principal due and payable on each Series of Covered Bonds on a *pro rata* and *pari passu* basis until the Covered Bonds are repaid in full;

(e) in or towards payment *pro rata* and *pari passu* according to the respective amounts thereof on the Final Exchange Date of each relevant Swap, any Extension Charges Balance due but unpaid under the relevant Swap Agreement to each relevant Swap Provider;

(f) in or towards payment *pro rata* and *pari passu* of any Swap Termination Payment to each relevant Swap Provider due to Swap Provider Default (except to the extent that such amounts have been paid out of any premiums received from each relevant replacement Swap Provider); and

(g) any remainder to the Issuer as the Issuer may direct.

Currency Exchange

Following the service of an Issuer EOD Notice, other than where the relevant exchanges of currency are made pursuant to outstanding Swaps, the Asset Monitor will perform all exchanges of Korean Won into any currency other than Korean Won as may be required to make any payment pursuant to the Cover Pool Priority of Payments on or before the relevant date on which such payment is due at the spot exchange rate as it is able to obtain on such date in Seoul.

The Asset Monitor will not be liable to any person for any loss which may arise as a result of the Asset Monitor effecting any foreign exchange transactions in accordance with these paragraphs in "Currency Exchange" other than where such loss is suffered or incurred as a result of any negligence, wilful default or fraud of the Asset Monitor.

Payment outside of Cover Pool

For the avoidance of doubt, nothing in this section entitled "— *Cover Pool Priority of Payments*" will restrict the Issuer from applying any of its other assets (outside of the Cover Pool) towards the satisfaction of the Priority Payment Rights whether prior to or following the service of an Issuer EOD Notice.

Other

The Establishment Deed is governed by English law.

Asset Monitor Agreement

The Asset Monitor to Monitor the Cover Pool

Under the terms of the Asset Monitor Agreement entered into on or about the Initial Filing Date between the Asset Monitor, the Issuer and the Trustee, the Asset Monitor has agreed to perform the duties set out in Article 11(1) of the Korean Covered Bond Act and Article 10(1) of the FSC Regulations (each as may be amended or supplemented from time to time) in respect of the Cover Pool for the purposes of the Korean Covered Bond Laws, including, for the avoidance of doubt, an accounting audit of the Cover Pool.

The Asset Monitor has agreed to carry out such functions of the Asset Monitor in respect of the Cover Pool as are prescribed by the Korean Covered Bond Laws, including, without limitation, in accordance with the following in connection with any Cause of Disposal Event:

(a) following the service of an Issuer EOD Notice:

    (i) managing, maintaining and (if it deems appropriate) disposing of all or part of the Cover Pool;

    (ii) receiving proceeds and collections from the Cover Pool and payments from any Swap Provider;

    (iii) instructing the Issuer (or, as the case may be, the Replacement Servicer) in respect of the servicing of the Mortgage Loans;

    (iv) applying any cash and assets of the Cover Pool in accordance with the applicable Cover Pool Priority of Payments;

(v) investing any cash in the Cover Pool in other Liquid Assets that are registered as part of the Cover Pool, subject to providing for any imminent payment obligations falling due;

(vi) if the Issuer is also the Transaction Account Bank, arranging for a new Transaction Account to be established with a replacement Transaction Account Bank in accordance with the Establishment Deed and the Korean Account Bank Agreement (including any necessary arrangements with respect to the service of KFTC Notices);

(vii) if the Issuer is also the Reserve Account Bank, arranging for new Cover Pool Cash Accounts (other than the Transaction Account) to be established with a replacement bank in accordance with the Establishment Deed and the Korean Account Bank Agreement;

(viii) appointing any Replacement Servicer and/or any person as its agent, subcontractor or delegate (each a "**Delegate**") to manage and maintain the Cover Pool and prepare Investor Reports if and to the extent that the Asset Monitor deems it necessary in order to satisfy the Asset Monitor's obligations under Article 10(3) of the Korean Covered Bond Act, and providing any Replacement Servicer and/ or the relevant Delegate with the Data File received from the Issuer pursuant to the section entitled "—*Provision of Information and Assistance to the Asset Monitor*" below, to the extent permitted by and subject to, all applicable laws; and

(ix) determining the occurrence of a Benchmark Transition Event (as defined in the Conditions) and its related Benchmark Replacement Date (as defined in the Conditions), making Benchmark Replacement Conforming Changes (as defined in the Conditions) and conducting relevant activities pursuant to Condition 4(g) (*Benchmark Discontinuation*) under this offering circular.

(b) following the service of an Acceleration Notice:

(i) taking any of the actions specified in the sub-paragraph (a) above as it deems necessary or desirable;

(ii) to the extent not already disposed of following the occurrence of an Issuer Event of Default, disposing of all or part of the Cover Pool as it deems appropriate; and

(iii) applying any cash and assets of the Cover Pool in accordance with the applicable Cover Pool Priority of Payments,

provided that, in connection with the management, maintenance and/or disposal of the Cover Pool, the Asset Monitor will perform such duties with the level of due care as is required of the Asset Monitor under the Korean Covered Bond Laws. It will exercise the standard of care necessary to protect the interests of the Priority Payment Right Holders, acting reasonably and in good faith for and on behalf of the Priority Payment Right Holders.

In addition, following the occurrence of a Servicer Replacement Event, the Asset Monitor may, if it deems appropriate in its sole discretion to ensure continued servicing of the Mortgage Loans and to maintain the ratings of the Covered Bonds, request that the Issuer and the Asset Monitor jointly appoint a replacement servicer (the "**Replacement Servicer**") that satisfies such rating or other criteria as may be applicable to maintain the ratings of the Covered Bonds at the relevant time to service the Mortgage Loans and to enter into a servicing agreement with such Replacement Servicer, and file an amendment to the Covered Bond Issuance Plan for such appointment, provided that, if the Asset Monitor and the Issuer fail to jointly appoint a Replacement Servicer within 30 calendar days after the Asset Monitor has notified the Issuer in writing that it deems such appointment to be appropriate, the Asset Monitor will solely appoint a Replacement Servicer within a further 30 calendar days without further consultation with or involvement of the Issuer.

Following the occurrence of a Cause of Disposal Event, if the Issuer has not provided satisfactory evidence of the serving of Perfection Notices in accordance with the section entitled "— *Perfection Notices*" above, the Asset Monitor may, if it deems appropriate in its sole discretion, exercise its rights under the section entitled "— *Perfection Notices*" above to execute and serve Perfection Notices on the relevant Borrowers and on SGIC.

If a replacement Transaction Account has been opened but the Issuer has failed to serve KFTC Notices as required by the Korean Account Bank Agreement, the Asset Monitor will take such action as is required pursuant to the Korean Account Bank Agreement, and may take any other action that the Asset Monitor deems appropriate to procure that all automatic debit payments of the Borrowers are made directly to the replacement Transaction Account.

Testing of Asset Coverage Test and the Required Collateralization Ratio

The Asset Monitor has agreed, subject to due receipt of the information to be provided by the Issuer to the Asset Monitor, to conduct tests in respect of the accuracy of the calculations performed by the Issuer in relation to the Asset Coverage Test and the Required Collateralization Ratio in respect of each Calculation Date falling in March, June, September or December in each year and such additional Calculation Dates as may be required with a view to confirm the accuracy of such calculations. For so long as the Issuer ceases to satisfy the applicable Minimum Required Ratings of either Rating Agencies and prior to the Issuer regaining the applicable Minimum Required Ratings of both Rating Agencies, the Asset Monitor will conduct such tests in respect of every Calculation Date.

Following the determination by the Asset Monitor of any errors in the accuracy of the calculations performed by the Issuer such that the Asset Coverage Test was not satisfied on any relevant Calculation Date (where the Issuer had recorded it as being satisfied), the Asset Monitor will conduct such tests in respect of the Issuer's calculations in respect of every Calculation Date occurring during the period ending six months after each Calculation Date on which the Asset Coverage Test which included relevant errors was carried out.

Amortisation Test

For so long as any Covered Bonds are issued and remain outstanding, the Issuer will procure that, as of each Calculation Date following the service of an Issuer EOD Notice (but prior to the service of an Acceleration Notice on the Issuer), the Amortisation Test Adjusted Aggregate Loan Amount (as defined below) will be in an amount at least equal to the KRW Equivalent of the aggregate outstanding principal amount of all the Covered Bonds (the "**Amortisation Test**").

The Asset Monitor is required to calculate the Amortisation Test Adjusted Aggregate Loan Amount (as of each Calculation Date) on or prior to each Test Date following the service of an Issuer EOD Notice (but prior to the service of an Acceleration Notice on the Issuer).

The "Amortisation Test Adjusted Aggregate Loan Amount" will be calculated as at each Calculation Date as follows:

$$A+B+C$$

Where:

"A" means the aggregate of the following in respect of each Mortgage Loan:

(a) the outstanding current principal balance of the relevant Mortgage Loan; multiplied by

(b) N.

"N," "B" and "C" each has the meaning given to it in the section entitled "— *Asset Coverage Test*" above.

If, on any Test Date following the service of an Issuer EOD Notice, the Amortisation Test Adjusted Aggregate Loan Amount is less than the KRW Equivalent of the aggregate outstanding principal amount of all the Covered Bonds as calculated as of the Calculation Date immediately preceding that Test Date, then the Amortisation Test will be deemed to be breached and, if the Issuer fails to bring the Cover Pool into compliance with the Amortisation Test within 30 days of such breach, a Covered Bond Event of Default under Condition 10(b)(i) will occur. The Asset Monitor will immediately notify the Issuer, the Rating Agencies and the Trustee in writing of any such breach of the Amortisation Test, and the Trustee will be entitled to serve an Acceleration Notice on the Issuer in accordance with the Conditions. The results of each Amortisation Test will be included in the Asset Monitor Report.

Asset Monitor Report

In connection with the Asset Monitor's duties under Articles 11(1) and 11(2) of the Korean Covered Bond Act and the Asset Monitor Agreement, the Asset Monitor will, within 30 days following each Calculation Date falling in March, June, September and December in each year (or by such other deadline as provided in the Korean Covered Bond Laws from time to time) (each, an "**Asset Monitor Report Date**"):

(a) provide a report in both the Korean and English language relating to such duties in the form required by the FSC from time to time and in accordance with the Agreed Procedures (the "**Asset Monitor Report**"), together with supporting documents to the FSC in such form as the FSC requires; and

(b) provide each such Asset Monitor Report to each party to the Asset Monitor Agreement.

In accordance with Article 11(2) of the Korean Covered Bond Act, the Issuer and the Asset Monitor will make each such Asset Monitor Report available to Priority Payment Right Holders by publishing such Asset Monitor Report on the Issuer's website.

If the Agreed Procedures need to be performed more frequently than in respect of each Calculation Date falling in March, June, September and December in each year pursuant to the section entitled "— *Testing of Asset Coverage Test and the Required Collateralization Ratio*" above or if the Amortisation Test is required to be calculated by the Asset Monitor in respect of each Calculation Date, then the Asset Monitor will deliver an Asset Monitor Report in respect of each such additional Asset Monitor ACT Calculation Date or Calculation Date (as applicable) by not later than 10 Korean Business Days following the related Investor Report Date to each party to the Asset Monitor Agreement.

Provision of Information and Assistance to the Asset Monitor

In the absence of manifest error, the Asset Monitor may rely on any instructions, requests or representations made, notices given or information supplied in writing by any person reasonably believed by the Asset Monitor to be authorised from time to time by the Issuer in connection with the provision by the Issuer of information pursuant to the terms of the Asset Monitor Agreement.

Within five Korean Business Days of the occurrence of a Servicer Replacement Event and every six months thereafter (or within five Korean Business Days of a request by the Asset Monitor), the Issuer will provide the Asset Monitor (or if so directed by the Asset Monitor, the Replacement Servicer) with a data file in an encrypted form containing all information necessary for the management, maintenance and disposal of each Mortgage Loan (the "**Data File**") to the extent permitted by and subject to all applicable laws.

At any time following the service of an Issuer EOD Notice, or if a Servicer Replacement Event has occurred and the Asset Monitor has requested that a Replacement Servicer be appointed, the Issuer will provide the Asset Monitor, the Replacement Servicer or any Delegate with full cooperation and assistance (including, without limitation, the secondment of its staff to the Asset Monitor, the Replacement Servicer or the Delegate) to enable the Asset Monitor, the Replacement Servicer or the Delegate to take the following actions if and to the extent necessary for management of the Cover Pool:

(a) establishing and implementing a computer system (including, without limitation, providing the necessary computer software and hardware and any necessary licences free of charge) for managing and maintaining the Cover Pool if required by the Asset Monitor, the Replacement Servicer or the Delegate;

(b) loading the data held by the Issuer in relation to the Cover Pool onto that system in machine-readable form if required by the Asset Monitor, the Replacement Servicer or the Delegate; and

(c) providing any updated data file requested and reconstructing all Data Files to the extent that the relevant computer systems are not compatible, subject in any event to limitations under applicable law (including any law relating to protection of personal data).

The Issuer will pay to the Asset Monitor for its services a fee together with reasonable expenses of the Asset Monitor as separately agreed by the Issuer and the Asset Monitor in accordance with the Asset Monitor Fee Letter.

Termination

The Asset Monitor may, at any time, resign from its appointment under the Asset Monitor Agreement and the Issuer may terminate the appointment of the Asset Monitor, in each case in accordance with Article 9 of the Korean Covered Bond Act (or any successor or replacement provision from time to time). The Issuer will notify the Rating Agencies of any such resignation or termination.

Any costs, charges or expenses incurred by the Asset Monitor as a result of its resignation will be payable in full by the Asset Monitor and will not be liable for reimbursement by the Issuer and the Trustee save that the Asset Monitor will remain entitled to payment of any costs, charges, fees or expenses payable by the Issuer to the Asset Monitor in accordance with the Asset Monitor Agreement incurred or accruing prior to such resignation.

Following any receipt of any notice of resignation by the Asset Monitor or termination of the Asset Monitor's appointment, the Issuer will promptly use all reasonable endeavours to appoint a substitute asset monitor to provide the services set out in the Asset Monitor Agreement, provided that such substitute asset monitor is an Eligible Asset Monitor that enters into an agreement substantially on the same terms as the terms of the Asset Monitor Agreement or on such other terms as are acceptable to the Issuer and the Trustee and the identity of such substitute asset monitor has been notified to the Rating Agencies by the Issuer.

Any costs, charges or expenses incurred by the Asset Monitor as a result of its appointment being terminated by the Issuer (together with the Asset Monitor's rights under the section entitled "— *Provision of Information and Assistance to the Asset Monitor*" in relation to fees and expenses above) in relation to monies owing to the Asset Monitor for the period up to and including the date of the termination of the Asset Monitor's appointment becoming effective) will be payable in full by the Issuer except where the Asset Monitor's appointment is terminated due to its wilful default, fraud or negligence.

Notwithstanding the resignation or termination of the resigned or terminated Asset Monitor, it will provide the services set out in the sections entitled "— *The Asset Monitor to Monitor the Cover Pool*," "— *Testing of Asset Coverage Test and the Required Collateralization Ratio*," "— *Amortisation Test*" and "— *Asset Monitor Report*" above and perform the other obligations of the Asset Monitor under the Asset Monitor Agreement until such time as a new Asset Monitor is appointed in accordance with the preceding paragraphs.

Neither the Issuer nor the Trustee will be obliged to act as the Asset Monitor, and neither the Issuer nor the Trustee will have any obligation to monitor or supervise the performance by the Asset Monitor in any circumstances.

The Asset Monitor Agreement is governed by Korean law.

Account Bank Agreements

Account Bank Appointment

Pursuant to the terms of the Korean Account Bank Agreement entered into on or about the Initial Filing Date between the Issuer, the Transaction Account Bank, the Reserve Account Bank (in respect of the Reserve Cash Account), the Asset Monitor and the Trustee, the Transaction Account Bank will open and maintain the Transaction Account in the name of the Issuer on or about the Initial Filing Date and such Reserve Account Bank shall, within three Korean Business Days of receipt of an Account Opening Notice (as defined in the Korean Account Bank Agreement), open and maintain the Reserve Cash Account in the name of the Issuer but indicating the Cover Pool in the account name. Such Reserve Account Bank or such other bank (which will be subject to the Reserve Account Bank Required Ratings as if such other bank is a Reserve Account Bank) as may be approved by the Asset Monitor shall, upon receipt of notice from the Issuer, open and maintain one or more additional KRW and/or non-KRW denominated cash accounts in the name of the Issuer but indicating the Cover Pool in the account name. The Issuer will register all such accounts with the FSC as accounts of the Cover Pool in accordance with the requirements set out under the Korean Covered Bond Act.

Pursuant to the terms of the Hong Kong Account Bank Agreement entered into on or about the Programme Date between the Issuer, the Reserve Account Bank (in respect of the Swap Cash Collateral Accounts), the Asset Monitor and the Trustee, such Reserve Account Bank will open and maintain the Swap Cash Collateral Accounts for each issue of Covered Bonds, all in the name of the Issuer but indicating the Cover Pool in the account name, on or prior to the date of such an issue of Covered Bonds. Such Reserve Account Bank will operate the Swap Cash Collateral Account(s) in accordance with the Hong Kong Account Bank Agreement and the bank Mandate in respect thereof (as defined therein). Such Reserve Account Bank or such other bank (which will be subject to the Reserve Account Bank Required Ratings as if such other bank is a Reserve Account Bank) as may be approved by the Asset Monitor shall, upon receipt of notice from the Issuer, open and maintain one or more additional Swap Cash Collateral Accounts, and any Reserve Account Bank or such other bank as may be approved by the Asset Monitor shall, upon receipt of notice from the Issuer, open and maintain one or more additional KRW and/or non-KRW denominated cash accounts in the name of the Issuer but indicating the Cover Pool in the account name. The Issuer will register all such accounts with the FSC as accounts of the Cover Pool in accordance with the requirements set out under the Korean Covered Bond Act.

Pursuant to the terms of the Custodian Bank Agreement entered into on or about the Programme Date between the Issuer, the Custodian Bank, the Asset Monitor and the Trustee, the Custodian Bank will, upon receipt of notice from the Issuer, open and maintain one or more Swap Securities Collateral Accounts (and any cash accounts relating thereto, as may be required), each in the name of the Issuer but indicating the Cover Pool in the account name, and the Issuer will in each case register the same as an account of the Cover Pool in accordance with the requirements set out under the Korean Covered Bond Act. The Custodian Bank will operate the Swap Securities Collateral Account(s) and any cash accounts relating thereto in accordance with the Custodian Bank Agreement and the bank Mandate in respect thereof (as defined therein).

Each of the Account Banks appointed, respectively, under the Korean Account Bank Agreement, the Hong Kong Account Bank Agreement or the Custodian Bank Agreement will comply with the terms of all Regulatory Requirements and the Korean Covered Bond Laws with regard to the operation and maintenance of the relevant Cover Pool Cash Accounts.

Account Bank Termination and Replacement

The Transaction Account Bank will cease to be the Transaction Account Bank if (each event below, a "**Transaction Account Bank Termination Event**"):

(a) no Transaction Account Bank Relevant Entity has the Transaction Account Bank Required Ratings;

(b) the Transaction Account Bank is Shinhan Bank, and an Issuer EOD Notice is delivered; or

(c) the Transaction Account Bank fails to comply with its obligations under the Korean Account Bank Agreement in any material respect as determined by the Trustee and such failure remains unremedied for 30 days after written notice thereof, addressed to the Transaction Account Bank, has been delivered by the Trustee to the Transaction Account Bank and the Issuer.

Following the occurrence of a Transaction Account Bank Termination Event, the Issuer (or the Asset Monitor on its behalf) will, within 30 days of such occurrence (unless, in the case where such Transaction Account Bank Termination Event has occurred due to the sub-paragraph (a) above, a Transaction Account Bank Relevant Entity again holds the Transaction Account Bank Required Ratings within such 30-day period):

(a) close the Transaction Account and open a replacement Transaction Account (in the name of the Issuer but indicating the Cover Pool in the account name), with a financial institution (x) having the Transaction Account Bank Required Ratings and (y) being a person which holds all requisite licences or authorisations to perform the obligations of the Transaction Account Bank under the Korean Account Bank Agreement;

(b) ensure that such replacement Transaction Account is registered with the FSC as part of the Cover Pool; and

(c) following registration of the replacement Transaction Account with the FSC, transfer the amount standing to the credit of the Transaction Account to the replacement Transaction Account that has been opened with such financial institution.

Upon the opening of a replacement Transaction Account in accordance with sub-paragraph (a) immediately above, the Issuer (or the Asset Monitor on its behalf) will use its best efforts to, by the day that such replacement Transaction Account is opened (such notices sent pursuant to the below, "**KFTC Notices**"):

(a) with respect to each Borrower for which the relevant automatic debit bank is not the Issuer, send a notice, signed on behalf of the Issuer and the replacement Transaction Account Bank, to the relevant bank terminating the automatic debit bank's authority to transfer auto debit payments from each relevant Borrower in respect of Mortgage Loans in the Cover Pool to the general collection account of the Issuer and authorising such automatic debit bank to make all future payments from each Borrower to the replacement Transaction Account; and

(b) send a letter to the KFTC, executed by the Issuer and the replacement Transaction Account Bank, authorising the KFTC to direct all future payments from each Borrower in respect of Mortgage Loans in the Cover Pool to the replacement Transaction Account and procure that consent to such instructions is obtained from the KFTC.

If the Issuer fails to serve KFTC Notices within five Korean Business Days of the date on which the replacement Transaction Account has been opened, the Asset Monitor will execute and serve such KFTC Notices on the banks or the KFTC as applicable.

Each Reserve Account Bank will cease to be a Reserve Account Bank if:

(a) in respect of such Reserve Account Bank, no Reserve Account Bank Relevant Entity has the Reserve Account Bank Required Ratings;

(b) the Reserve Account Bank is Shinhan Bank, and an Issuer EOD Notice is delivered; or

(c) such Reserve Account Bank fails to comply with its obligations under the relevant Account Bank Agreement in any material respect as determined by the Trustee and such failure remains unremedied for 30 days after written notice thereof, addressed to such Reserve Account Bank, has been delivered by the Trustee to such Reserve Account Bank and the Issuer,

each such event, a "Reserve Account Bank Termination Event," and such defaulting Reserve Account Bank, a "Defaulting Reserve Account Bank."

Following the occurrence of a Reserve Account Bank Termination Event, the Issuer (or the Asset Monitor on its behalf) will, within 30 days of such occurrence (unless, in the case where such Reserve Account Bank Termination Event has occurred due to sub-paragraph (a) above, the relevant Reserve Account Bank Relevant Entity again holds the Reserve Account Bank Required Ratings within such 30-day period):

(a) close all the relevant Cover Pool Cash Accounts which relate to the Defaulting Reserve Account Bank and open replacement relevant Cover Pool Cash Accounts (in the name of the Issuer but indicating the Cover Pool in the account name) with a financial institution (x) which has its jurisdiction of incorporation located outside Korea, provided this sub-paragraph (x) only applies if the Defaulting Reserve Account Bank is the Reserve Account Bank appointed under the Hong Kong Bank Account Agreement, (y) having the Reserve Account Bank Required Ratings and (z) being a person which holds all requisite licences or authorisations to perform the obligations of the Defaulting Reserve Account Bank under the relevant Account Bank Agreement;

(b) ensure that such replacement relevant Cover Pool Cash Accounts are registered with the FSC as part of the Cover Pool; and

(c) following registration of the replacement relevant Cover Pool Cash Accounts with the FSC, transfer the amounts standing to the credit of each relevant Cover Pool Cash Account (which relates to the Defaulting Reserve Account Bank) to the corresponding replacement relevant Cover Pool Cash Account that has been opened with such financial institution. The Custodian Bank will cease to be a Custodian Bank if (each event below, a "**Custodian Bank Termination Event**"):

(d) the Custodian Bank does not have the Custodian Bank Required Ratings; or

(e) the Custodian Bank fails to comply with its obligations under the Custodian Bank Agreement in any material respect as determined by the Trustee and such failure remains unremedied for 30 days after written notice thereof, addressed to the Custodian Bank, has been delivered by the Trustee to the Custodian Bank and the Issuer.

Following the occurrence of a Custodian Bank Termination Event the Issuer (or the Asset Monitor on its behalf) will, within 30 days of such occurrence (unless, in the case where such Custodian Bank Termination Event has occurred due to sub-paragraph (a) above and the Custodian Bank again holds the Custodian Bank Required Ratings within such 30-day period):

(a) close all the Swap Securities Collateral Accounts and open replacement Swap Securities Collateral Account(s) (in the name of the Issuer but indicating the Cover Pool in the account name) with a financial institution (x) which has its jurisdiction of incorporation located outside Korea, (y) having the Custodian Bank Required Ratings and (z) being a person which holds all requisite licences or authorisations to perform the obligations of the Custodian Bank under the Custodian Bank Agreement;

(b) ensure that such replacement Swap Securities Collateral Account(s) are registered with the FSC as part of the Cover Pool; and

(c) following registration of the replacement Swap Securities Collateral Account(s) with the FSC, transfer the securities and any cash being held in the Swap Securities Collateral Account(s) to the corresponding replacement Swap Securities Collateral Account(s) that has been opened with such financial institution.

In the event of its termination and cessation or the closure of the relevant Cover Pool Cash Accounts, each of the Account Banks will assist the other parties to the relevant Account Bank Agreement(s) to effect an orderly transition of the banking arrangements documented in such Account Bank Agreement(s).

No termination of the appointment of the Transaction Account Bank, a Reserve Account Bank or the Custodian Bank will take effect:

(i) where the appointment of the Transaction Account Bank is to be terminated, until a replacement financial institution or institutions (in each case, (x) appointed by the Issuer, (y) having itself (or through a guarantor of its obligations) the Transaction Account Bank Required Ratings and (z) being a person which holds all requisite licences or authorisations to perform the obligations of the Transaction Account Bank under the Korean Account Bank Agreement) have entered into an agreement in form and substance similar to the Korean Account Bank Agreement as applied to the Transaction Account Bank and the Transaction Account (including, for the avoidance of doubt, Transaction Account Bank Termination Events) or on such other terms as are acceptable to the Issuer and the Trustee;

(ii) where the appointment of a Reserve Account Bank is to be terminated, until a replacement financial institution or institutions (in each case, (w) which has its jurisdiction of incorporation located outside Korea, provided this sub-paragraph (w) only applies to the Reserve Account Bank appointed under the Hong Kong Account Bank Agreement, (x) appointed by the Issuer, (y) having itself (or through a guarantor of its obligations) the Reserve Account Bank Required Ratings and (z) being a person which holds all requisite licences or authorisations to perform the obligations of the outgoing Reserve Account Bank under the relevant Account Bank Agreement) have entered into an agreement in form and substance similar to such Account Bank Agreement as applied to the outgoing Reserve Account Bank and the relevant Cover Pool Cash Accounts held with it (including, for the avoidance of doubt, Reserve Account Bank Termination Events) or on such other terms as are acceptable to the Issuer and the Trustee;

(iii) where the appointment of the Custodian Bank is to be terminated, until a replacement financial institution or institutions (in each case, (w) which has its jurisdiction of incorporation located outside Korea, (x) appointed by the Issuer, (y) having itself (or through a guarantor of its obligations) the Custodian Bank Required Ratings and (z) being a person which holds all requisite licences or authorisations to perform the obligations of the outgoing Custodian Bank under the Custodian Bank Agreement) have entered into an agreement in form and substance similar to the Custodian Bank Agreement as applied to the outgoing Custodian Bank and the Swap Securities Collateral Account(s) (including, for the avoidance of doubt, Custodian Bank Termination Events) or on such other terms as are acceptable to the Issuer and the Trustee; and

(iv) in the case of the Korean Account Bank Agreement, in the case of voluntary termination by the Transaction Account Bank and/or the Reserve Account Bank appointed thereunder only, if the then current ratings of the Covered Bonds would be adversely affected thereby.

Other

None of the Transaction Account Bank, any of the Reserve Account Banks or the Custodian Bank are liable for a failure to carry out its obligations if it is unable to do so due to circumstances beyond its control.

The Korean Account Bank Agreement will be governed by Korean law, the Hong Kong Account Bank Agreement will be governed by Hong Kong law and the Custodian Bank Agreement will be governed by Hong Kong law.

Swap Agreements

The Issuer will, in respect of each Series of Covered Bonds, enter into a Swap Agreement with a Swap Provider and the Trustee and enter into one or more Swaps in relation to such Series or Tranche (as applicable) of Covered Bonds at the time such Covered Bonds are issued, provided that the Issuer may agree with the relevant Swap Provider in respect of one or more Swap that no cash flow will be exchanged under the relevant Swap unless and until the Contingent Swap Effective Date has occurred. Such Swap(s) will be entered into to provide a hedge against certain currency risks in respect of amounts received by the Issuer under the Underlying Assets and amounts payable by the Issuer under the Covered Bonds of that Series.

Under the Swap(s) on the relevant Issue Date (other than in the case of a Contingent Swap), the Issuer will pay to the Swap Provider the net amount received by the Issuer in respect of the issue of the relevant Series or Tranche, as applicable, of Covered Bonds, and in return the Swap Provider will pay an amount equal to the KRW Equivalent of the applicable issue proceeds. Thereafter (subject, in the case of any Contingent Swap, to the occurrence of the Contingent Swap Effective Date), the Swap Provider will pay to the Issuer on each Interest Payment Date amounts equivalent to the amounts that would be payable by the Issuer in respect of interest and principal payable under the relevant Series or Tranche of Covered Bonds. In return, (subject, in the case of any Contingent Swap, to the occurrence of the Contingent Swap Effective Date) the Issuer will pay to the Swap Provider on each Interest Payment Date an amount in Won calculated by reference to the relevant interest rate determined for the relevant Interest Period in accordance with the Swap and the KRW Equivalent of any principal due in respect of the relevant Series or Tranche of Covered Bonds.

If an Extended Maturity Date is specified as applicable in the Pricing Supplement for a Series of Covered Bonds and the payment of the amount corresponding to the Final Redemption Amount or any part of it by the Issuer is deferred until the relevant Extended Maturity Date pursuant to Condition 5(b) (*Extension of maturity up to Extended Maturity Date*) of the Terms and Conditions of the Covered Bonds, and prior to the Maturity Date or any Interest Payment Date thereafter up to (and including) the relevant Extended Maturity Date, the Issuer notifies (pursuant to the terms of the relevant Swap) the relevant Swap Provider of the amount in Won to be paid by the Issuer on such Maturity Date or Interest Payment Date (such amount being equal to the Final Redemption Amount or the relevant portion thereof elected to be paid by the Issuer or payable by the Issuer in accordance with the relevant priority of payments as set out in the Establishment Deed on such Maturity Date or Interest Payment Date in respect of the relevant Series or Tranche of Covered Bonds), the Swap Provider will pay the Issuer an amount in the currency of the Covered Bond converted from such Won amount using the applicable Swap Rate and the Issuer will pay such Won amount to the Swap Provider. Further, in the case of a Series of Covered Bonds for which the payment of the Final Redemption Amount or any part of it is deferred until the relevant Extended Maturity Date, the Issuer or the Swap Provider may be required to make a payment of swap extension charges determined by reference to the gains or losses expected to be realised by the Swap Provider in extending the Swap until the following Interest Payment Date.

However, such swap extension charges may only be paid after all amounts senior to such swap extension charges in the Cover Pool Priority of Payments (including principal and interest in respect of all Series of Covered Bonds) have been paid in full. Under the Swap Agreement, the Swap Provider will acknowledge and agree to be bound by the priority of payments and certain related provisions in the Establishment Deed.

Each Swap will terminate on the Maturity Date or, if an Extended Maturity Date is specified as applicable in the Pricing Supplement for a Series of Covered Bonds and the Issuer notifies the Swap Provider prior to the Maturity Date that the Issuer will be paying an amount less than the KRW Equivalent of the Final Redemption Amount (or if no such notice is received by the relevant time by the Swap Provider), on the final Interest Payment Date on which an amount representing the Final Redemption Amount is paid (but in any event not later than the Extended Maturity Date).

Under the terms of each Swap Agreement, in the event that the relevant rating of the Swap Provider is downgraded by a Rating Agency below the rating(s) specified in the relevant Swap Agreement (in accordance with the requirements of the Rating Agencies) for the Swap Provider, and, where applicable, as a result of the downgrade, the then current ratings of the Covered Bonds would or may, as applicable, be adversely affected, the Swap Provider will, in accordance with the relevant Swap Agreement, be required to take certain remedial measures which may include providing collateral for its obligations under the Swap Agreement, arranging for its obligations under the Swap Agreement to be transferred to an entity with the ratings required by the relevant Rating Agency, procuring another entity with the ratings required by the relevant Rating Agency to become co-obligor in respect of its obligations under the Swap Agreement, or taking such other action as it may agree with the relevant Rating Agency. A failure to take such steps will allow the Issuer to terminate the Swaps entered into under that Swap Agreement.

A Swap Agreement may also be terminated in certain other circumstances (each referred to as a "**Swap Early Termination Event**"), including, without limitation:

(a) at the option of any party to the Swap Agreement, if there is a failure by the other party to pay any amounts due under such Swap Agreement and the applicable grace period has expired;

(b) upon the occurrence of the insolvency of the relevant Swap Provider or any guarantor;

(c) if the Covered Bond Issuance Plan has not been amended or supplemented to add a Swap to the Cover Pool or has been amended or supplemented to remove a Swap from the Cover Pool which remains outstanding without the prior written consent of the Swap Provider and, in each case, the relevant grace period has expired;

(d) if the priority of the Swap Provider in the relevant priority of payments is adversely affected by changes to the Korean Covered Bond Laws or amendments (without the prior written consent of the Swap Provider) to the Cover Pool Priority of Payments or if the Swap Provider enters into a Swap with the Issuer in terms that do not include an acknowledgement and agreement of such Swap Provider to be bound by the priority of payment provisions set out in the Establishment Deed;

(e) upon the Trustee serving an Acceleration Notice in respect of the relevant Series of Covered Bonds;

(f) the merger of the Swap Provider without an assumption of the obligations under the relevant Swap Agreement;

(g) in the event the Covered Bonds are redeemed in whole for tax reasons pursuant to the Conditions and the Swap Provider was notified of such redemption no later than three calendar days prior to the redemption; or

(h) in the event the Covered Bonds are redeemed in whole or in part due to the exercise of a redemption option by the Issuer or holders of the Covered Bonds and the Swap Provider was notified of such redemption no later than three calendar days prior to the redemption, provided that upon a redemption of the Covered Bonds in part the Swap Agreement will be partially terminated.

Upon the termination of a Swap Agreement, the Issuer or the relevant Swap Provider may be liable to make a termination payment to the other in accordance with the provisions of the relevant Swap Agreement. The amount of this termination payment will be calculated and made in the currency of the relevant Series of Covered Bonds.

Any termination payment made by the Swap Provider to the Issuer in respect of a Swap Agreement will first be used to the extent necessary (prior to the serving of an Acceleration Notice) to pay a replacement Swap Provider to enter into a replacement Swap with the Issuer, unless a replacement Swap Agreement has already been entered into by or on behalf of the Issuer. Any premium received by the Issuer from a replacement Swap Provider in respect of a replacement Swap will first be used to make any termination payment due and payable by the Issuer with respect to the Swap Agreement which is being replaced, unless such termination payment has already been made by or on behalf of the Issuer.

Any Swap Collateral Excluded Amounts will be paid to the Swap Provider directly and not via the Cover Pool Priorities of Payments.

If withholding taxes are imposed on payments made by any Swap Provider to the Issuer under a Swap Agreement, such Swap Provider will be obliged to gross up those payments. If withholding taxes are imposed on payments made by the Issuer to the Swap Provider under a Swap Agreement, the Issuer will not be obliged to gross up those payments.

In the event that the Covered Bonds are purchased by the Issuer or redeemed and/or cancelled in accordance with the Conditions, the Swap(s) in connection with such Covered Bonds will terminate or partially terminate, as the case may be.

The Swap Agreements are (or, as applicable, will be) and any non-contractual obligations arising out of or in respect of them are governed by and will be construed in accordance with English law.

CERTAIN INFORMATION REGARDING THE COVER POOL

The Mortgage Loans which will initially constitute the Underlying Assets in the Cover Pool will consist of Mortgage Loans originated by the Issuer. The types of Mortgage Loans, their key features and the origination, approval, underwriting and enforcement processes of the Issuer are summarised below. The features of the Mortgage Loans and these processes may change from time to time.

Origination of the Mortgage Loans

Introduction

The Mortgage Loans are originated through the Issuer's branch offices. New Mortgage Loans are accepted on the basis of the Government's regulations as well as the Issuer's own standards and criteria. As of the date of this offering circular, almost all of the Mortgage Loans were with borrowers who held a current account with the Issuer, as all new borrowers that do not already have an existing current account are required to open a current account before being approved for a Mortgage Loan.

The approval process for most Mortgage Loans is largely automated based on established evaluation systems, which determines the interest and credit limits, as well as compliance with applicable regulations. For some of those loans that are rejected based on such automated system, a loan review officer of the Issuer may grant approval in certain situations. However even in this case, such approval cannot contravene the applicable regulations.

Loan Process and Lending Criteria

Customer Information

To obtain a Mortgage Loan, prospective borrowers must complete an application form which includes details of the applicant's income, current employment details, bank account information, current mortgage information, if any, and certain other personal information. Prospective borrowers must also submit proof of their identity, for example by submitting a passport, driver's licence or certificate of residence, copies of which will be taken by the Issuer.

Automatic Credit Evaluation

The Issuer uses an automated credit rating management system known as the Automatic Credit Evaluation ("**ACE**") to evaluate most of the household loans, including the Mortgage Loans. Under ACE, loan applications undergo three steps of review (the collateral review, the regulatory compliance review and the credit review) before they are reviewed by the branch manager for approval. However, among household loans that are rejected by ACE, some applications may be afforded individual review and approval by the loan review officer.

All Mortgage Loans are subject to collateral review. Properties that are actively traded in the open market, such as apartments, are evaluated based on the market price index such as KB Property Index, which is an index provided by Kookmin Bank. However, for properties like single houses that do not have readily available market prices, collateral values are assessed by internal and/or external licenced appraisers. Once the collateral's value is appraised, other factors that may affect the debt collection are taken into account, such as existence of any provisional registration and any priority rights such as holders of a lease deposit or the legally guaranteed priority deposit (including small tenant deposit).

Regulatory compliance review checks the loan's eligibility under Korean regulations on mortgage loans, including the LTV, DTI and DSR regulations. The LTV regulation restricts the maximum loan limit that can be granted in relation to the value of the asset. For example, housing in Gangnam-gu, designated as a speculative area, can only be granted a limit of up to 50% of the price. DTI and DSR regulations govern the maximum loan limit based on the borrowers' cash flows by calculating their income and outstanding debt. For instance, if the debtor's aggregate outstanding loans exceed ₩100 million, the DSR ratio of the requested loan must not exceed 40%.

Lastly, upon satisfaction of the collateral review and the regulatory compliance reviews, the loan application can be reviewed by the Credit Scoring System (the "**CSS**"). The credit review calculates a credit rating based on customer information such as the customer's occupation, annual income, transaction activities with the Issuer and credit information provided by credit information agencies (the "**Credit Bureau Rating**"). As a result, the Issuer measures its internal risk and determines the final credit limit and interest rate. If a loan application passes the collateral and regulatory reviews but fails the CSS, it may undergo an individual review by the Issuer's loan review officer in accordance with the Issuer's internal policies. The individual review includes a thorough review of additional materials, through which the Issuer's loan review officer determines whether there are any concerns to debt collection and may grant loan approval on that basis. However, even in this case, the decisions are made in accordance with the applicable regulations and internal policies.

Credit Evaluation of Customers

Credit evaluation is conducted for all applicants of Mortgage Loans. The CSS determines the Credit Bureau Rating through the Application Scoring System (the "**ASS**") if the customer is a new customer of the Issuer, or, if the customer is an existing customer of the Issuer, through the Behavioral Scoring System (the "**BSS**") and the ASS. The CSS manages risks and automatically determines the level of credit that can be granted to customers based on the Issuer's accumulated internal data.

The ASS determines the credit rating of a new customer based on various factors, including (i) the customer's personal information such as existing ownership of housing, the customer's age, family, occupation and income, (ii) the customer's prior transactions with the Issuer, including the amount of any deposits the customer has with the Issuer, the delinquent history of the customer (based on the BSS score), the amount and manner of credit card usage of the customer and whether the customer deposits his salary into an account with the Issuer, and (iii) credit information provided to the Issuer by the Korea Credit Bureau or other domestic credit bureaus.

The BSS is a system used to review and monitor the credit of an existing customer with an outstanding loan with the Issuer. In reviewing and monitoring the credit of an existing customer, the BSS takes into consideration, amongst other factors, the existing customer's history in relation to delinquency, repayment, product information, intensity of transactions and transaction period.

Non-qualifying customers (that is, those customers who do not satisfy the lending criteria after system determination or customers who are offered an insufficient credit limit) may in certain cases obtain Mortgage Loans through exceptional approval by the credit screening department at the Issuer's headquarters, based on factors such as credit quality of the customer and value of the Mortgaged Property.

Determination of Maximum Loan Amount

The maximum amount that the Issuer will lend under a Mortgage Loan is determined by a number of factors, including the Credit Bureau Rating, the value of the proposed Mortgaged Property and debt servicing capabilities of the customer (such as the customer's net income and existing credit commitments) and the applicable government regulations.

Appraisal Value of Property

All Mortgaged Loans are subject to a satisfactory valuation of the proposed Mortgaged Property. The appraisal value of proposed Mortgaged Property is determined by the collateral value estimation system. The Issuer's staff will input the loan application amount, the maximum secured amount of senior ranking claims, and the amount of any Jeonse Rights (as defined below) or if larger, Small Tenant Deposits (as defined below), and based on these variables the collateral value estimation system will calculate the appraisal value of the proposed Mortgaged Property. If the proposed Mortgaged Property's market value is not able to be determined by the collateral value estimation system, the Issuer may adopt the appraisal values specified in a report from the Issuer's internal or external licenced appraiser or a report from the Korea Appraisal Board. In such cases, the Issuer will determine which method will be used to determine the applicable appraisal value.

In this section, "Jeonse Rights," also known as a *jeonse-kwon*, means a security interest registered with the relevant real property registry, granted by a lessor to a lessee for the repayment of a lessee's key money deposit and which also allows the lessee to occupy, use and benefit from the leased premises until the later of (i) the date on which the lease term expires and (ii) the date the lessor returns such key money deposit to the lessee, and "Small Tenant Deposits" means a tenant's right to repayment of certain portions of the key money deposit in priority over any other security holder. The scope and standards relating to such tenant's rights and repayment amount are determined in accordance with the Presidential Decree of the Residential Lease Protection Law.

Loan-to-value Limit

Each customer is only permitted to take out a maximum loan that falls within the loan-to-value limits imposed by Korea's financial regulatory authorities.

Small Tenant Deposits and Senior Receivables

When determining the maximum loan amount in relation to a Mortgaged Property, the Issuer also takes into account the value of any Jeonse Rights held by a lessee, Small Tenant Deposits and prior ranking claims and senior lien claims, and such amounts are deducted from the maximum loan amount.

Security

Each Mortgage Loan is secured by a first priority right or a second and sequentially lower priority right of mortgage which is duly registered at the registry office. When a Mortgage Loan is first disbursed, an entry to this effect is made in the real estate registry. The first entry in the real estate registry establishes priority over any subsequent claims, encumbrances and attachments in respect of the relevant property. However, the amount of any senior receivables with respect to the property will be deducted from the maximum loan amount. In certain limited circumstances, the Issuer accepts a second ranking right of mortgage where a first ranking right of mortgage has already been registered in the name of a third party.

Insurance

The Issuer generally requires borrowers to arrange for insurance in respect of the properties securing the Issuer's loans. However, such insurance is not required when (i) such property is a house, (ii) other collateral guarantee is provided, or (iii) the outstanding balance subject to insurance is less than ₩50 million.

Description of MCI

The Issuer has adopted internal policies in accordance with the guidelines of the FSC and the FSS in relation to the calculation of the available loan amount for a borrower. The available loan amount is calculated by applying the relevant loan-to-value ratio to the value of the residential property. The maximum amount of repayment of key money deposits for small leases ("**Super-Priority Right for Small Leases**") (which are statutorily accorded priority over any security interest in the relevant residential property) that can be established over the relevant residential property is deducted from the available loan amount even if no such Super-Priority Right for Small Leases has been established at the time of lending. As a consequence, an amount equal to the potential Super-Priority Right for Small Leases (the "**Maximum Super-Priority Amount**") is not available for lending. The Issuer's internal policies, however, permit the lending of such Maximum Super-Priority Amount in addition to the available loan amount if an amount equal to the Maximum Super-Priority Amount is covered by a credit insurance policy issued by an insurance company.

The Issuer entered into a master business agreement in connection with the operation of mortgage credit insurance (the "**Master MCI Agreement**") with the Seoul Guarantee Insurance Company (the "**SGIC**") on April 29, 2005 (and which may be amended or supplemented from time to time) to extend loans exceeding the available loan amount calculated by the loan-to-value ratio method by the Maximum Super-Priority Amount. If a borrower wishes to borrow in excess of the maximum available amount calculated by the loan-to-value ratio method, the Issuer will determine the excess loan amount (which will be within the Maximum Super-Priority Amount) and then submit to SGIC an application for credit insurance under the Master MCI Agreement for an amount equal to such excess amount (the "**MCI Loan Amount**"). SGIC will review the application and, if it meets all the criteria set out in the Master MCI Agreement (including those relating to the borrower's income), issue the credit insurance policy for that particular loan. The Issuer will pay the insurance premium for each credit insurance policy issued by SGIC under the Master MCI Agreement. In such credit insurance policy, the MCI Loan Amount covered by such insurance ("**Insured Amount**") will be specified. The Insured Amount will be set at 100% of the Small Tenant Deposits.

Under the Master MCI Agreement, if: (i) the borrower fails to repay principal and interest on the loan on the relevant payment date specified in the relevant mortgage loan agreement; (ii) the obligations of the borrower are accelerated pursuant to such mortgage loan agreement; or (iii) the borrower fails to repay the loan on the maturity date (each, an "**Insured Event**"), the Issuer is required to make at least two demands on the borrower for the rectification of such breach and, if the borrower fails to rectify the breach, the Issuer should enforce the mortgage. If the Issuer cannot recover all amounts due under the mortgage loan in the judicial auction instituted to enforce the mortgage, SGIC will pay the insurance proceeds, up to the Insured Amount, for the portion of the principal of the MCI Loan Amount and the interest accrued thereon for a period of not more than one year which are not recovered in such judicial auction.

Determination of Interest Rate

The interest rate applicable to each Mortgage Loan is determined based on a number of factors including the cost of capital, the benchmark interest rate, the Customer Credit Rating and the loss-given-default ("**LGD**") rate, which is generated using the CRS. For customers who provide a guarantor, insurance securities or other additional forms of collateral, the value of LGD generated from the CRS may be lower.

Acceptance and Verification of Customer Information

Before final acceptance of a Mortgage Loan by a customer, the Issuer conducts a confirmatory process to check whether the customer has met all the pre-conditions stated in the Mortgage Loan offer.

Mortgage Administration

Introduction

This section describes, amongst other things, the servicing procedures and practices of the Issuer.

The Issuer administers the Mortgage Loans from its retail branches, Administrative Support Department and Credit Management Department in accordance with its mortgage administration service procedures. These set out, among other things, the loan management procedures as required by applicable regulations, the procedures for the calculation of interest and other amounts payable under the Mortgage Loans, the collections process in respect of Mortgage Loans in default, the maintenance of records in relation to the Mortgage Loans and communications with borrowers under the Mortgage Loans.

Arrears Management

If any amount due has not been received on the payment due date, the Issuer's collection staff are required, to the fullest extent permitted by applicable law, to take the following actions:

- If a Mortgage Loan is delinquent, the Issuer's collection staff will: (a) call the borrower; (b) inform the borrower of the delinquency; (c) ask for an expected payment date; and (d) send a written request for payment notifying the delinquency and a warning of the scheduled default, by mail, to the relevant borrower; or

- If a Mortgage Loan is delinquent for two or more months, the Issuer's collection staff will: (a) call the borrower and give him or her a final notice that the Mortgage Loan is delinquent, (b) send notice of commencement of the public sale of the Mortgaged Property by content and delivery certified mail, and (c) begin the foreclosure proceedings in the Korean courts. If the relevant borrower cannot be contacted by phone, the Issuer's collection staff will: (i) visit the site of the Mortgaged Property (if the Issuer deems necessary), and (ii) begin the foreclosure proceedings.

Foreclosure

If enforcement action is required to be taken in connection with a Mortgage Loan, the Issuer's credit management department will take enforcement action as follows:

- making demands on the delinquent borrower or guarantor;

- terminating the relevant Mortgage Loan Agreement to be followed by enforcing the related mortgage and collateral security as soon as practicable; and

- initiating a foreclosure proceeding against the related mortgagor (including retaining legal counsel) and taking any other actions that are necessary for the foreclosure action.

As required by the Establishment Deed, the Issuer will arrange for enforcement proceeds in respect of Mortgage Loans in the Cover Pool to be paid into the Transaction Account within one Korean Business Day after the collection of such enforcement proceeds.

Under Korean law, the Issuer has the right to publicly auction the Mortgaged Property if the customer remains in breach of its obligations after being given written notice that it is in default and being given 15 days to comply with the Issuer's demand for payment, and alternative arrangements are not made.

To commence a judicial auction in Korea, the petition for auction (*Gyongmae Shinchung*) must be filed with the relevant court having jurisdiction over the district in which the real estate is located. The petition for auction must set forth supporting facts and grounds for requesting an auction, and must be accompanied by various documents including a copy of the mortgage agreement, a certified copy of the court register relevant to the subject property and a registration tax payment certificate.

Once a petition for auction has been filed, the court will examine the petition and the supporting documents and will issue its order to commence the auction (usually within two to three days of the petition). Typically, within seven days, the court order for auction is then entered in the *Deungki-Bu* (real estate registry) of the subject property.

The first auction date is generally set approximately five to six months from the date of petition filing. In the absence of any objection filed by the mortgagor or any other interested party, the auction will take place on the date set by the court. On the day of the auction, bidders must deposit 10% of the minimum price set by the court with the court unless the court decides otherwise. Distribution of auction proceeds will take place approximately 70 to 80 days after the auction date. However, it is not common that the property is sold at a first auction, thus necessitating subsequent auctions. A subsequent auction date is set for a date approximately one month following the first auction date. Each time an auction closes without a successful bid, the minimum price is lowered by 20% to 30%.

There are no restrictions preventing the mortgagee of a property to be auctioned from bidding in the auction. A mortgagee may decide to purchase such property if the minimum auction price falls below a certain level. If a mortgagee is selected as the successful bidder, then such mortgagee may off-set its claim amount against its bidding price. However, the mortgagee purchaser must still pay in cash the amount sufficient to cover the senior claims and statutory liens having priority over its claim.

SUMMARY OF KOREAN LEGISLATION REGARDING COVERED BONDS

The Korean Covered Bond Act

As of the date of this offering circular, the main legislation which governs covered bonds issued in Korea comprises the Korean Covered Bond Act and the related Enforcement Decree, which came into legal effect on April 15, 2014, and the related Regulation, which came into effect on April 23, 2014.

Certain Korean financial institutions that satisfy the conditions set forth under Article 2 and Article 4 of the Korean Covered Bond Act ("Eligible Issuers" and each Eligible Issuer that issues Covered Bonds, a "**Covered Bond Issuer**") may issue covered bonds.

The holders of covered bonds (and also holders of certain other claims incurred in relation to the specific covered bonds) have dual recourse in respect of the covered bond by having an exclusive and recognized right of claim, on a *pari passu* basis between themselves, over the cover pool while they reserve a right of payment from other assets of a Covered Bond Issuer.

Issuance Limit

The Korean Covered Bond Act prescribes that Eligible Issuers may issue covered bonds up to the ceiling set by the Enforcement Decree which shall not exceed 8% of such Eligible Issuers' total assets as of the end of the fiscal year immediately preceding the scheduled date of issuance. The current ceiling set by the Enforcement Decree is 4% of a Covered Bond Issuer's total assets as of the end of the fiscal year immediately preceding the scheduled date of issuance. The FSC reserves the right to restrict this further to 2% of a Covered Bond Issuer's total assets, taking into consideration various factors, such as collateralization ratio and financial conditions of a Covered Bond Issuer, including its liquidity position.

Registration of the Covered Bond Issuance Plan

A Covered Bond Issuer must register the Covered Bond Issuance Plan with the FSC. A Covered Bond Issuer must also register amendments to the Covered Bond Issuance Plan or matters concerning the cover pool, while minor changes shall be reported to the FSC within seven days from the date of such change. The Covered Bond Issuance Plan should include (i) the terms and conditions of the covered bonds, (ii) qualification requirements of a Covered Bond Issuer pursuant to the Korean Covered Bond Act such as equity capital, balance sheet, etc., (iii) the details of the cover pool, (iv) total valuation amount and details of such valuation of the cover pool, (v) the ratio of aggregate outstanding amount of the covered bonds (excluding any redeemed amount) to the cover pool to be maintained, (vi) details of the asset monitor (as defined in " *—The Asset Monitor*" below), and (vii) information relating to protection of debtors, details of programme issuance plan of the covered bonds, if relevant, funding plans for redemption of the covered bonds and other matters relating to issuance, distribution and redemption of the covered bonds as prescribed by the FSC.

Statutory Priority Right of Payment and Bankruptcy Remoteness

Article 12 of the Korean Covered Bond Act states that the cover pool assets shall not be subject to insolvency proceedings with respect to a Covered Bond Issuer and that in case a Covered Bond Issuer is declared bankrupt or a rehabilitation proceeding is commenced with respect to a Covered Bond Issuer, the cover pool of a Covered Bond Issuer shall not form part of the bankruptcy estate of a Covered Bond Issuer or the property that the administrator of the rehabilitation proceeding is entitled to manage and dispose of. In addition, if a corporate restructuring administrative proceeding is commenced with respect to a Covered Bond Issuer, the cover pool shall not comprise assets subject to such administration.

Further, the cover pool assets shall not be subject to compulsory execution (other than that by the Priority Payment Right Holders in accordance with Article 13 of the Korean Covered Bond Act), preservative measures, stay orders and general prohibition order under the Debtor Rehabilitation and Bankruptcy Act of Korea.

A notice to the underlying obligors is not required in order for the investors to be granted a statutory priority right of payment against the cover pool, and it would not be necessary to register the inclusion of the mortgage loans in the cover pool with the courts if the Covered Bond Issuance Plan was registered with the FSC.

Article 13 of the Korean Covered Bond Act states that the Priority Payment Right Holders shall have a priority right of payment on the registered cover pool over any third parties or creditors of a Covered Bond Issuer.
If the principal and interest of the covered bonds are not fully repaid from the cover pool, the investors have the right to payment from other assets of a Covered Bond Issuer in addition to the cover pool pursuant to Article 14 of the Korean Covered Bond Act.

Cover Pool — Composition of Assets and Eligibility Criteria

Article 5 of the Korean Covered Bond Act stipulates that the cover pool shall comprise (1) the Underlying Assets, (2) the Liquid Assets and (3) Other Assets, and the Eligibility Criteria for the cover pool is set forth as following.

"Underlying Assets" shall include (i) first priority residential mortgage loans with a loan-to-value ratio equal to or lower than 70%, and obligors of which are not subject to insolvency proceedings, (ii) loan receivables against the Government, a local government of Korea or a special statutory corporation of Korea, (iii) Korean treasury bonds, municipal bonds or bonds issued by a special statutory corporation, (iv) mortgage loans secured by ships or aircraft with a loan-to-value ratio equal to or lower than 70% and insured for an amount in excess of a prescribed minimum level (which is currently 110% of the sum of (a) the aggregate outstanding balance of the relevant loan and (b) any other outstanding debt of a Covered Bond Issuer that are at least *pari passu* with such loan), and (v) asset backed securities issued under the ABS Act, covered bonds issued by Korea Housing Finance Corporation and residential mortgage backed securities issued pursuant to the Korea Housing Finance Corporation Act where the underlying assets are residential mortgage loans which satisfy the criteria set out in (i) above.

The Regulation sets out the following restrictions on the residential mortgage loans which shall comprise the Underlying Assets:

- at least 20% must have a DTI Ratio equal to or lower than 70%;

- at least 30% must bear fixed interest rate; and

- residential mortgage loans, provided that, not more than 10% must be loans of which 50% or more of their outstanding principal balance may be set off against a Covered Bond Issuer. The set off will apply mainly to deposits but will also include any debt obligations of a Covered Bond Issuer if the borrower holds such debt directly.

"Liquid Assets" shall comprise (a) cash (excluding cash collected or acquired from the Underlying Assets and the Liquid Assets), (b) certificates of deposit with a term of no longer than 100 days issued by domestic financial institutions other than a Covered Bond Issuer, and (c) assets such as (x) bonds issued by a foreign government rated at least 'AA-' or above by a credit rating agency recognized by the FSS, which are capable of being liquidated within three months, (y) financial instruments issued by banks or securities companies rated 'A' or above by an internationally recognized credit rating agency whose nature and maturity are comparable to those described in (b), which are capable of being liquidated within three months and (z) deposits and term deposits at either domestic or foreign financial institutions with a term of no longer than three months. The aggregate value of the Liquid Assets shall not exceed 10% of the total value of the cover pool.

"Other Assets" shall comprise collections and other property rights (including, without limitation, any interest, income or distributions) acquired from the Underlying Assets and the Liquid Assets and claims and security interest related thereto acquired from derivatives transactions to hedge foreign exchange rate or interest rate risks and other risks associated with the cover pool pursuant to the Covered Bond Issuance Plan. The accounts where such collections and other property rights are held will also form part of Other Assets. Collateral provided by the swap provider may form part of the cover pool only if so stipulated in the Covered Bond Issuance Plan.

Valuations

Pursuant to the Enforcement Decree, valuation of the assets comprising the cover pool is carried out by reference to the closing market price on the relevant day on the relevant securities exchange. Where no reliable market prices are available on the relevant securities exchange on the relevant day, including where no market price is available on the relevant securities exchange in respect of the relevant asset (such as Mortgage Loans), the book value calculated in accordance with applicable Korean accounting principles, the par value, the purchase price, the transaction price and the price provided by an entity which satisfies statutory requirements (e.g., debt rating companies, accounting firms, credit rating agencies, valuation companies and underwriting companies), in each case in respect of the relevant asset type, together with the prevailing exchange rate at the time of valuation, shall be taken into account by the Covered Bond Issuer and/or the asset monitor in determining the fair value of each type of asset comprising the cover pool. The Issuer shall carry out the valuation and such valuation shall be verified by the asset monitor, but the book value shall be deemed to be the market price if valuation cannot be performed. Where a Covered Bond Issuer has entered into derivative transactions for the purpose of hedging exposure to movements in foreign currency exchange rates or interest rates, the exchange rates or interest rates as specified in such derivative transactions themselves shall be used for valuation purposes. Non-eligible assets and claims acquired from derivative transactions themselves shall be valued at zero.

Management of the Cover Pool and Required Collateralization Ratio

A Covered Bond Issuer should separately manage the assets included in the cover pool from its other assets on the basis of the applicable Covered Bond Issuance Plan and failure to do so may result in criminal sanctions. The books for the cover pool must also be separately maintained. Cash or other Liquid Assets in the cover pool may be deposited in a segregated account opened with a Covered Bond Issuer or with another financial institution which satisfies the requirements under the Korean Covered Bond Act.

A Covered Bond Issuer is required to maintain a statutory collateralization ratio and a contractual collateralization ratio while its covered bonds remain outstanding. Article 5 of the Korean Covered Bond Act stipulates that the total value of the cover pool shall be equal to the Required Collateralization Ratio. In addition, a Covered Bond Issuer is required to specify in the Covered Bond Issuance Plan an asset coverage ratio it agrees to maintain for the term of the covered bond (*Dam-bo-yu-ji-bi-yul* in Korean) (the "**Asset Coverage Ratio**"). If the Asset Coverage Ratio is not satisfied or if the Eligibility Criteria is breached, a Covered Bond Issuer shall add or substitute Underlying Assets or Liquid Assets without delay in order to cause the cover pool to satisfy such requirements.

Risk Management and Disclosure

A Covered Bond Issuer is required to establish and monitor separate risk management standards and procedures relating to the issuance and redemption of the covered bonds at least on a quarterly basis. A Covered Bond Issuer is also obligated to disclose on its website on a quarterly basis the results of such risk management monitoring, the report prepared by the asset monitor and assessment of whether the obligor of mortgage loans benefits from the issuance of the covered bond. The FSC may request data concerning business or properties of a Covered Bond Issuer, its administrator and the asset monitor, or investigate such business and properties if necessary for the purposes of protecting the investors.

The Asset Monitor

A Covered Bond Issuer is required to appoint a cover pool monitor (the "**asset monitor**") with the approval of the FSC in order to monitor independently the composition and balance of the cover pool.

The asset monitor shall be, either, (i) a person who qualifies as a bond administrator under the Korean Commercial Code, (ii) the Korea Housing Finance Corporation (excluding where the Korea Housing Finance Corporation is itself a Covered Bond Issuer), or (iii) a corporation with equity capital of at least ₩1 billion that meets the staffing requirements as set forth in Article 9 of the Korean Covered Bond Act.

The asset monitor's duties are prescribed under Article 11 of the Korean Covered Bond Act and include the following:

- conducting accounting audit of the cover pool;
- due diligence/evaluating compliance with the Eligibility Criteria and Asset Coverage Ratio;
- monitoring a Covered Bond Issuer's conformity to the Covered Bond Issuance Plan and relevant laws;
- monitoring whether the priority rights of the investors are infringed by the manner in which a Covered Bond Issuer manages the cover pool;
- providing instructions to a Covered Bond Issuer if it engages in any inappropriate practices;
- supervising and directing an administrator if an administrator has been appointed; and
- exercising any and all legal rights for the enforcement of the priority claims as set forth under Article 13 of the Korean Covered Bond Act.

The asset monitor is obligated to prepare a report on the performance of its duties and submit such report to the FSC within 30 days of the end of each quarter. The report should be provided to a Covered Bond Issuer and, upon request, to the investors and other parties, who have a priority right of payment from the cover pool.

Enforcement of the Collateral

So long as the cover pool is not disposed of to a third party, legal ownership over the cover pool will remain with a Covered Bond Issuer. Enforcement over the cover pool may be conducted in accordance with the method of disposal as stipulated in the Covered Bond Issuance Plan including by private sale of the cover pool if such method of enforcement has been contractually agreed upon. In other words, when liquidating the cover pool, the court proceedings relating to the enforcement of security interest would not apply.

The Korean Covered Bond Act stipulates that the method of disposal of the cover pool should be clearly stated in the Covered Bond Issuance Plan. The asset monitor could be given discretion to arrange a private sale or conduct a public auction (involving public announcement and sale by way of inviting purchasers to bid) or any other reasonable method at its discretion.

Set-off Risk

An underlying obligor of any mortgage loan that has a deposit account with a Covered Bond Issuer will be able to set off its deposit claim arising from such deposit account against its obligation under such mortgage loan prior to the notice to, or consent from, the underlying obligor regarding the registration of the cover pool with the FSC and the fact concerning the asset monitor's right to dispose of the cover pool against such mortgage loan that has been included in the cover pool.

Pursuant to Article 15(1) of the Korean Covered Bond Act, a Covered Bond Issuer or the asset monitor may not claim the registration of the cover pool with the FSC and the asset monitor's right to dispose the cover pool against the debtor of a claim in the cover pool unless it has notified the registration of the cover pool with the FSC and the asset monitor's right to dispose the cover pool against such mortgage loan that has been included in the cover pool to such debtor or such debtor has given its consent. Notice to, or consent from relevant debtors may only be given or obtained where an event set out in Article 13(3) of the Korean Covered Bond Act has occurred. The events listed under Article 13(3) of the Korean Covered Bond Act are as follows:

- where a Covered Bond Issuer fails to pay in whole or in part the claim of the Priority Payment Right Holder when due;

- where the cause of disposal of the registered cover pool has occurred; or

- where the claim of the Priority Payment Right Holder has been accelerated.

Set-off against the bank would not be affected by the fact that the deposit made by the debtor with the relevant bank is subject to deposit insurance provided by the KDIC. As the deposit insurance payment to be paid by the KDIC is calculated by deducting any debts (other than guarantee debts) owed by the depositor to the bank from the deposit amount, the insurance payments due from KDIC will be an amount which is net of the amounts outstanding under the loan.

THE KOREAN BANKING INDUSTRY

Unless otherwise expressly stated, the information and statistics set out in this section are derived from publicly available information, including materials published by the FSC. No further verification has been made by the Bank or any of its affiliates or advisers.

The banking sector in Korea is composed of five specialized banks, six nationwide commercial banks, six regional commercial banks, three Internet-only banks and thirty-five branches and subsidiaries of foreign banks as of June 30, 2023.

The specialized banks are organized under, or chartered by, special laws and are designed to meet the needs of specific sectors of the Korean economy in accordance with Government policy, that cannot be met by commercial banks due to limited resources or lack of profitability. The Korea Development Bank, for example, offers long-term facility investment funds to major industries in Korea, while The Export-Import Bank of Korea offers export loans and trade finance. Industrial Bank of Korea focuses on the small- and medium-sized enterprises sector while Nonghyup Bank and the National Federation of Fisheries Cooperatives support their respective industries. All of these specialized banks also provide traditional deposit products, except for The Export-Import Bank of Korea.

The commercial banks are designed to serve the general public and corporate sectors. The six nationwide banks consist of the Bank, Kookmin Bank, Woori Bank, KEB Hana Bank, Citibank Korea Inc. and Standard Chartered Bank Korea Limited. Amongst these, the Bank, Kookmin Bank, Woori Bank and KEB Hana Bank are major banking flagships of their respective financial holding companies, established based on the Commercial Act of Korea and the Financial Holding Company Act to facilitate cross-selling opportunities between traditional banking and nonbanking operations and promoting improved resources allocation and capital efficiency.

Except for the customers of their branches in Seoul, the regional banks' main business clients are small and medium-sized companies in their regions. The regional banks are Busan Bank, Daegu Bank, Kwangju Bank, Jeonbuk Bank, Kyongnam Bank and Jeju Bank. Jeju Bank is a subsidiary of Shinhan Financial Group.

As in most countries, commercial banks in Korea may engage in a wide range of business. Their core activities include the taking of deposits, the extension of loans and discounts, remittances and collections, and foreign exchange. They also handle such business as guarantees and acceptances and own-account securities investment. Specific authorization is required for each area of non-bank business in which they engage such as the trust and credit card businesses. In addition, many commercial banks have been expanding their businesses into non-interest but fee-based businesses such as bancassurance and fund sales.

THE KOREAN RESIDENTIAL MORTGAGE INDUSTRY

The information and statistics set out in this section are derived from various public and private sources. This information has not been prepared or independently verified by the Issuer, the Arranger or the Dealers or any of their respective affiliates or advisers.

Introduction

The Korean economy has steadily grown during the past several years. Korea's gross domestic product ("**GDP**") increased from approximately ₩1,440 trillion in 2012 to ₩2,150 trillion in 2022 according to the World Bank. The population in Korea is approximately 52 million. Korea is one of the most densely populated among OECD countries, with mountains and forests covering most of its landscape. Most of Korea's population is concentrated in the capital city of Seoul and its vicinity. Seoul metropolitan area, which includes Seoul, Incheon and Gyeonggi area, accounts for over 50% of the country's entire population. Such characteristics are expected to create more pressure on demands for housing units, especially in urban areas. As such, most of the newly built residential properties in Korea are high-rise apartment complexes. A typical Korean residence is an apartment unit designed for single household occupancy. The average size of a unit ranges from 82 to 116 square metres. The majority of homes are owner-occupied, with apartments and multi-household complexes demonstrating higher home ownership ratios due to greater availability of mortgage loan financing and higher liquidity for such housing types in the housing market.

Non-homeowners may enter into leases. In Korea, there are two major types of lease arrangements: monthly leases and *jeonse* leases, which is largely unique to Korea. *Jeonse* refers to the key money deposit which is paid upfront by the tenant to the landlord, which typically ranges from 55% to 75% of the market value of the property. During the lease term, the tenant is not required to pay any rent. Instead, the landlord is free to invest the key money deposit and keep the proceeds thereof in lieu of monthly rental payments. The entire amount of the key money deposit is returned to the tenant after the expiry of the lease contract without any interest thereon. Historically, when returns on capital were high, *jeonse* provided an attractive source of income for the landlord. In recent years, the proportion of *jeonse* in the market has decreased due to lower returns on capital.

Residential Market

In Korea, the residential housing market has been managed through public policy administered by the Ministry of Land, Infrastructure and Transportation. Starting from the late 1980s, the Government initiated a series of policies to increase housing supply by increasing land supply available for private real estate development. Due in part to such policies, housing supply outpaced demand in 2002 nationally. However, due to shift from extended families to small nuclear families and ongoing migration from rural areas to urban areas, demand for housing in Seoul metropolitan areas has been constantly increasing.

Housing prices have fluctuated over the years and have been principally influenced by demographic changes and urban migration, macroeconomic conditions (including changes in interest rate), availability of mortgage loan financing and governmental policy. Real estate comprises the most significant asset for a substantial number of households in Korea, and fluctuations in housing prices have generally had a significant impact on Korea's economy.

Accordingly, during the recent decades, the Government has been taking measures to regulate fluctuations in housing prices, either by trying to prohibit excessive speculation when prices rose too rapidly or by trying to encourage real estate transactions during times of a depressed real estate market by taking measures such as providing tax subsidy or relaxing mortgage loan restrictions. As such, the regulations on mortgage and home equity loans have largely been influenced by changing housing market cycles. From 2017 to 2022, the Government led by President Moon Jae-in announced and implemented a series of robust policies aimed at taming speculation and deterring the rise of housing prices. However, since the second half of 2022, the Government led by President Yoon Suk Yeol has announced and implemented a series of policies to ease the demand-side regulations in the real estate market in order to prevent the housing prices from crashing due to the recent hike in interest rates. For example, the Government has released most areas from "speculative areas", "overheated speculative areas" and "adjustment targeted areas" (collectively, the "**regulated areas**"), where tighter loan-to-value ratios and debt-to-income ratios are applicable to mortgage or home equity loans, and as a result, only Gangnam-Gu, Seocho-Gu, Songpa-Gu and Yongsan-Gu in the greater Seoul metropolitan area are currently left as the regulated areas. The Government also increased the loan to value ratio applicable to the regulated areas from 40% to 50%, removed the application of stricter loan to value ratio to new loans secured by high-priced houses located in the regulated areas and allowed the extension of new loans secured by houses located in the regulated areas to a household that already owns one or more house from March 2023 with the maximum loan-to-value ratio of 30%.

On the other hand, in order to modernize credit review methods and stabilize the management of household debt, the FSC introduced a debt service ratio and a modified debt-to-income ratio. The modified debt-to-income ratio, which has been implemented beginning January 31, 2018 reflects (i) both principal and interest payments on the applicable mortgage and home equity loan and existing mortgage and home equity loans and (ii) interest payments on other loans. Previously, debt-to-income ratio had only reflected (i) both principal and interest payments on the applicable mortgage and home equity loan and (ii) interest payments on existing mortgage and home equity loans. The current debt-to-income ratio applicable to apartment units located in the greater Seoul metropolitan area which are not "speculative areas", "overheated speculative areas" or "adjustment targeted areas" is 60%, whereas homes located in "speculative areas" or "overheated speculative areas" are subject to a debt-to-income ratio of 40% and homes located in "adjustment targeted areas" are subject to a debt-to-income ratio of 50%. The debt service ratios reflect principal and interest payments on both the applicable loan and other loans and have been fully implemented since October 2018. The modified debt-to-income ratios are used as the primary reference index in the evaluation and approval process for mortgage and home equity loans, and debt service ratios are generally used as a supplementary reference index providing additional limits on mortgage and home equity loans. The debt service ratios applicable to the loan applicant with the total aggregate loan amount exceeding ₩100 million (including the applied but not yet extended loan amount) should not exceed 40% unless otherwise specified by the applicable regulations.

The tables below, which were extracted from the KB Monthly Housing Purchase Price Index published by Kookmin Bank, illustrate changes in housing prices since 2019 in Seoul, metropolitan cities excluding Seoul and as nationwide figures on a quarterly basis. All figures are expressed as a comparison against prices in January 2022 as the base figure of 100.

Monthly Housing Purchase Price Composite Index: Seoul

	(January 2022 = 100.0)			
	March	**June**	**September**	**December**
2019	78.0	78.2	79.0	80.1
2020	81.2	81.8	85.4	88.7
2021	91.7	94.1	97.6	99.8
2022	100.3	100.7	100.6	98.5
2023	96.1	94.9	94.8	N/A

Monthly Housing Purchase Price Composite Index: Metropolitan Cities (excluding Seoul)[1]

	(January 2022 = 100.0)			
	March	**June**	**September**	**December**
2019	80.8	80.5	80.5	81.0
2020	82.0	82.7	83.9	87.2
2021	90.2	93.3	97.1	99.7
2022	90.2	93.3	97.1	99.7
2023	94.3	92.6	92.2	N/A

Note:

(1) Busan, Incheon, Daejeon, Daegu, Ulsan and Gwangju.

Monthly Housing Purchase Price Composite Index: National

	(January 2022 = 100.0)			
	March	**June**	**September**	**December**
2019	79.7	79.5	79.6	80.1
2020	81.1	81.8	83.8	86.7
2021	90.1	93.2	97.1	99.7
2022	100.3	100.9	100.6	97.9
2023	95.1	93.5	93.4	N/A

Source: https://data.kbland.kr/kbstats/wmh?tIdx=HT01&tsIdx=monthHouseSalePriceInx

Mortgage Loan Market

According to the monthly financial market trends published by the Bank of Korea, as of the end of each of 2020, 2021, 2022 and the first half of 2023, the amount of outstanding mortgage loans was approximately ₩721.9 trillion, ₩778.8 trillion, ₩798.8 trillion and ₩814.8 trillion, respectively. Mortgage loans in Korea are typically based on floating rates of interest, which are primarily based on the prevailing market rate for certificates of deposits in Korea. The most frequently used form of loan security for residential property in Korea is *Keun*-mortgage (as defined in "*Korean Legal Considerations — General Laws Relating to the Mortgage Loan Business — Keun-mortgage*". *Keun*-mortgage differs from a more traditional mortgage in that a mortgagee's rights are not automatically extinguished upon satisfaction of the underlying debt. Instead, a mortgagee's rights are extinguished when the term of the *Keun*-mortgage agreement expires or if it is terminated sooner by the parties. Furthermore, the amount of the secured claim may be increased or decreased within the maximum amount of the secured claim (which is duly registered in the relevant real estate registry) as agreed upon by the mortgagee and borrower during the term of the *Keun*-mortgage agreement. Since the mortgage rights and obligations are not automatically extinguished, the contracting parties are not required to enter into and record separate mortgage agreements each time a subsequent loan is made. *Keun*-mortgages can be enforced in the same manner as other real estate rights, including enforcement through petition for auction and entitlement to distribution in accordance with recorded priorities. Korea is a "race" jurisdiction that assigns claim priority in chronological order by date of the registration of the mortgages and other security interests. Statutory liens are exceptions to this rule and may rank senior to prior recorded mortgages and other security interests.

Regulatory Overview

For a discussion of the regulatory overview of the mortgage loan business, see "*Korean Legal Considerations — General Laws Relating to the Mortgage Loan Business*."

SUPERVISION AND REGULATION

Principal Regulations Applicable to Banks

The banking system in Korea is governed by the Banking Act of 1950, as amended (the "**Banking Act**") and the Bank of Korea Act of 1950, as amended (the "**Bank of Korea Act**"). In addition, Korean banks are subject to the regulations and supervision of the Bank of Korea, the Bank of Korea's Monetary Policy Committee, the FSC and its executive body, the FSS.

The Bank of Korea, established in June 1950 under the Bank of Korea Act, performs the customary functions of a central bank. It seeks to contribute to the sound development of the national economy by price stabilization through establishing and implementing efficient monetary and credit policies. The Bank of Korea acts under instructions of the Monetary Policy Committee, the supreme policy-making body of the Bank of Korea.

Under the Bank of Korea Act, the Monetary Policy Committee's primary responsibilities are to formulate monetary and credit policies and to determine the operations, management and administration of the Bank of Korea. The FSC, which was established on April 1, 1998 as the Financial Supervisory Commission and later changed its name to the FSC on March 3, 2008, regulates commercial banks pursuant to the Banking Act, including establishing guidelines on capital adequacy of commercial banks, and promulgates regulations relating to supervision of banks. Furthermore, pursuant to the Amendment to the Government Organization Act and the Banking Act on May 24, 1999, the FSC, instead of the Ministry of Economy and Finance, now regulates market entry into the banking business.

The FSS is subject to the instructions and directives of the FSC and carries out supervision and examination of commercial banks. In particular, the FSS sets requirements both for the prudent control of liquidity and for capital adequacy and establishes reporting requirements pursuant to the authority delegated to it under the FSC regulations, pursuant to which banks are required to submit annual reports on financial performance and shareholdings, regular reports on management strategy and non-performing loans, including write-offs, and management of problem companies and plans for the settlement of bad loans.

Under the Banking Act, approval to commence a commercial banking business or a long-term financing business must be obtained from the FSC. Commercial banking business is defined as the lending of funds acquired predominantly from the acceptance of deposits for a period not exceeding one year or, subject to the limitation established by the FSC, for a period between one year and three years. Long-term financing business is defined as the lending, for periods in excess of one year, of funds acquired predominantly from paid-in capital, reserves or other retained earnings, the acceptance of deposits with maturities of at least one year, or the issuance of bonds or other securities. A bank wishing to enter any business other than commercial banking and long-term financing businesses, such as the trust business, must obtain approval from the FSC. Approval to merge with any other banking institution, to liquidate, to close a banking business or to transfer all or a part of a business must also be obtained from the FSC.

If the Government deems a bank's financial condition to be unsound or if a bank fails to meet the applicable capital adequacy ratio set forth under Korean law, the government may order, among others,:

- capital increases or reductions;

- suspension of officers' performance of their duties and appointment of custodians;

- stock cancellations or consolidations;
- transfers of a part or all of business;
- sale of assets and bar on acquisition of high-risk assets;
- closures or downsizing of branch offices or workforce;
- mergers or becoming a subsidiary under the Financial Holding Companies Act of a financial holding company;
- acquisition of a bank by a third party;
- suspensions of a part or all of business operation (not more than six months in the case of suspension of all business operations); or
- assignments of contractual rights and obligations relating to financial transactions.

Capital Adequacy

The Banking Act requires nationwide banks to maintain a minimum paid-in capital of ₩100 billion and regional banks to maintain a minimum paid-in capital of ₩25 billion.

In addition to minimum capital requirements, all banks including foreign bank branches in Korea are required to maintain a prescribed solvency position. A bank must also set aside as its legal reserve an amount equal to at least 10% of its net profits after tax each time it pays dividends on net profits earned until such time when the reserve equals the amount of its total paid-in capital.

Under the Banking Act, the capital of a bank is divided into two categories: Tier I and Tier II capital. Tier I capital (typically referred to as "**Core Capital**") consists of (i) the capital that can absorb losses incurred by a bank such as capital, capital surplus and earned surplus generated from the issuance of common shares (collectively, "**Common Stock Capital**"), and (ii) the capital that can absorb the losses of a bank after depletion of the Common Stock Capital such as capital and capital surplus generated from the issuance of Tier I capital instruments satisfying the requirements designated by the FSS (collectively, "**Other Core Capital**"). Tier II capital (typically referred to as "**Supplementary Capital**") represents the capital which is equivalent to, but not included in, the Core Capital and can absorb losses incurred upon the liquidation of a bank such as capital and capital surplus generated from the issuance of Tier II capital instruments satisfying the requirements designated by the FSS and allowance for bad debts set aside for loans classified as "normal" or "precautionary."

Under the Detailed Regulations on the Supervision of the Banking Business, Tier I capital instruments must satisfy, among others, the following requirements in order to be recognized as Other Core Capital:

(i) the price for such instruments shall have been fully paid through the procedure for issuance, and the instruments shall be in a perpetual form with no cause triggering a step-up or redemption;

(ii) such instruments shall be bound by a special agreement on being subordinate to depositors, general creditors and subordinated debt of the bank (referring to a special agreement under which subordinated creditors' right to claim payment shall take effect only after unsubordinated creditors' claims are fully paid, when bankruptcy or any similar incident occurs; hereinafter the same shall apply) but shall not fall within liabilities exceeding assets at the time when bankruptcy is declared under the Debtor Rehabilitation and Bankruptcy Act;

(iii) the payment of dividends or interests shall be suspended from the date when the bank is designated as a "insolvent financial institution" under the Act on Structural Improvement of the Financial Industry of Korea or under the Depositor Protection act of Korea as applicable, or the FSS takes measures under the Regulations on the Supervision of the Banking Business such as the managerial improvement recommendation, the managerial improvement request, the managerial improvement order and the emergency measures against the bank to the date when the above-mentioned event is removed;

(iv) the payment of dividends or interests shall not be determined in connection with the credit rating of the bank;

(v) the dividends may only be paid out of distributable income;

(vi) the bank shall be able to revoke in its sole discretion the payment of dividends or interests at any time;

(vii) the cancellation of paying dividends must not impose restrictions on the bank except in relation to dividends to common stockholders;

(viii) the revocation of the payment of dividends or interests shall not be deemed as the event of defaults, and the bank shall be able to use in its sole discretion the amount which was revoked to pay as dividends or interests to redeem any other debts of the bank then due and payable;

(ix) such instruments shall not be redeemed within five years from the issuance date and the bank shall be able to determine in its sole discretion whether it redeems such instruments even after five years from the issuance date, and the instruments shall not be subject to any condition that arouse investors' expectation to have the instruments redeemed or any condition that imposes a burden of redemption upon the issuing bank in fact;

(x) the requirements prescribed in Appendix 3-5 (Trigger Events for Contingent Capital Securities) of the Detailed Enforcement Rules of Regulation on Supervision of Banking Business shall be satisfied;

(xi) the bank or the person who has de facto control over the bank shall not purchase capital instruments or provide a purchaser of such securities with funds for the purchase by providing a collateral or guarantee for payment or by lending a loan, shall not raise the priority of its claims, legally or economically, for the price paid for the securities, and shall not provide a collateral or guarantee to the purchasers of the securities directly or via a related company; and

(xii) such capital instruments shall have no condition that hinders the issuing bank's procurement or expansion of capital in the future.

Under the Detailed Regulations on the Supervision of the Banking Business, Tier II capital instruments must satisfy, among others, the following requirements in order to be recognized as Supplementary Capital:

(i) the procedure for issuance shall have been completed, the price for such capital instruments shall have been fully paid, and the capital instruments shall be bound by a special agreement of subordination to deposits and ordinary debts;

(ii) the maturity shall not be less than five years from the issuance date, and Tier II capital instruments shall not be redeemed within five years from the issuance date;

(iii) there is no condition to promote the bank to redeem such capital instruments such as a step-up provision, and the bank shall be able to determine in its sole discretion whether to redeem such instruments prior to the maturity date, and the instruments shall not be subject to any condition that arouse investors' expectation to have the instruments redeemed or any condition that imposes a burden of redemption upon the issuing bank in fact;

(iv) other than the case where the bank is subject to the bankruptcy or liquidation, the holder of Tier II capital instruments shall not have the right to require bank to pay the principal or interests of such instruments earlier than the original due date thereof;

(v) the payment of dividends or interests shall not be determined in connection with the credit rating of the bank;

(vi) the requirements prescribed in Appendix 3-5 (Trigger Events for Contingent Capital Securities) of the Detailed Enforcement Rules of Regulation on Supervision of Banking Business shall be satisfied;

(vii) the bank or any person or entity over which the bank exercises substantial control shall not purchase the capital instruments issued by such bank nor provide, directly or indirectly, the funds to acquire the capital instruments by providing any collateral or guaranty or loan in favor of the person or entity which tries to acquire such instruments; and

(viii) the bank shall not enhance, legally or economically, the payment priority of the capital instruments, nor provide, directly or indirectly through its affiliated company, any collateral or guaranty in favor of the person or entity which acquires such instruments.

All banks must meet standards regarding minimum ratios of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets, determined in accordance with the FSC requirements that have been formulated based on the Bank for International Settlement ("**BIS**") Standards. These standards were adopted and became effective in 1996. Under these regulations, all domestic banks and foreign bank branches are required to meet the minimum ratio of Tier I and Tier II capital (less any capital deductions) to risk-weighted assets of 8%. Furthermore, as Basel III was adopted and is being implemented in stages in Korea since December 1, 2013, all banks in Korea are required to meet minimum ratios of common stock capital (less any capital deductions) and core capital (less any capital deductions) to risk-weighted assets as set out in the Regulation on the Supervision of the Banking Business. The required minimum ratio of common stock capital (less any capital deductions) to risk-weighted assets is 4.5%, and the required minimum ratio of core capital (less any capital deductions) to risk-weighted assets is 6.0%.

In addition, additional capital conservation buffer requirements have been implemented in stages from January 1, 2016 to January 1, 2019. Under such requirements, all banks in Korea are required to maintain a capital conservation buffer of 0.625% from January 1, 2016, which was gradually increased to 1.25% on January 1, 2017, 1.875% on January 1, 2018 and 2.5% on January 1, 2019.

Under the Regulation on the Supervision of the Banking Business and the Detailed Regulations promulgated thereunder, Korean banks apply the following risk-weight ratios in respect of their home mortgage loans:

(1) for those banks adopting a standardized approach for calculating credit risk-weighted assets, the risk-weight ratio of 35% (only in the case where the loan is fully secured by a first ranking mortgage) but, with respect to high risk home mortgage loans (even if such loans are fully secured by a first ranking mortgage) the risk-weight ratio of 50% and 70% for second-level high risk home mortgage loans; and

(2) for those banks adopting an internal ratings-based approach for calculating credit risk-weighted assets, a risk-weight ratio calculated with reference to the probability of default, loss given default and exposure at default, each as defined in the Detailed Regulations on the Supervision of the Banking Business.

In Korea, Basel II, a convention entered into by the Basel committee in June 2004 for the purpose of improving risk management and increasing capital adequacy of banks, was implemented in January 2008. Pursuant to Basel II, operational risk, such as inadequate procedure, loss risk by employees, internal system, occurrence of unexpected event, as well as credit risk and market risk, is taken into account in calculating the risk-weighted assets, in addition to maintaining the capital adequacy ratio of 8% for banks. Under Basel II, the capital requirements for credit risk can be calculated by the internal rating based (IRB) approach or the standardized approach.

Under the standardized approach, a home mortgage loan fully secured by a first ranking mortgage over the residential property is risk-weighted at 35%, but certain home mortgage loans with loan-to-value ratio exceeding 60% are risk weighted at 50% pursuant to an amendment of the Detailed Regulation on the Supervision of the Banking Business on December 31, 2018.

Under the Regulation on the Supervision of the Banking Business, banks shall set aside allowances for bad debts for each class of soundness in accordance with K-IFRS. If the amount for each class of soundness calculated in accordance with the following criteria exceeds the allowances for bad debts set aside, the excess amount shall, at the time of each settlement of accounts, be set aside as regulatory reserve for credit losses.

- 0.85% of normal credits (or 0.9% in the case of normal credits comprising loans to certain industries including construction, retail and wholesale sales, accommodations, restaurant, real estate and lease, 1.0% in the case of normal credits comprising loans to individuals and households, 2.5% in the case of normal credits comprising credit card loans and 1.1% in the case of normal credits comprising other credit card receivables);

- 7% of precautionary credits (or 10% in the case of precautionary credits comprising loans to individuals and households, 50% in the case of precautionary credits comprising credit card loans and 40% in the case of precautionary credits comprising other credit card receivables);

- 20% of substandard credits (or 10% in the case of substandard credits comprising assets for which the bank has the right to receive payment in priority pursuant to the Corporate Restructuring Promotion Act of Korea or Paragraph 180, Subparagraph 2 of the Debtor Rehabilitation and Bankruptcy Act of Korea (the "**Priority Assets**"), 20% in the case of normal credits comprising loans to individuals and households, 65% in the case of substandard credits comprising credit card loans and 60% in the case of substandard credits comprising other credit card receivables);

- 50% of doubtful credits (or 25% in the case of doubtful credits comprising Priority Assets, 55% in the case of doubtful credits comprising loans to individuals and households and 75% in the case of doubtful credits comprising credit card loans and other credit card receivables); and

- 100% of estimated loss credits (or 50% in the case of estimated loss credits comprising of Priority Assets).

Furthermore, under the Regulation on the Supervision of the Banking Business, banks must maintain allowances for bad debts and regulatory reserve for credit losses in respect of their confirmed guarantees (including confirmed acceptances) and outstanding non-used credit lines in an aggregate amount calculated at the same rates applicable to normal, precautionary, substandard, doubtful and estimated loss credits comprising their outstanding loans and other credits as set forth above.

As of January 1, 2016, the FSC implemented Basel III requirements relating to accumulation of additional capital for systemically important banks and bank holding companies and countercyclical capital buffer requirements. Each year, the FSC may designate banks with significant influence (based on size and connectivity with other financial institutions) on the domestic financial system as a domestic systemically important bank and require the accumulation of additional capital in accordance with the highest of: (i) ratio of common equity capital to risk-weighted assets, ranging from 0.0% to 2.0%, depending on the systematic importance evaluation score, (ii) if the bank's holding company is a domestic systemically important bank holding company, the capital ratio corresponding to the additional capital required for the bank holding company under the Financial Holding Company Supervision Regulations, or (iii) if the bank is also a global systemically important bank, as defined by the Basel Committee, the capital ratio as required by the Basel Committee. Shinhan Financial Group and the Bank were selected as a domestic systemically important bank holding company and domestic systemically important bank, respectively, from 2016 through 2024. According to the instructions of the FSC, domestic systemically important banks, including the Bank, have been required to maintain an additional capital buffer of 0.25% since January 1, 2016, with such buffer increased by 0.25% annually to reach 1.00% as of January 1, 2019. The FSC may also, upon quarterly review, determine and require banks to accumulate a required level of countercyclical capital buffer within the range of 0% to 2.5% of risk-weighted assets, taking into account factors such as the degree of increase in credit relative to the gross domestic product. Since March 2016, the FSC has maintained countercyclical capital buffer requirements at 0%, but the requirement will be increased to 1% starting from May 1, 2024. The Detailed Regulation on the Supervision of the Banking Business was also amended on June 30, 2018 to add "concentration of risk in the retail sector" as an additional criterion when the FSS evaluates the risk management systems of Korean banks.

Liquidity

All banks are required to match the maturities of their assets and liabilities in accordance with the Banking Act in order to ensure adequate liquidity. Banks may not invest in excess of an amount exceeding 100% of their Tier I and Tier II capital (less any capital deductions) in stocks and other securities with a period remaining to maturity of over three years. However, this restriction does not apply to government bonds or to Monetary Stabilization Bonds issued by the Bank of Korea.

The FSC implemented a minimum liquidity coverage ratio requirement for Korean banks, including the Bank, of at least 90.0% as of January 1, 2017, 95.0% as of January 1, 2018 and 100.0% as of January 1, 2019. The FSC defines liquidity coverage ratio as high quality liquid assets that can be immediately converted into cash with little or no loss in value, as divided by the net amount of cash outflow for the next 30 day period, under the stress level established according to the liquidity coverage ratio, pursuant to the Regulation on the Supervision of the Banking Business, which was amended as of June 28, 2016 to implement the liquidity coverage ratio requirements under Basel III.

With respect to foreign currency liquidity coverage ratio, the Regulation on the Supervision of the Banking Business requires that financial institutions dealing with foreign exchange affairs (i.e., banks) whose foreign-currency denominated liabilities are equal to or greater than US$500 million or 5% of its total liabilities, as of the end of the immediately preceding half-year period, maintain a foreign currency liquidity coverage ratio of 60% or higher beginning January 1, 2017, 70% or higher beginning January 1, 2018 and 80% or higher beginning January 1, 2019. The term "foreign currency liquidity coverage ratio" means the ratio of high-liquidity assets to the net cash outflow in respect of foreign-currency denominated assets and liabilities for the next 30 days.

In April 2020, in response to the COVID-19 pandemic, the FSC temporarily lowered the liquidity coverage ratio requirement from 100% to 85%. The FSC subsequently decided to gradually restore this ratio on a quarterly basis from the third quarter of 2022, to a ratio of 90% in the third quarter of 2022, 92.5% in the fourth quarter of 2022, 95% in the first quarter of 2023, 97.5% in the second quarter of 2023 and 100% from the third quarter of 2023. However, in October 2022, the FSC decided to apply the 92.5% ratio until the end of June 2023 in response to the increasing volatility and uncertainty in the short-term money market, as determined through a financial market inspection meeting. The FSC announced on June 20, 2023 that a 95% ratio will be applied from July 2023 until the end of 2023.

The Monetary Policy Committee of the Bank of Korea is authorized to fix and alter minimum reserve requirements that banks must maintain against their deposit liabilities. The current minimum reserve ratio is 7.0% of average balances for Won-denominated demand deposits outstanding, 0.0% of average balances for Won-denominated employee asset establishment savings deposits, employee long-term savings deposits, employee house purchase savings deposits, long-term house purchase savings deposits, household long-term savings deposits and employee preferential savings deposits outstanding (with respect to employee-related deposits and household long-term savings deposits, only if such deposits were made prior to February 28, 2013) and 2.0% of average balances for Won-denominated time and savings deposits, mutual installments, housing installments and certificates of deposit outstanding. For foreign currency deposit liabilities, a 2.0% minimum reserve ratio is applied to time deposits with a maturity of one month or longer, certificates of deposit with a maturity of 30 days or longer, and savings deposits with a maturity of six months or longer and a 7.0% minimum reserve ratio is applied to other deposits, while a 1.0% minimum reserve ratio is applied for offshore accounts, immigrant accounts and resident accounts opened by financial institutions (excluding bank holding companies) and the Export-Import Bank of Korea as well as foreign currency certificates of deposit held by account holders of such offshore accounts, immigrant accounts and resident accounts opened by financial institutions (excluding bank holding companies) and the Export-Import Bank of Korea.

Loan-to-Deposit Ratio

In December 2009, the FSS announced that it would introduce a new set of regulations on the loan-to-deposit ratio by amending the Regulation on the Supervision of the Banking Business ("**RSBB**") upon its determination that the overall liquidity of banks in Korea had become unstable due to the ongoing increase in the loan-to-deposit ratio resulting from banks expanding their asset size too competitively by granting mortgages on houses and loans to small- and medium-sized enterprises over the last couple of years. The RSBB, which was amended as of August 19, 2010 and December 26, 2014 and took effect on January 1, 2014 and January 1, 2015, respectively, requires banks with Won-denominated loans of not less than ₩2 trillion in value as of the last month of the immediately preceding quarter to maintain a ratio of Won-denominated loans (excluding certain types of loans using funds borrowed from Korea Development Bank or the Government or loans made under certain operational rules of Korea Federation of Banks) to Won-denominated deposits (excluding certificates of deposit) and the balance of the covered bonds under the Act on Issuance of Covered Bonds, the maturity of which is not less than five years (only in case when such financing from the issuance of covered bonds is used in Won currency and up to 1% of Won-denominated deposits) of no more than 100%. Since January 1, 2020, in calculating such loan to deposit ratio, retail loans and corporate loans are weighed differently, with retail loans subject to a multiple of 115% and corporate loans (excluding loans to SOHOs) subject to a multiple of 85%, thereby increasing the impact of retail loans and reducing the impact of corporate loans in calculating such ratio. In response to the COVID-19 pandemic, on April 20, 2020, the FSC announced a series of measures to temporarily ease the regulations on loan-to-deposit ratio. In particular, the loan-to-deposit ratio maximum of 100% was temporarily increased to 105% and the weighing of corporate loans to SOHOs extended since January 1, 2020 to December 31, 2021 also became subject to a multiple of 85% provided such loans are not real estate related. On March 30, 2022, the FSC announced plans to cease the temporary easement of regulations relating to the loan-to-deposit ratio as of June 30, 2022 and to gradually normalize the loan-to-deposit ratio back down to 100% beginning July 1, 2022. On October 27, 2022, the FSC further announced measures to temporarily ease the loan-to-deposit ratio requirement from 100% to 105% in consideration of the increasing demand for corporate loans due to the contraction of the corporate bond market. This temporary increase will apply through June 2023, subject to further extension depending on the market conditions at the time of expiration of such measures. On June 20, 2023, however, the FSC announced that the loan-to-deposit ratio will be normalized back down to 100% beginning July 1, 2023. The Bank's loan-to-deposit ratio as of June 30, 2023 was 92.88%, based on monthly average balances.

Financial Exposure to Any Single Customer and Major Shareholders

Under the Banking Act, the sum of material credit exposures by a bank, namely, the total sum of its credits to single individuals, legal entities or persons sharing credit risk with such individuals or legal entities such as companies belonging to the same enterprise groups as defined under the Monopoly Regulation and Fair Trade Act that exceed 10% of the sum of Tier I and Tier II capital (less any capital deductions), must not exceed five times the sum of Tier I and Tier II capital (less any capital deductions), subject to certain exceptions. Subject to certain exceptions, no bank is permitted to extend credit (including loans, guarantees, purchases of securities (only in the nature of a credit) and such other transactions which directly or indirectly create credit risk) in excess of 20% of the sum of Tier I and Tier II capital (less any capital deductions) to an individual or a legal entity, and no bank may grant credit in excess of 25% of the sum of Tier I and Tier II capital (less any capital deductions) to individuals, legal entities and companies that belong to the same enterprise group as defined in the Monopoly Regulation and Fair Trade Act.

Under the Banking Act, certain restrictions apply to extending credits to a major shareholder. The definition of a "major shareholder" is as follows:

- a shareholder holding (together with persons who have a special relationship with such shareholder as defined in the Presidential Decree of the Banking Act) in excess of 10% (or in the case of regional banks, 15%) in the aggregate of the bank's total issued and outstanding voting shares; or

- a shareholder holding (together with persons who have a special relationship with such shareholder as defined in the Presidential Decree of the Banking Act) more than 4% in the aggregate of the total issued and outstanding voting shares of a bank (other than a regional bank), where such shareholder is the largest shareholder or is able to actually control the major business affairs of the bank, for example, through appointment and dismissal of the chief executive officer or of the majority of the executives.

Under the Banking Act, banks are prohibited from extending credits in the amount greater than the lesser of (1) 25% of the sum of such bank's Tier I and Tier II capital (less any capital deductions) and (2) the relevant major shareholder's shareholding ratio multiplied by the sum of the bank's Tier I and Tier II capital (less any capital deductions) to a major shareholder (together with persons who have special relationship with such major shareholder as defined in the Presidential Decree of the Banking Act). Also, no bank is allowed to grant credit to its major shareholders in the aggregate in excess of 25% of its Tier I and Tier II capital (less any capital deductions).

When managing the credit risk of banks, among the methods for providing credit support by banks, a loan agreement, a purchase agreement for asset-backed commercial papers, purchase of subordinate beneficiary certificates, and assumption of liability by providing warranty against default under asset-backed securitization are examples of creating financial exposure to banks.

Interest Rates

Korean banks remain dependent on the acceptance of deposits as their primary source of funds. Currently, there are no legal controls on interest rates on bank loans in Korea, except for the cap of 20.0% per annum on interest rates on loans to individuals or small corporations, as defined under the Framework Act on Small and Medium Enterprises under the Act on Registration of Credit Business, Etc. and Protection of Finance Users.

Lending to Small- and Medium-sized Enterprises

When commercial banks (including the Bank) make Won-denominated loans to certain start-up, venture, innovative and other strategic small- and medium-sized enterprises specially designated by the Bank of Korea as "priority borrowers", the Bank of Korea generally provides the underlying funding to these banks at concessionary rates for up to 50% of all such loans made to the priority borrowers subject to a monthly-adjusted limit prescribed by the Bank of Korea provided that if such loans to priority borrowers made by all commercial banks exceed the prescribed limit for a given month, the concessionary funding for the following month will be allocated to each commercial bank in proportion to such bank's lending to priority borrowers two months prior to the time of such allocation, which has the effect that, if a particular bank lags other banks in making loans to priority borrowers, the amount of funding such bank can receive from the Bank of Korea at concessionary rates will be proportionately reduced.

Disclosure of Management Performance

For the purpose of enforcing mandatory disclosure of management performance so that the general public, especially depositors and stockholders, will be in a better position to monitor banks, the FSC requires commercial banks to disclose certain matters as follows:

- loans bearing no profit made to a single business group in an amount exceeding 10% of the sum of the bank's Tier I and Tier II capital (less any capital deductions) as of the end of the previous month (where the loan exposure to such borrower is calculated pursuant to the criteria under the Detailed Regulations promulgated under the Regulation on the Supervision of the Banking Business) except where the loan exposure to a single business group is not more than ₩4 billion; and

- any loss due to court judgments or similar decisions in civil proceedings in an amount exceeding 1% of the sum of the bank's Tier I and Tier II capital (less any capital deductions) as of the end of the previous month except where the loss is not more than ₩1 billion.

Restrictions on Lending

According to the Banking Act, commercial banks are prohibited from making any of the following categories of loans:

- loans made directly or indirectly on the pledge of a bank's own shares;

- loans made directly or indirectly to enable a natural or a legal person to buy the bank's own shares;

- loans made to any of the bank's officers or employees other than de minimis loans of up to (1) ₩20 million in the case of a general loan, (2) ₩50 million in the case of a general loan plus a housing loan, or (3) ₩60 million in the aggregate for general loans, housing loans and loans to pay damages arising from wrongful acts of employees in financial transactions;

- credit (including loans) secured by a pledge of shares of a subsidiary corporation of the bank or to enable a natural or juridical person to buy shares of a subsidiary corporation of the bank; and

- loans to any officers or employees of a subsidiary corporation of the bank, other than general loans of up to ₩20 million or general and housing loans of up to ₩50 million in the aggregate.

Recent Regulations Relating to Retail Household Loans

The FSC has implemented a number of changes in recent years to the regulations relating to retail household lending by banks. Under the currently applicable regulations:

- as to any new loans secured by houses (including apartments) located nationwide, the loan-to-value ratio (the aggregate principal amount of loans secured by such collateral over the appraised value of the collateral) shall not exceed 70%;

- as to any new loans secured by houses (including apartments) located in "speculative areas", "overheated speculative areas" or "adjustment targeted areas", in each case, as designated by the Government, the loan-to-value ratio should not exceed 50%, except that such maximum loan-to-value ratio is (x) 70% for low-income households that (i) have a combined (in case of married couple) annual income of no more than ₩90 million, (ii) do not currently own any housing and (iii) are using the loan to purchase low-price housing valued at ₩900 million or less (₩800 million or less in the case of houses located in "adjustment targeted areas") and (y) 80% for first-time homebuyers with a maximum residential mortgage loan amount of ₩600 million or less;

- as to any new loans secured by houses (including apartments) located nationwide to be extended to a household that already owns one or more houses, the maximum loan-to-value ratio must be adjusted to 10% lower than the applicable loan-to-value ratio described above;

- as to any new loans secured by houses (including apartments) located in "speculative areas", "overheated speculative areas" or "adjustment targeted areas", in each case as designated by the Government, to be extended to a household that already owns one or more houses, the loan to value ratio should not exceed 30% subject to certain exceptions under the applicable regulations;

- as to any new loans secured by houses (including apartments) located in "speculative areas", "overheated speculative areas" or "adjustment targeted areas", in each case, as designated by the Government, the borrower's debt-to-income ratio (calculated as (1) the aggregate annual total payment amount of (x) the principal of and interest on loans secured by such housing and existing mortgage and home equity loans and (y) the interest on other debts of the borrower over (2) the borrower's annual income) should not exceed 40% (50% for those that are located in "adjustment targeted areas"), except that such maximum debt-to-income ratio is 60% for (a) low-income households that (i) have a combined (in case of married couple) annual income of less than ₩90 million, (ii) do not currently own any housing and (iii) are using the loan to purchase low-price housing valued at ₩900 million or less (₩800 million or less in case of houses located in "adjustment targeted areas") and (b) first-time homebuyers;

- as to any new loans secured by apartments to be extended to a household that already owns one or more houses but wishes to purchase additional houses located in an unregulated Seoul metropolitan area, the maximum debt-to-income ratio must be adjusted to 10% lower than the applicable debt-to-income ratio described above; and

- as to any new loans extended to a household that already has an aggregate loan amount exceeding ₩100 million (including the loan application amount and the revolving amount in case of a revolving loan), such household's debt-service-ratio (calculated as (1) the aggregate annual total payment amount of the principal of and interest on financial liabilities divided by (2) the household's annual income) should not exceed 40% unless otherwise specified by the applicable regulations.

Restrictions on Investments in Property

A bank may possess real estate property only to the extent necessary for conducting its business; *provided that* the aggregate value of such real estate property must not exceed 60% of the sum of its Tier I and Tier II capital (less any capital deductions). Any property acquired by a bank (1) through the exercise of its rights as a secured party or (2) the acquisition of which is prohibited by the Banking Act must be disposed of within three years, unless otherwise provided by the regulations thereunder.

Restrictions on Shareholdings in Other Companies

Under the Banking Act, a bank may not own more than 15% of shares outstanding with voting rights of another company, except where, among other reasons:

- the company issuing such shares is engaged in a business that falls under the category of financial businesses set forth by the FSC (including companies which business purpose is to own equity interests in private equity funds); or

- the acquisition of shares by the bank is necessary for corporate restructuring of such company and is approved by the FSC.

In the above cases, a bank must satisfy either of the following requirements:

- the total investment in companies in which the bank owns more than 15% of the outstanding shares with voting rights does not exceed 20% of the sum of Tier I and Tier II capital (less any capital deductions); or

- the total investment in companies in which the bank owns more than 15% of the outstanding shares with voting rights does not exceed 30% of the sum of Tier I and Tier II capital (less any capital deductions) where the acquisition satisfies the requirements determined by the FSC.

The Banking Act provides that a bank using its bank accounts and its trust accounts is not permitted to acquire the shares issued by the Major Shareholder of such bank in excess of an amount equal to 1% of the sum of Tier I and Tier II capital (less any capital deductions).

Restrictions on Bank Ownership

Under the Banking Act, subject to certain exceptions, a single shareholder and persons who stand in a special relationship with such shareholder (as described in the Presidential Decree to the Banking Act) may acquire beneficial ownership of up to 10% of a national bank's total issued and outstanding shares with voting rights and up to 15% of a regional bank's total issued and outstanding shares with voting rights. The government, the Korea Deposit Insurance Corporation and financial holding companies qualifying under the Financial Holding Companies Act are not subject to such ceilings. However, non-financial business group companies – namely, (1) any same shareholder group with an aggregate net assets of all non-financial companies belonging to such group of not less than 25% of the aggregate net assets of all corporations that are members of such group; (2) any group with aggregate assets of all non-financial companies belonging to such group of not less than ₩2 trillion; (3) any mutual fund in which the same shareholder group, as described in items (1) and (2) above, owns more than 4% of the total shares issued and outstanding; (4) a private equity fund (under the FSCMA) where (i) the general partner of such private equity fund, (ii) the limited partner whose equity holding ratio in such private equity fund is 10% or more, or (iii) the limited partners, being member companies of a single group of companies that belong to the same conglomerate as defined in the Monopoly Regulation and Fair Trade Act, whose aggregate equity holding ratio in such private equity fund is 30% or more falls under either of item (1) to (3) above; or (5) a special purpose company of a private equity fund where a private equity fund, as described in item (4) above, owns 4% or more of the special purpose company's issued and outstanding shares or has actual control over the major business affairs of the special purpose company through, for example, appointment and dismissal of the officers – may not acquire beneficial ownership of shares of a national bank in excess of 4% of such bank's outstanding voting shares, provided that such non-financial business group companies may acquire beneficial ownership of:

- up to 10% of a national bank's outstanding voting shares with the approval of the FSC under the condition that such non-financial group companies will not exercise voting rights in respect of such shares in excess of the 4% limit; and

- in the event that a foreigner, as defined in the Foreign Investment Promotion Act, owns not less than 10% of a national bank's outstanding voting shares, up to 10% of such bank's outstanding voting shares without the approval of the FSC, and in excess of 10%, 25% or 33% of such bank's outstanding voting shares, with the approval of the FSC, up to the number of shares owned by such foreigner.

In addition, any person (whether a Korean national or a foreigner), with the exception of non-financial business group companies described above, may also acquire in excess of 10% of a national bank's total voting shares issued and outstanding, *provided that* an approval from the FSC is obtained in instances where the total holding exceeds 10% (or 15% in the case of regional banks), 25% or 33% of the bank's total voting shares issued and outstanding.

Deposit Insurance System

The Depositor Protection Act provides, through a deposit insurance system, insurance for certain deposits of banks in Korea. Under the Depositor Protection Act, all banks governed by the Banking Act, including the Bank, are required to pay to the Korea Deposit Insurance Corporation an insurance premium on a quarterly basis at such rate as determined by the Presidential Decree to the Depositor Protection Act, which shall not exceed 0.5% of the bank's insurable deposits in any given year. The current insurance premium is 0.02% of insurable deposits for each quarter. If the Korea Deposit Insurance Corporation pays the insured amount, it will acquire the claims of the depositors within the payment amount. Under current rules, the Korea Deposit Insurance Corporation insures only up to a total of ₩50 million per an individual for deposits and interest in a single financial institution, regardless of when the deposits were made and the size of the deposits.

The Financial Consumer Protection Act

The Financial Consumer Protection Act (the "**FCPA**") was enacted on March 24, 2020 and took effect beginning March 25, 2021. The FCPA unifies the systems for the protection of consumers of financial products, which had been dispersed in various laws, while tightening the existing consumer protection systems to strengthen the rights afforded to consumers of financial products. Banks under the Banking Act are financial instrument distributors subject to the FCPA, and deposit and loan products under the Banking Act are financial instruments subject to the FCPA.

Under the FCPA, a financial instrument distributor who intends to sell financial instruments shall comply with the following requirements: (i) confirmation of suitability and adequacy of financial instruments, (ii) compliance with the duty to explain, (iii) prohibition of unfair sales activities, (iv) prohibition of undue solicitation, and (v) prohibition of false or exaggerated advertising, etc. (collectively, the "**Sales Principles**"). If a financial instrument distributor breaches any of the Sales Principles, consumers may request the termination of such financial instrument within a period to be prescribed by a Presidential Decree and are entitled to unilaterally terminate the contract if the financial instrument distributor fails to present a justifiable reason for not accepting the consumer's request. Consumers who purchased a loan product, in particular, shall be entitled to withdraw from the contract within 14 days from the later of (i) the date of receipt of the proceeds pursuant to the contract and (ii) the execution date of the contract (or the date of receipt of the documents necessary for execution of the contract (if required under the FCPA), regardless of whether the financial instrument distributor breached any of the Sales Principles. When a consumer files a lawsuit for damages against a financial instrument distributor for breach of the duty to explain, the financial instrument distributor (and not the consumer) shall bear the burden of proof to prove that no willful conduct or negligence was involved in such breach of the duty to explain. In the event of a dispute with a financial instrument distributor, consumers may apply for mediation to the Dispute Mediation Committee of the FSC. If a financial instrument distributor files a lawsuit with a court while such mediation is in progress, the court may suspend the litigation proceedings. For certain small-sum cases, a financial instrument distributor may not file a lawsuit with a court until the completion of such mediation. Financial instrument distributors must accept requests from its consumers to access information for purposes of litigation or mediation. In the event the FSC determines that there is a clear risk that a financial product may cause significant damage to the properties of customers, the FSC may prohibit or restrict the solicitation of, and execution of a contract for, such financial product.

Trust Business

A bank that intends to enter into the trust business must obtain the approval of the FSC. Trust activities of banks are governed by the FSCMA. Banks engaged in the banking business and trust business are subject to certain legal and accounting procedures requirements, including the following:

- under the Banking Act, the FSCMA and the Trust Act, assets accepted in trust by a bank in Korea must be segregated from its other assets in the accounts of such bank; accordingly, banks engaged in the banking and trust businesses must maintain two separate accounts, the "banking accounts" and the "trust accounts", and two separate sets of records which provide details of their banking and trust businesses, respectively; and

- assets comprising the trust accounts are not available to depositors or other general creditors of such bank in the event the trustee is liquidated or is wound up.

In the event that a bank qualifies and operates as a collective investment business entity, a trustee, a custodian or a general office administrator under the FSCMA, it is required to establish relevant operation and management systems to prevent potential conflicts of interest among the banking business, the collective investment business, the trustee or custodian business and general office administration. These measures include:

- prohibitions against officers, directors and employees of one particular business operation from serving as an officer, director and employee in another business operation, except where an officer or a director (1) serving in two or more business operations with no significant conflict of interest in accordance with the Presidential Decree on the FSCMA or (2) serving in a trustee business or a custodian business and simultaneously serving in a general office administrator business in accordance with the FSCMA;

- prohibitions against the joint use or sharing of computer equipment or office equipment; and

- prohibitions against the sharing of information by and among officers, directors and employees engaged in the different business operations.

A bank which qualifies and operates as a collective investment business entity may engage in the sale of beneficiary certificates of investment trusts which are managed by such bank. However, such bank is prohibited from engaging in the following activities:

- acting as trustee of an investment trust managed by such bank;

- purchasing with such bank's own funds beneficiary certificates of an investment trust managed by such bank;

- using in its sales activities of other collective investment securities information relating to the trust property of an investment trust managed by such bank;

- selling through other banks established under the Banking Act beneficiary certificates of an investment trust managed by such bank;

- establishing a short-term financial collective investment vehicle; and

- establishing a mutual fund.

Laws and Regulations Governing Other Business Activities

To enter the foreign exchange business, a bank must register with the Minister of the Ministry of Economy and Finance. The foreign exchange business is governed by the Foreign Exchange Transaction Law. To enter the securities business, a bank must obtain the approval of the FSC. The securities business is governed by regulations under the FSCMA. Pursuant to the above-mentioned laws, banks are permitted to engage in the foreign exchange business and the underwriting business for government and other public bonds.

In 2018, regulatory authorities are encouraging financial institutions to lower the ATM usage fees in order to decrease the financial expense burden on consumers. Further, in light of the increasing household debt, regulatory authorities are encouraging financial institutions to gradually increase the proportion of the principal of retail loans that are subject to the fixed interest rates from 14% in 2012 to 45% by 2017.

U.S. Banking Regulations

The Bank's operations in the United States are subject to a variety of regulatory regimes. The Bank maintains an uninsured branch in New York, which is licensed by the New York State Department of Financial Services ("**Department**") and registered with the banking authority of Korea. The Bank's New York branch is subject to regulation and examination by the Department under its licensing authority. In addition, the Federal Reserve Board exercises examination and regulatory authority over the Bank's U.S. branch. The Bank also owns a non-member state chartered bank, Shinhan Bank America, which is regulated by the Department, as its chartering authority, and by the Federal Deposit Insurance Corporation ("**FDIC**"), as its primary federal banking regulator and as the insurer of its deposits. The Bank's U.S. branch and U.S. bank subsidiary are subject to restrictions on their respective activities, as well as prudential restrictions, such as limits on extensions of credit to a single borrower, and restrictions on transactions with affiliates, among other things.

The Bank's U.S. Branch

The Department, as the licensing authority of the Bank's U.S. branch, has the authority, in certain circumstances, to take possession of the business and property of the Bank located in New York. Such circumstances generally include violations of law, unsafe business practices and insolvency. If the Department exercised this authority over the New York branch of the Bank, all assets of the Bank located in New York would generally be applied first to satisfy creditors of the New York branch. Any remaining assets would be applied to satisfy creditors of other U.S. offices of the Bank, after which any residual assets of the New York branch would be returned to the principal office of the Bank, and made available for application pursuant to any Korean insolvency proceeding.

In addition to the direct regulation of the Bank's U.S. branch by the Department and the Federal Reserve Board, because the Bank operates a U.S. branch and has a subsidiary bank in the U.S., the Bank's nonbanking activities in the United States are subject to regulation by the Federal Reserve Board pursuant to the International Banking Act of 1978, the Bank Holding Company Act of 1956 (the "**BHC Act**"), and other laws. Shinhan Financial Group has elected to be a "financial holding company" under the BHC Act. Financial holding companies may engage in a broader spectrum of activities than bank holding companies or foreign banking organizations that are not financial holding companies, including underwriting and dealing in securities. To maintain Shinhan Financial Group's financial holding company status and engage in activities permissible for a financial holding company, (i) the Bank and its U.S. subsidiary bank located in New York are required to be "well capitalized" and "well managed", (ii) the Bank's U.S. branch is required to meet certain examination ratings, and (iii) the Bank's subsidiary bank in New York is required to maintain a rating of at least "satisfactory" under the Community Reinvestment Act of 1977 (the "**CRA**").

A major focus of U.S. governmental policy relating to financial institutions in recent years has been aimed at fighting money laundering and terrorist financing. Regulations applicable to the Bank and its subsidiaries impose obligations to maintain effective policies, procedures and controls to detect, prevent and report money laundering and terrorist financing and to verify the identities of clients. Failure of a financial institution to maintain and implement adequate programs to combat money laundering and terrorist financing could have serious consequences for the firm, both in legal terms and in terms of the Bank's reputation.

The Dodd-Frank Wall Street Reform and Consumer Protection Act (the "**Dodd-Frank Act**"), which was enacted on July 21, 2010 in response to the financial crisis, impacts the financial services industry by addressing, among other issues, systemic risk oversight, bank capital standards, the liquidation of failing systemically important institutions, over-the-counter and cleared derivatives, the ability of banking entities, including non-U.S. banks with branches in the U.S., like the Bank, to engage in proprietary trading activities and invest in hedge funds and private equity funds (the so-called Volcker rule), consumer and investor protection, hedge fund registration, securitization, investment advisors, shareholder "say on pay," the role of credit-rating agencies, and more. The

Dodd-Frank Act requires various federal banking and financial regulatory authorities to adopt a broad range of implementing rules and regulations. Such authorities have significant discretion in drafting the implementing rules and regulations.

The Dodd-Frank Act provides regulators with tools to impose greater capital, leverage and liquidity requirements and other prudential standards, particularly for financial institutions that pose significant systemic risk. Pursuant to the Dodd-Frank Act, the Federal Reserve Board has implemented rules that establish enhanced prudential standards for the U.S. operations of foreign banking organizations ("**FBOs**") such as us. In imposing such heightened prudential standards on non-U.S. banks such as the Bank, the Federal Reserve Board is directed to take into account the principle of national treatment and equality of competitive opportunity, and the extent to which the foreign bank holding company is subject to comparable home country standards.

On May 24, 2018, the Economic Growth, Regulatory Relief and Consumer Protection Act (the "**Reform Act**") was signed into law. Among other regulatory changes, the Reform Act amends various sections of the Dodd-Frank Act, including by raising the asset threshold for automatic application of enhanced prudential standards to FBOs under the Dodd-Frank Act from $50 billion in total global consolidated assets to $250 billion. The bill exempted FBOs with total global consolidated assets of less than $100 billion from these enhanced prudential standards effective immediately upon enactment of the bill. In October 2019, the Federal Reserve Board issued a final rule to implement the Reform Act's changes to the application of enhanced prudential standards with respect to U.S. bank holding companies and FBOs (the "**EPS Tailoring Rule**"). The EPS Tailoring Rule delineates three categories of enhanced prudential standards ("**EPS categories**") applicable to FBOs based on an FBO's asset size and other factors such as the degree of the cross-jurisdictional activity, reliance on short-term wholesale funding, nonbank assets, and off-balance sheet exposures of an FBO's U.S. operations. The EPS Tailoring Rule generally determines the stringency of enhanced prudential standards applicable to FBOs based on the risk profile of the FBO's U.S. operations, rather than its global footprint, with most enhanced prudential standards applying only to FBOs with combined U.S. assets of at least $100 billion. FBOs with global assets of $100 billion or more and a relatively limited U.S. presence, such as us, are subject to certain minimum standards under the EPS Tailoring Rule, with the Federal Reserve Board relying primarily on compliance with comparable home-country prudential standards with respect to such FBOs.

If the Bank's size or risk profile were to increase, the Bank's combined U.S. operations may be subject to certain further enhanced prudential standards. In particular, enhanced prudential standards applicable to FBOs require an FBO with both significant total global consolidated assets and significant U.S. assets (excluding the total assets of each U.S. branch and agency) to establish a U.S. top-tier intermediate holding company ("**IHC**") over all U.S. bank and nonbank subsidiaries, and generally subject such an FBO's IHC to the same capital adequacy standards, including minimum risk based capital and leverage requirements, liquidity, liquidity risk management, stress testing and single counterparty credit limits as those applicable to U.S. bank holding companies in the same EPS category under the EPS Tailoring Rule. In addition, certain enhanced prudential standards will apply to the combined U.S. operations of an FBO whether or not the FBO is required to establish a U.S. IHC. The Bank continues to assess the full impact of these enhanced prudential requirements and the EPS Tailoring Rule on the Bank's business.

In addition, as an FBO with more than $250 billion in total global consolidated assets that does not otherwise meet certain category thresholds identified in the EPS Tailoring Rule, the Bank is currently required to submit periodically to the Federal Reserve Board and FDIC a resolution plan for the orderly resolution of the Bank's U.S. operations under the U.S. Bankruptcy Code or other applicable insolvency laws in a rapid and orderly fashion in the event of future material financial distress or failure. If the Federal Reserve Board and the FDIC jointly determine that the resolution plan is not credible and the deficiencies are not cured in a timely manner, they may jointly impose more stringent capital, leverage or liquidity requirements or restrictions on the Bank's growth, activities or operations. If the Bank were to fail to address the deficiencies in the resolution plan when required, the Bank could eventually be required to divest certain assets or operations.

In October 2019, the Federal Reserve Board and FDIC issued a final rule addressing the applicability of resolution planning requirements for FBOs (the "**FBO Resolution Plan Rule**"). The FBO Resolution Plan Rule applies reduced resolution plan filing requirements to FBOs that have $250 billion or more in total global consolidated assets and that do not otherwise meet certain category thresholds identified in the EPS Tailoring Rule, such as us, requiring such FBOs to submit a reduced content resolution plan every three years.

In July 2019, U.S. federal regulatory agencies adopted amendments to the Volcker Rule regulations to implement the Volcker Rule amendments included in the Reform Act, and also in 2019 such U.S. federal regulatory agencies adopted certain targeted amendments to the Volcker Rule regulations to simplify and tailor certain compliance requirements relating to the Volcker Rule. In June 2020, U.S. federal regulatory agencies adopted additional revisions to the Volcker Rule's restrictions on banking entities sponsoring and investing in certain covered hedge funds and private equity funds, including by adopting new exemptions allowing banking entities to sponsor and invest without limit in credit funds, venture capital funds, customer facilitation funds and family wealth management vehicles (the "**Covered Fund Amendments**"). The Covered Fund Amendments also loosen certain other restrictions on extraterritorial fund activities and direct parallel or co-investments made alongside covered funds. The Covered Fund Amendments therefore should expand the ability of banking entities to invest in and sponsor private funds. The ultimate consequences of the Reform Act on the Fund and its activities remain uncertain, and it remains unclear whether any particular other legislative or regulatory proposals will be enacted or adopted.

Shinhan Bank America

Shinhan Bank America, a state chartered bank that is located in New York and is not a member of the Federal Reserve System, is subject to extensive regulation and examination by the Department, as its chartering authority, and by the FDIC, as the insurer of its deposits and as its primary federal banking regulator. The federal and state laws and regulations which are applicable to banks regulate, among other things, the activities in which they may engage and the locations at which they may engage in them, their investments, their reserves against deposits, the timing of the availability of deposited funds and transactions with affiliates. Shinhan Bank America must file reports with the Department and the FDIC concerning its activities and financial condition, in addition to obtaining regulatory approvals prior to entering into certain transactions, such as establishing branches and mergers with, or acquisitions of, other depository institutions. The Department and the FDIC periodically examine the Bank to test Shinhan Bank America's safety and soundness and its compliance with various regulatory requirements. This comprehensive regulatory and supervisory framework restricts the activities in which a bank can engage and is intended primarily for the protection of the FDIC insurance fund and the bank's depositors. Regulatory authorities have extensive discretion in connection with their supervisory and enforcement activities and examination policies, which include setting policies with respect to the classification of assets and the establishment of adequate loan loss reserves. Any change in such regulations, whether by the Department, the FDIC or as a result of the enactment of legislation, could have a material adverse impact on Shinhan Bank America and its operations.

Capital Requirements. The FDIC imposes capital adequacy standards on state-chartered banks like Shinhan Bank America. The "prompt corrective action" framework under the Federal Deposit Insurance Corporation Improvement Act of 1991 ("**FDICIA**"), provides, among other things, for expanded regulation of insured depository institutions, including banks, and their parent holding companies. As required by FDICIA, the federal banking agencies have established five capital tiers ranging from "well capitalized" to "critically undercapitalized" for insured depository institutions. In order for the Bank's U.S. bank subsidiary to be classified as “well capitalized,” which is necessary in order for the Bank to maintain its financial holding company status, it must maintain a minimum 5% Tier I leverage ratio, a 6.5% common equity Tier I capital ratio, a 8% Tier I risk-based capital ratio and a 10% total risk-based capital ratio.

In order for the Bank’s U.S. bank subsidiary to be classified as “adequately capitalized” under FDICIA’s prompt corrective action standards, which is necessary in order for the Bank’s U.S. bank subsidiary to avoid certain restrictions under FDICIA, it must maintain a minimum 4% Tier I leverage ratio, a 4.5% common equity Tier I capital ratio, a 6% Tier I risk-based capital ratio and a 8% total risk-based capital ratio.

As of June 30, 2023, Shinhan Bank America exceeded all of the capital ratio standards for a well-capitalized bank with a Tier I leverage ratio of 10.45%, a common equity Tier I risk-based capital ratio of 14.46%, a Tier I risk-based capital ratio of 14.46% and a total risk-based capital ratio of 15.41%.

Activities and Investments of New York-Chartered Banks. Shinhan Bank America derives its lending, investment and other authority primarily from the applicable provisions of New York State Banking Law and the regulations of the Department, as well as FDIC regulations and other federal laws and regulations. See “— *Activities and Investments of FDIC-Insured State-Chartered Banks*” below. These New York laws and regulations authorize Shinhan Bank America to invest in real estate mortgages, consumer and commercial loans, certain types of debt securities, including certain corporate debt securities and obligations of federal, State and local governments and agencies, and certain other assets. A bank’s aggregate lending powers are not subject to percentage of asset limitations, but, as discussed below, there are limits on the amount of credit exposure that a bank may have to a single borrower or group of related borrowers. A New York-chartered bank may also exercise trust powers upon approval of the Department. Shinhan Bank America does not currently have trust powers.

With certain limited exceptions, Shinhan Bank America may not make loans or extend credit for commercial, corporate or business purposes (including lease financing) to a single borrower, the aggregate amount of which would be in excess of 15% of Shinhan Bank America’s net worth, on an unsecured basis, and 25% of the net worth if the excess is collateralized by readily marketable collateral or collateral otherwise having a value equal to the amount by which the loan exceeds 15% of Shinhan Bank America’s net worth. In calculating the amount of outstanding loans or credit to a particular borrower for this purpose, Shinhan Bank America must include its credit exposure arising from derivative transactions with the borrower.

Activities and Investments of FDIC-Insured State-Chartered Banks. The activities and equity investments of FDIC-insured, state-chartered banks are generally limited to those that are permissible for national banks. Under regulations dealing with equity investments, an insured state bank generally may not directly or indirectly acquire or retain any equity investment of a type, or in an amount, that is not permissible for a national bank. An insured state bank may, among other things, (i) acquire or retain a majority interest in a subsidiary that is engaged in activities that are permissible for the bank itself to engage in, (ii) invest as a limited partner in a partnership the sole purpose of which is direct or indirect investment in the acquisition, rehabilitation or new construction of a qualified housing project, provided that such limited partnership investments may not exceed 2% of the bank’s total assets, and (iii) acquire up to 10% of the voting stock of a company that solely provides or reinsures directors’, trustees’ and officers’ liability insurance coverage or bankers’ blanket bond group insurance coverage for insured depository institutions. In addition, an FDIC-insured state-chartered bank may not directly, or indirectly through a subsidiary, engage as “principal” in any activity that is not permissible for a national bank unless the FDIC has determined that such activities would pose no significant risk to the insurance fund of which it is a member and the bank is in compliance with applicable regulatory capital requirements.

Regulatory Enforcement Authority. Applicable banking laws include substantial enforcement powers available to federal banking regulators. This enforcement authority includes, among other things, the ability to assess civil money penalties, to issue cease-and-desist or removal orders and to initiate injunctive actions against banking organizations and institution-affiliated parties, as defined. In general, these enforcement actions may be initiated for violations of laws and regulations and unsafe or unsound practices. Other actions or inactions may provide the basis for enforcement action, including misleading or untimely reports filed with regulatory authorities. On June 12, 2017, Shinhan Bank America entered into a consent order with the FDIC with respect to certain weaknesses relating to its anti-money laundering compliance program. On October 13, 2022, the FDIC issued an Amended and Restated Consent Order (the "**2022 Consent Order**") requiring additional corrective action to address the remaining deficiencies and weaknesses identified in Shinhan Bank America's AML program. Shinhan Bank America also entered into a Memorandum of Understanding with NYDFS in May 2020 (the "**2020 NYDFS MOU**") to address deficiencies in Shinhan Bank America's BSA/AML compliance program and its internal audit function, which required Shinhan Bank America to, among other things, submit written reports detailing its remediation of these deficiencies. On May 14, 2021, the NYDFS notified Shinhan Bank America that it was in material breach of the 2020 NYDFS MOU. On September 29, 2023, Shinhan Bank America entered into a Consent Order (the "**2023 FinCEN Order**") with the U.S. Treasury Department's Financial Crimes Enforcement Network ("**FinCEN**") under which FinCEN determined that Shinhan Bank America committed willful violations of the Bank Secrecy Act and its implementing regulations during the relevant time period (April 2016, through March 2021). Under the 2023 FinCEN Order, FinCEN assessed a civil money penalty of $15 million against Shinhan Bank America. Also on September 29, 2023, the FDIC assessed a civil money penalty of $5 million against Shinhan Bank America (payment of which was credited against the civil money penalty assessed under the 2023 FinCEN Order), and the NYDFS entered into a consent order ("**NYDFS Consent Order**") and assessed a civil money penalty of $10 million against Shinhan Bank America (resulting in a total amount of $25 million of civil money penalties). In addition to the $10 million civil money penalty to New York State, Shinhan Bank America will be required under the NYDFS Consent Order to create a written plan, acceptable to the NYDFS, detailing enhancements to compliance policies and procedures, suspicious activity monitoring and reporting, and customer due diligence requirements. Shinhan Bank America continues to take corrective measures to improve its anti-money laundering program and system.

Under the New York State Banking Law, the Department may issue an order to a New York-chartered banking institution to appear and explain an apparent violation of law, to discontinue unauthorized or unsafe practices and to keep prescribed books and accounts. Upon a finding by the Department that any director, trustee or officer of any banking organization has violated any law, or has continued unauthorized or unsafe practices in conducting the business of the banking organization after having been notified by the Department to discontinue such practices, such director, trustee or officer may be removed from office by the Department after notice and an opportunity to be heard. The Department also may take possession of a banking organization under specified statutory criteria.

Prompt Corrective Action. Section 38 of the Federal Deposit Insurance Act ("**FDIA**") provides the federal banking regulators with broad power to take "prompt corrective action" to resolve the problems of undercapitalized institutions. The extent of the regulators' powers depends on whether the institution in question is "well capitalized," "adequately capitalized," "undercapitalized," "significantly undercapitalized" or "critically undercapitalized." A bank is deemed to be (i) "well capitalized" if it has total risk-based capital ratio of 10.0% or greater, has a Tier I risk-based capital ratio of 8.0% or greater, has a common equity Tier I capital ratio of 6.5% or greater, has a Tier I leverage capital ratio of 5.0% or greater, and is not subject to specified requirements to meet and maintain a specific capital level for any capital measure, (ii) "adequately capitalized" if it has a total risk-based capital ratio of 8.0% or greater, has a Tier I risk-based capital ratio of 6.0% or greater, has a common equity Tier I capital ratio of 4.5% or greater, has a Tier I leverage capital ratio of 4.0% or greater and does not meet the definition of "well capitalized," (iii) "undercapitalized" if it has a total risk-based capital ratio that is less than 8.0%, has a Tier I risk-based capital ratio that is less than 6.0%, has a common equity Tier I capital ratio of less than 4.5%, or has a Tier I leverage capital ratio that is less than 4.0%, (iv) "significantly undercapitalized" if it has a total risk-based capital ratio that is less than 6.0%, has a Tier I risk-based capital ratio that is less than

4.0%, has a common equity Tier I capital ratio that is less than 3.0%, or has or a Tier I leverage capital ratio that is less than 3.0%, and (v) "critically undercapitalized" if it has a ratio of tangible equity to total assets that is equal to or less than 2.0%. The regulations also provide that a federal banking regulator may, after notice and an opportunity for a hearing, reclassify a "well capitalized" institution as "adequately capitalized" and may require an "adequately capitalized" institution or an "undercapitalized" institution to comply with supervisory actions as if it were in the next lower category if the institution is in an unsafe or unsound condition or engaging in an unsafe or unsound practice. The federal banking regulator may not, however, reclassify a "significantly undercapitalized" institution as "critically undercapitalized."

An institution generally must file a written capital restoration plan which meets specified requirements, as well as a performance guaranty by each company that controls the institution, with an appropriate federal banking regulator within 45 days of the date that the institution receives notice or is deemed to have notice that it is "undercapitalized," "significantly undercapitalized" or "critically undercapitalized." Immediately upon becoming undercapitalized, an institution becomes subject to statutory provisions, which, among other things, set forth various mandatory and discretionary restrictions on the operations of such an institution.

FDIC Insurance. Shinhan Bank America's deposits are insured by the FDIC. As insurer, the FDIC is authorized to conduct examinations of, and to require reporting by, FDIC-insured institutions. It also may prohibit any FDIC-insured institution from engaging in any activity the FDIC determines by regulation or order to pose a serious threat to the FDIC.

The Dodd-Frank Act requires the FDIC to maintain the ratio of the FDIC insurance fund to estimated total insured deposits ("**Reserve Ratio**") at 1.35% and to adopt a restoration plan when the Reserve Ratio falls below such percentage. Extraordinary growth in insured deposits during the first and second quarters of 2020 caused the Reserve Ratio to decline below the statutory minimum of 1.35%, resulting in the FDIC establishing a restoration plan on September 15, 2020 which contemplates the Reserve Ratio returning to 1.35% within 8 years. In October 2022, the FDIC adopted a final rule, applicable to all insured depository institutions, to increase the initial base deposit insurance assessment rates uniformly by 2%, beginning in the first quarterly assessment period of 2023. The rate increase is intended to increase the likelihood that the Reserve Ratio reaches the statutory minimum of 1.35% by September 30, 2028. The new assessment rates will remain in effect unless and until the Reserve Ratio meets or exceeds the FIDC's long-term goal of a 2% Reserve Ratio. Progressively lower assessment rate schedules will take effect when the Reserve Ratio reaches 2%, and again when it reaches 2.5%.

In connection with the FDIC's resolution of Silicon Valley Bank and Signature Bank in March 2023, U.S. government agencies invoked the "systemic risk exception" which extended FDIC insurance to depositors of the failed banks with deposits above the US$250,000 insurance limit. In order to recover the cost associated with protecting such uninsured depositors, the FDIC issued a notice of proposed rulemaking in May 2023 to implement a special assessment of approximately 12.5 basis points (0.125%) of a banking organization's estimated uninsured deposits reported as of December 31, 2022, excluding the first $5 billion of the combined banking organization's estimated uninsured deposits. The proposed special assessment will be due over eight quarterly periods. Based on the terms of the FDIC's proposed rule, Shinhan Bank America would not expect to be subject to a special assessment on its uninsured deposits based on its current amounts of uninsured deposits. However, we cannot predict at this time the extent to which the scope of a final rule, if adopted, will resemble the proposed rule. If, under any final rule, Shinhan Bank America were to be subjected to a special deposit insurance assessment, then the Bank's non-interest expense would increase. If bank failures in the future are more costly than the FDIC currently anticipates, then the FDIC may be required to continue to impose higher insurance premiums or additional special assessments. Any such increase or special assessment would increase the Bank's non-interest expense.

The FDIC may terminate the deposit insurance of any insured depository institution, including Shinhan Bank America, if it determines, after a hearing, that the institution has engaged or is engaging in unsafe or unsound practices, is in an unsafe or unsound condition to continue operations, or has violated any applicable law, regulation, order or any condition imposed by an agreement with the FDIC. It also may suspend deposit insurance temporarily during the hearing process for the permanent termination of insurance, if the institution has no tangible capital. If insurance of accounts is terminated, the accounts at the institution at the time of the termination, less subsequent withdrawals, shall continue to be insured for a period of six months to two years, as determined by the FDIC. Management is aware of no existing circumstances that would result in termination of Shinhan Bank America's deposit insurance.

Brokered Deposits. Under federal law and applicable regulations, (i) a well-capitalized bank may solicit and accept, renew or roll over any brokered deposit without restriction, (ii) an adequately capitalized bank may not accept, renew or roll over any brokered deposit unless it has applied for and been granted a waiver of this prohibition by the FDIC and (iii) an undercapitalized bank may not accept, renew or roll over any brokered deposit. A bank that is less than well capitalized may not solicit deposits by offering a rate of interest that exceeds by more than 75 basis points the "national rate" (as published by the FDIC) (or, if higher, certain other national reference rates), except that, subject to certain criteria, such a bank may offer deposit interest rates up to a "local market rate cap" (determined by reference to the prevailing interest rates on insured deposits of comparable maturity in such institution's normal market area or in the market area in which such deposits are being solicited). The term "undercapitalized insured depository institution" is defined to mean any insured depository institution that fails to meet the minimum regulatory capital requirement prescribed by its appropriate federal banking agency. The FDIC may, on a case-by-case basis and upon application by an adequately capitalized insured depository institution, waive the restriction on brokered deposits upon a finding that the acceptance of brokered deposits does not constitute an unsafe or unsound practice with respect to such institution. In January 2021, the FDIC adopted rules on aspects of FDIC's brokered deposit and interest rate regulations. The impact of these rules on Shinhan Bank America's operations in the future is uncertain. Shinhan Bank America had an aggregate amount of US$10 million of brokered deposits outstanding as of June 30, 2023.

Community Reinvestment and Consumer Protection Laws. In connection with its lending activities, Shinhan Bank America is subject to a variety of federal laws designed to protect borrowers and promote lending to various sectors of the economy and population. Included among these are the Home Mortgage Disclosure Act, Real Estate Settlement Procedures Act, Truth-in-Lending Act, Equal Credit Opportunity Act, Fair Credit Reporting Act and CRA.

The CRA requires FDIC insured banks to define the assessment areas that they serve, identify the credit needs of those assessment areas and take actions that respond to the credit needs of the community. The FDIC must conduct regular CRA examinations of Shinhan Bank America and assign it a CRA rating of "outstanding," "satisfactory," "needs improvement" or "unsatisfactory." Shinhan Bank America is also subject to provisions of the New York State Banking Law which impose similar obligations to serve the credit needs of its assessment areas. The Department and the FDIC each periodically assess a bank's compliance, and makes the assessment available to the public. Federal and New York State laws both require consideration of these ratings when reviewing a bank's application to engage in certain transactions, including mergers, asset purchases and the establishment of branch offices. A negative assessment may serve as a basis for the denial of any such application. Shinhan Bank America has received "satisfactory" ratings from both the Department and the FDIC in its most recent CRA performance evaluation.

In May 2022, the FDIC and other federal regulatory agencies proposed comprehensive amendments to the CRA regulatory framework. Among other things, the proposed amendments are intended to reflect changes in the banking industry, including the expanded role of mobile and online bank and to tailor performance standards to account for differences in bank size, business models and local conditions. It remains unclear whether the FDIC or other regulatory agencies will adopt final rules amending the CRA. If such rules were to be adopted, we cannot predict at this time the extent to which the scope of such final rules would resemble the proposed rules or the CRA regulations that are currently in effect. It also remains unclear whether any other particular legislative or regulatory proposals will be enacted or adopted concerning CRA requirements applicable to us. To the extent any such final amendments to CRA requirements applicable to us are adopted, such regulatory developments may impact the ability of Shinhan Bank America to achieve "satisfactory" CRA performance ratings.

The Dodd-Frank Act created the Consumer Financial Protection Bureau (the "**Bureau**") with broad authority to regulate and enforce consumer protection laws. The Bureau has the authority to adopt regulations under numerous existing federal consumer protection statutes. The Bureau may also decide that a particular consumer financial product or service, or the manner in which it is offered, is an unfair, deceptive, or abusive act or practice. If the Bureau so decides, it has the authority to outlaw such act or practice.

Limitations on Dividends. The payment of dividends by Shinhan Bank America is subject to various regulatory requirements. Under New York State Banking Law, a New York-chartered stock bank may declare and pay dividends out of its net profits, unless there is an impairment of capital, but approval of the Superintendent of Banks is required if the total of all dividends declared in a calendar year would exceed the total of its net profits for that year combined with its retained net profits of the preceding two years, subject to certain adjustments.

Assessments. Banking institutions are required to pay assessments to both the FDIC and the Department to fund the operations of those agencies. The assessments are based upon the amount of Shinhan Bank America's total assets. Shinhan Bank America must also pay an examination fee to the Department when it conducts an examination.

Transactions with Related Parties. Shinhan Bank America's authority to engage in transactions with related parties or "affiliates" (i.e., any entity that controls or is under common control with an institution) is limited by Sections 23A and 23B of the Federal Reserve Act. Section 23A limits the aggregate amount of transactions with any individual affiliate to 10% of the capital and surplus of the institution and also limits the aggregate amount of transactions with all affiliates to 20% of the institution's capital and surplus. The term "affiliate" includes, for this purpose, the Bank and any company that it controls other than Shinhan Bank America and its subsidiaries.

Loans to affiliates must be secured by collateral with a value that depends on the nature of the collateral. The purchase of low quality assets from affiliates is generally prohibited. Loans and asset purchases with affiliates must be on terms and under circumstances, including credit standards, that are substantially the same or at least as favorable to the institution as those prevailing at the time for comparable transactions with nonaffiliated companies. In the absence of comparable transactions, such transactions may only occur under terms and circumstances, including credit standards that in good faith would be offered to or would apply to nonaffiliated companies. Shinhan Bank America's authority to extend credit to executive officers, directors and 10% shareholders, as well as entities controlled by such persons, is governed by Regulation O of the Federal Reserve Board. Regulation O generally requires such loans to be made on terms substantially similar to those offered to unaffiliated individuals (except for preferential loans made in accordance with broad based employee benefit plans), places limits on the amount of loans Shinhan Bank America may make to such persons based, in part, on Shinhan Bank America's capital position, and requires certain approval procedures to be followed.

Standards for Safety and Soundness. FDIC regulations require that Shinhan Bank America adopt procedures and systems designed to foster safe and sound operations in the areas of internal controls, information systems, internal audit systems, loan documentation, credit underwriting, interest rate risk exposure, asset growth, asset quality, earnings and compensation, fees and benefits. Among other things, these regulations prohibit compensation and benefits and arrangements that are excessive or that could lead to a material financial loss. If Shinhan Bank America fails to meet any of these standards, it will be required to submit to the FDIC a plan specifying the steps that will be taken to cure the deficiency. If it fails to submit an acceptable plan or fails to implement the plan, the FDIC will require it to correct the deficiency and until corrected, may impose restrictions on it.

The FDIC has also adopted regulations that require Shinhan Bank America to adopt written loan policies and procedures that are consistent with safe and sound operation, are appropriate for its size, and must be reviewed by its Board of Directors annually. Shinhan Bank America has adopted such policies and procedures, the material provisions of which are discussed above as part of the discussion of the Bank's lending operations.

KOREAN LEGAL CONSIDERATIONS

The following is a summary of certain Korean legal issues relevant to prospective investors. The following summary is not intended to be exhaustive. Prospective investors should consider the nature of and investment in covered bonds of this type and the political and legal environment of Korea, and should make such further investigations as they, in their sole discretion, deem appropriate.

Insolvency Laws

Overview

The Debtor Rehabilitation and Bankruptcy Act (the "**DRBA**") is the primary law governing court-supervised insolvency proceedings in Korea.

In the case of rehabilitation proceedings pursuant to Chapter 2 of the DRBA, the ability of secured creditors to enforce their rights to security may be restricted and payment may be subject to rescheduling pursuant to a rehabilitation plan. In bankruptcy proceedings pursuant to Chapter 3 of the DRBA and individual debtor rehabilitation proceedings pursuant to Chapter 4 of the DRBA, however, it is possible for secured creditors to enforce their security interests, subject to certain restrictions.

In addition to the DRBA, the Corporate Restructuring Promotion Act (the "**CRPA**") may restrict certain creditor financial institutions' ability to enforce security interests granted by a "Company Showing Signs of Insolvency" as defined in such Act (a "**Failing Company**"). Also, the Act on Structural Improvement of the Financial Industry of Korea (No. 5257 of 13 January 1997), as amended, and any and all successor legislation thereto (the "ASIF") provides regulations regarding improvement of insolvent financial institutions. With respect to individual debtors in financial difficulty, the Korean financial industry's Agreement among Financial Institutions for Assisting the Credit Recovery Support Plan could restrict a creditor financial institution's ability to enforce a mortgage or other security granted by an individual debtor. See " — *Individual Work-out Plans*" below.

Debtor Rehabilitation and Bankruptcy Act

The DRBA contains:

(a) provisions applicable to rehabilitation proceedings under Chapter 2 of the DRBA (hereinafter referred to as "**Chapter 2 Proceedings**"), which primarily deal with rehabilitation of insolvent business entities;

(b) provisions applicable to bankruptcy proceedings, which deal with liquidation of insolvent business entities and individuals;

(c) provisions applicable to individual rehabilitation proceedings under Chapter 4 of the DRBA (hereinafter referred to as "**Chapter 4 Proceedings**"), which are applicable only to certain individual debtors who are wage earners or self-employed earners with debts of no more than a certain specified amount; and

(d) provisions applicable to international insolvency proceedings.

Under the DRBA, the petitioner must specify which procedure he or she wishes to use. For a debtor that has filed for bankruptcy proceedings, a bankruptcy trustee will be appointed to liquidate the assets of the debtor and to distribute the proceeds to its unsecured creditors on a pro-rata basis after the court issues an order preserving the debtor's assets. Secured creditors remain free to exercise their security interests under bankruptcy proceedings.

On the other hand, the goal of Chapter 2 Proceedings and Chapter 4 Proceedings is to rehabilitate insolvent companies or, as the case may be, individuals. In Chapter 2 Proceedings, secured creditors are not permitted to enforce their security interest. Secured creditors in Chapter 4 Proceedings, however, are permitted to enforce their security interests notwithstanding such Chapter 4 Proceedings (x) unless the court issues an order to suspend or prohibit such exercise during the period after the filing of the petition for Chapter 4 Proceedings but before the court decides to commence Chapter 4 Proceedings, or (y) once the court decides to commence Chapter 4 Proceedings, only after the earlier of (i) the court's approval of the repayment plan or (ii) the final decision by the court to discontinue such Chapter 4 Proceedings.

The DRBA also makes it easier for the court to set aside transactions which the debtor has entered into with certain shareholders or equity holders of the debtor ("**specially related persons**"), by making the presumption that the specially related persons, when entering into such transactions acted with the knowledge that entry into such transactions with the debtor would be prejudicial to other creditors of the debtor. For example, transactions entered into by a debtor for, or relating to, the granting of security by, or the extinguishment of obligations of, the debtor within 60 days before the suspension of payment, without any prior existing obligation to do so, may be set aside. However, this 60-day period extends to one year in the case of transactions entered into with specially related persons. Further, gratuitous acts or the equivalent thereof performed by the debtor within six months prior to the suspension of payment, etc. by the debtor may be set aside, and this six-month period extends to one year with regard to transactions entered into with specially related persons.

Chapter 2 Proceedings

Chapter 2 Proceedings (i.e., rehabilitation proceedings) are designed for use by insolvent debtors who wish to rehabilitate themselves. This type of proceeding is closely supervised and controlled by the court so that most of the material actions or decisions of the debtor may be taken by, or made only with the approval of, the court.

All types of legal entities, including joint stock companies, limited liability companies and unincorporated foundations or associations, as well as individuals, may avail themselves of Chapter 2 Proceedings.

The DRBA provides that in Chapter 2 Proceedings, in principle, the debtor itself or, in case where the debtor is a company, its own representative, and not a third party, will be appointed as receiver with authority to act on behalf of the debtor, subject to supervision of the court. It is also possible in Chapter 2 Proceedings for a legal entity to be appointed as the receiver. If a legal entity is appointed as the receiver, the legal entity should designate one of its directors to exercise the rights and powers conferred on it as a receiver and report such designation to the court.

Under the DRBA, the debtor may file a petition with the court for commencement of Chapter 2 Proceedings where either, (i) the debtor cannot repay its debts without causing material damage to the continuance of the debtor's business, or (ii) events leading to bankruptcy of the debtor may arise. If the debtor is a joint stock company or a limited liability company, (a) a creditor who has claims in an amount not less than 10% of the debtor's paid-in capital, or (b) a shareholder or equityholder who holds shares or an equity interest constituting not less than 10% of the debtor's paid-in capital, may also apply for commencement of Chapter 2 Proceedings. If the debtor is not a joint stock company or a limited liability company, a creditor who has claims in an amount of not less than ₩50 million or an equityholder who holds an equity interest of not less than 10% of the debtor's equity can apply for commencement of Chapter 2 Proceedings.

When the debtor itself or a creditor or equityholder of the debtor that satisfies the above requirements applies for commencement of Chapter 2 Proceedings, the court may, upon the request of interested parties or in its sole discretion, but after hearing the opinion of the management committee, issue a preservation order against individual assets of the debtor, and may issue an injunction against bankruptcy proceedings or enforcement proceedings initiated by the debtor's secured or unsecured creditors. Further, if the court determines that the objectives of the Chapter 2 Proceedings may not be achieved through stay order, it may issue a comprehensive stay order against enforcement proceedings initiated by creditors against the assets of the debtor. If a comprehensive stay order is issued, enforcement proceedings that are already in progress will be suspended, and the court may cancel such enforcement proceedings upon the request of the debtor or, as the case may be, the receiver, if deemed necessary for the continuance of the debtor's business. However, if the court determines that a creditor may sustain unjust damages as a result of such comprehensive stay order, the court may revoke the order for that particular creditor upon request of such creditor.

When a petition for commencement of Chapter 2 Proceedings is filed, the court is required to determine within one month of the date of petition whether to commence such proceeding, although such period may be extended by the court. Once the commencement of Chapter 2 Proceedings is declared, most claims against the debtor that arose prior to such commencement date are automatically stayed, while claims arising after the commencement date are generally not subject to the Chapter 2 Proceedings. Also, the court will appoint a receiver with the power to conduct all of the debtor's business and manage all of the debtor's properties, subject to court supervision.

As a general rule, any creditor whose claim against the debtor arose prior to the commencement of the Chapter 2 Proceedings, whether secured or unsecured, may not enforce such claims other than as provided for in the rehabilitation plan adopted at the meeting of interested parties and approved by the court. The rehabilitation plan may alter or modify the rights of creditors or shareholders. Accordingly, there can be no assurance that the rights of the creditors, whether secured or unsecured, will not be adversely affected by a Chapter 2 Proceedings. Further, a creditor who intends to participate in the rehabilitation plan must file a proof of claim with the court within the period fixed by the court if the receiver had not affirmatively recognised such claim.
In Chapter 2 Proceedings, creditors are classified into three basic categories: (i) creditors with unsecured rehabilitation claims, (ii) creditors with secured rehabilitation claims, and (iii) creditors with claims for the common benefit. The former two categories of creditors are subject to the Chapter 2 Proceedings and generally may not receive payment or repayment for their respective claims other than as provided in the rehabilitation plan. Creditors with claims for the common benefit are not subject to the rehabilitation plan, and include, among others, those creditors whose claims either arose after the commencement of the Chapter 2 Proceedings (subject to certain exceptions) or those creditors whose claims were approved by the court during the preservation period.

If the debtor fails to perform its payment obligations in accordance with its rehabilitation plan, affected creditors are not permitted to initiate lawsuits or enforce their security interests. Instead, they (or the receiver of the debtor) may only request the court to amend the rehabilitation plan. However, if such amendment could have an adverse effect on creditors with rehabilitation claims or shareholders of the debtor, the court may amend the rehabilitation plan, in principle, only after obtaining approval for the amendment through an affirmative vote at a meeting of interested parties. If it becomes apparent, either before or after the court approves the rehabilitation plan, that the debtor cannot be rehabilitated, the court may, at its sole discretion or upon the request by the receiver or a creditor with a rehabilitation claim, issue an order to discontinue the Chapter 2 Proceedings.

Bankruptcy Proceedings

A bankruptcy proceeding is a court administered process whose purpose is to liquidate an insolvent debtor's assets and distribute the proceeds therefrom to the debtor's creditors on a *pro rata* basis. Bankruptcy proceedings formally commence upon an adjudication by the court that the debtor is indeed "bankrupt." The court will make its determination as to whether grounds for bankruptcy exist based on the written pleadings and oral arguments of the petitioner. The adjudication of bankruptcy also has the effect of automatically staying all unsecured creditors from enforcing their claims against the bankruptcy estate.

The bankruptcy trustee appointed by the court is vested with the exclusive right to manage and dispose of the bankruptcy estate and to conduct an investigation and assessment of the bankruptcy estate. The DRBA permits a legal entity to be appointed as the bankruptcy trustee of the bankruptcy proceeding. If a legal entity is appointed as the bankruptcy trustee, it shall designate one of its directors to exercise the rights and powers conferred to it as bankruptcy trustee and shall report such designation to the court. After reviewing the reports prepared by the bankruptcy trustee, the creditors will have a meeting and vote on a resolution deciding whether to continue or discontinue the debtor's business and the manner of safeguarding the bankruptcy estate.

Subject to certain statutory limitations and approval by the inspection commissioners, the bankruptcy trustee has the power to liquidate the bankruptcy estate, and to determine the manner and timing of such liquidation. The bankruptcy trustee distributes the proceeds from the liquidation of the bankruptcy estate to the creditors in proportion to their claims. The distribution is made in several stages. Claims entitled to distribution are differentiated according to their priority of claims. Bankruptcy creditors are classified as follows in accordance with their priorities: (i) secured creditors, who have the right to enforce their securities on the same terms as would be available if the debtor were not in bankruptcy; (ii) creditors with estate claims, which include costs of judicial proceeding, tax claims, wages and payment of severance, management expenses incurred in connection with management, liquidation and distribution of the bankruptcy estate, and other claims arising from administration of the bankruptcy estate; (iii) creditors with other statutorily preferred claims (including policyholders' claims against an insurance company to the extent of the amount equal to the relevant reserves); (iv) general claims; and (v) less preferred claims.

The DRBA ensures that the priority rights of tenants under the Residential Tenant Protection Act and the Commercial Building Tenant Protection Act are also protected under bankruptcy proceedings.

Chapter 4 Proceedings

Chapter 4 Proceedings (i.e., individual rehabilitation proceedings) are available to persons (i) who are unable, or are likely to become unable, to repay debts when they become due, (ii) who are considered to have the ability to earn consistent wage income or business income in the future, and (iii) whose debt is no more than (x) ₩1.5 billion in case of debts secured by a mortgage, pledge, *jeonse-kwon* and certain other preferential rights, and (y) ₩1 billion in case of any other debts and the amount of debts is calculated as of filing of a petition. Only debtors, and not creditors, are able to petition the court for Chapter 4 Proceedings. When a debtor files a petition for Chapter 4 Proceedings, the court may suspend or prohibit bankruptcy proceedings, compulsory execution, provisional attachment, establishment or enforcement of security or the repayment of claims until the court decides whether to commence Chapter 4 Proceedings. In principle, the court must make such decision within a month after the filing of the petition.

After the commencement order is issued by the court, any bankruptcy proceedings, Chapter 2 Proceedings or actions mentioned above are automatically suspended or prohibited. In addition, after the commencement order is issued by the court, the establishment or enforcement of security interests is automatically suspended or prohibited until the earlier of the date (i) when the repayment plan is approved or (ii) when the approved Chapter 4 Proceedings are later finally determined to be discontinued. Subject to the automatic suspension or prohibition as described above, secured creditors have the right to enforce their security interests on the same terms as would be available if the debtor was not in Chapter 4 Proceedings. In principle, the debtor retains management and disposal rights over his/her assets even after the issuance of a commencement order for Chapter 4 Proceedings.

The debtor must submit a list of creditors at the time of application, and any claims that are not disputed by the relevant creditor will be settled as indicated on the creditors list. Claims that are disputed by creditors will be settled through a court decision. The debtor must, in principle, submit a repayment plan within 14 days of the application, and the repayment period must not exceed three years from the commencement of repayment.

The repayment plan must be approved by the court and the court may order its amendment. One important requirement for approval is that the total amount of repayment must not be less than the amount that creditors would have received in a bankruptcy proceeding, unless creditors consent to the court's approval despite the failure of the individual debtor's repayment plan to meet such requirement. The DRBA sets out a list of claims that have priority in payment to the claims listed in the creditor list (e.g., expenses for the Chapter 4 Proceedings, certain taxes, salaries for the debtor's employees, etc.). Once the debtor completes repayment in accordance with the repayment plan, the court will issue an acquittal order with respect to the debtor.

International Insolvency Proceedings

The representative in a foreign insolvency proceeding (i.e., a person or entity recognised by the applicable court as the receiver or representative in the foreign insolvency proceeding) may file with the Korean court for approval of such foreign insolvency proceeding. Once the foreign insolvency proceeding is approved by the Korean court, the representative in such proceeding may apply for insolvency proceedings in Korea or participate in the insolvency proceeding that is already in progress in Korea. On the other hand, the receiver or bankruptcy trustee in the insolvency proceeding in Korea may, for purposes of such proceeding, take actions in foreign jurisdictions to the extent permitted by applicable laws.

Individual Work-out Plans

According to the Act on Supporting the Financial Life of the Low Income Households which took effect on September 23, 2016 and as amended from time to time, the Credit Counselling and Recovery Service entered into, with, among others, the participating financial institutions, and revised from time to time, "the Credit Recovery Support Agreement" (the "**Individual Work-out Plan Agreement**") which took effect on September 23, 2016 in order to support debt adjustment of the individual debtors.

The Individual Work-out Plan Agreement applies to sole practitioners and to individuals who have a poor credit history, who owe Won 1.5 billion or less (secured debt of Won 1.0 billion or less and unsecured debt of Won 0.5 billion or less) to financial institutions, and, as determined by the Review Committee (defined below), (i) whose income exceeds the minimum cost of living or (ii) who are able to repay their debts. The individual work-out plans under the Individual Work-out Plan Agreement consist of (i) the swift work-out plan for debtors owing to two or more financial institutions where delinquency period of one of the debts is between 1 day and 30 days, (ii) the pre-work-out plan for debtors owing to two or more financial institutions where delinquency period of one of the debts is between 31 day and 89 days and (iii) the regular work-out plan for debtors owing to one or more financial institutions where delinquency period of one of the debts is 3 months or more. Any individual who satisfies one of the foregoing requirements and does not fall within any of the disqualifications under the Individual Work-out Plan Agreement (e.g., any loan or credit facilities incurred in the six-month period prior to the application is 30% or more of the aggregate outstanding credit balance) may apply for protection under the scheme to the Credit Counselling and Recovery Service.

On receipt of such an application, the Credit Counselling and Recovery Service notifies each of the debtor's creditor financial institutions and requests them to certify the amount owed to them and their opinion on the application. From the time that the financial institutions receive such a notice, they are subject to a moratorium on their ability, among other things, to enforce any security, including any residential mortgage that they hold for the relevant debt.

The application is then considered by a review committee (the "**Review Committee**") established under the Individual Work-out Plan Agreement. The Review Committee can recommend a plan (which can be either a "**Swift Work-out Plan**", a "**Pre-Work-out Plan**" or a "**Regular Work-out Plan**") for the rehabilitation of the debtor, including (a) in the case of a Regular Work-out Plan, extending the repayment period to up to eight or ten years depending on the income of the individual (for unsecured debt) or 20 years (for secured debt), adjusting interest rates, setting up an instalment plan for a period not exceeding eight or 20 years, granting a grace period of up to three years (with annual interest rate during the grace period of up to 2%) and writing off the principal amount of the outstanding debt (i) in respect of the debt written-off by a financial institution, in case of unsecured debt up to an amount equal to from 20% to 70% thereof, and in case of secured debt, the amount exceeding the value of the collateral or (ii) in respect of the debt not written-off, up to an amount equal to from 0% to 30% thereof only if the period elapsed after the occurrence of such debt is not less than 12 months and the delinquency period is not less than 3 months (while all of the interest and default interest due on the debts may be written off irrespective of such debt being written off or not, other than the secured debt not written-off, the default interest exceeding the amount of the contracted secured obligations) and in case of the outstanding debt only consisting of the interest or overdue interest, the amount of such debt up to an amount equal to 90% thereof, (b) in the case of a Pre-Work-out Plan, extending the repayment period to up to 10 (for unsecured debt) or 20 (for secured debt) years, adjusting interest rates, setting up an instalment plan for a period not exceeding 10 or 20 years, granting a grace period of up to three years (with annual interest rate during the grace period of 2%) and writing off all of the default interest due on the unsecured debt not written-off, the default interest exceeding the amount of the contracted secured obligations in case of the secured debt not written-off and in case of the outstanding debt only consisting of the interest or overdue interest, the amount of such debt up to an amount equal to 90% thereof and (c) in the case of a Swift Work-out Plan, extending the repayment period to up to 10 (for unsecured debt) or 20 (for secured debt) years, adjusting interest rates, setting up an instalment plan for a period not exceeding 10 or 20 years, granting a grace period of up to three years (with annual interest rate during the grace period of the contracted interest rates up to 15%, but 10% for credit card debts) and writing off all of the default interest due on the unsecured debt not written-off, the default interest exceeding the amount of the contracted secured obligations in case of the secured debt not written-off and in case of the outstanding debt only consisting of the interest or overdue interest, the amount of such debt up to an amount equal to 90% thereof, as applicable.

The Swift Work-out Plan, Pre-Work-out Plan or Regular Work-out Plan, as applicable, of the Review Committee is put to a vote of the creditors of the relevant debtor and, to be adopted, must be approved by creditor financial institutions representing more than 50% of the debtor's outstanding unsecured debt and more than 50% of the debtor's outstanding secured debt. If the Swift Work-out Plan, Pre-Work-out Plan or Regular Work-out Plan is rejected, the Review Committee may submit a revised Swift Work-out Plan, Pre-Work-out Plan or Regular Work-out Plan, as applicable, to the creditor financial institutions, which must be approved by the same majorities.

If the Swift Work-out Plan, Pre-Work-out Plan or Regular Work-out Plan is adopted, the creditor financial institutions are bound by its terms. Any creditor financial institution which violates the Swift Work-out Plan, Pre-Work-out Plan or Regular Work-out Plan, for example, by seeking to enforce its security, could be subject to a penalty by the Credit Counselling and Recovery Service of an amount not exceeding Won 2 million.

Corporate Restructuring Promotion Act

The original Corporate Restructuring Promotion Act (Act No. 6504) was enacted on August 14, 2001 in order to facilitate the out-of-court restructuring of insolvent companies. This law expired on December 31, 2005, but new Corporate Restructuring Promotion Acts were enacted on August 3, 2007 (expired on December 31, 2010), May 19, 2011 (expired on December 31, 2013), January 1, 2014 (expired on December 31, 2015) and March 18, 2016 (expired on June 30, 2018), and the version of the CRPA that is currently in effect was enacted and implemented on October 16, 2018 and will continue in force until October 15, 2023, five years from the implementation date.

However, if the 'main creditor bank' of a Failing Company provided notice of the convening of a Creditor Committee (defined below) on or before October 15, 2023, any proceedings commenced by such Creditor Committee will remain subject to the CRPA even after October 15, 2023 unless and until such proceedings are completed or discontinued.

The following is a summary of the key provisions of the CRPA. Under the CRPA, "Financial Claims" are defined as those claims arising from the provision of credit to the third party or the company and "Company" is defined under the CRPA as a company established under the Korean Commercial Code or other person performing profit-making activities and excludes certain public institutions, finance companies (such as the Issuer), foreign companies. "Provision of Credit" is defined in the CRPA as any transaction determined by the FSC to fall under any of the following:

- loans;
- purchase of promissory notes and debentures or bonds;
- equipment leasing;
- payment guarantees;
- providing advance payments on acceptances and guarantees under a payment guarantee;
- any transaction which may cause a loss to a Financial Creditor as a consequence of a payment failure by its counterparty; or
- any transaction which may have in substance the same effect to a Financial Creditor as the transactions set out above even though it may not have provided credit.

"Financial Creditors" are those creditors with Financial Claims. Accordingly, both onshore and offshore financial institutions, as long as they have Financial Claims, are subject to the CRPA. A Failing Company is determined, on the basis of a credit evaluation carried out in the manner set out in the CRPA by its 'main creditor bank'.

Under the CRPA, the main creditor bank of a Failing Company is required to take or arrange one of the following actions if it determines that there is a possibility that the financial condition of the Failing Company may be rehabilitated or brought back to normal in accordance with its business plan:

- convocation of the first meeting of committee of Financial Creditors (the "**Creditor Committee**") to decide on assumption of management of the Failing Company by the Creditor Committee; or
- assumption of management of the Failing Company by the main creditor bank.

In the event that the main creditor bank of the Failing Company decides to convoke the first meeting of the Credit Committee to decide on the management of the Failing Company, the main creditor bank may require the Financial Creditors to grant a moratorium on the enforcement of claims (including the enforcement of security interest) until such meeting of the Creditor Committee. If a Financial Creditor enforces its claim against the Failing Company after the request to suspend enforcement of claims, it shall be required to unwind the enforcement action to return to the state that was in existence in case where the Creditor Committee decides to assume management of the Failing Company. In addition, at the first meeting of the Creditor Committee, Financial Creditors representing at least 75% of the outstanding credit to the Failing Company by the Financial Creditors present at such meeting may declare a moratorium for up to three months if an investigation of the Failing Company's financial status is necessary or up to one month if such investigation is not necessary (which may be extended by an additional month).

If the Creditor Committee cannot agree on the corporate repayment plan by the date the moratorium period ends, the Creditor Committee's management of the Failing Company shall be deemed to have terminated. The Creditor Committee can approve the rescheduling of the debt owed by the Failing Company or provide new credit to it with the approval of Financial Creditors representing not less than 75% of all outstanding credit (or secured credit in case of rescheduling of the debt).

A Creditor Financial Institution which has opposed the resolutions of the Creditor Committee in respect of the commencement of management of the Failing Company by the Creditor Committee or the rescheduling of claims or provision of new credit or the extension of the management by the Creditor Committee (the "**Opposing Financial Creditor**") may, within seven days of such resolution, request the Financial Creditors that have approved such resolution (the "**Approving Financial Creditors**") to purchase its outstanding claims against the Failing Company by notifying the main creditor bank of the type and number of claims. The Approving Financial Creditors shall purchase such claims within six months from the last day of such request period.

The purchase price and terms of such purchase shall be determined by mutual agreement of the Approving Financial Creditors and the Opposing Financial Creditor. The purchase price paid for claims held by the Opposing Financial Creditor shall not be less than the amount that may be recovered by the Opposing Financial Creditor through liquidation of the Failing Company.

The Act on the Structural Improvement of the Financial Industry

The ASIF provides regulations regarding the improvement of insolvent financial institutions. According to the ASIF, where any financial institution's financial status does not meet certain standards such as its capital adequacy ratio or any financial institution's financial status falls below certain standards due to the occurrence of a major financial scandal or accrual of non-performing loans, the FSC, in order to protect the financial institution from becoming insolvent and help the financial institution manage its business soundly, may recommend, request or order the financial institution concerned or the officers of such financial institution to implement the following measures or order them to furnish its implementation plan, including but not limited to:

(a) admonitions or warnings with respect to the financial institution or its officers;

(b) capital increase or capital deduction, disposal of property holdings or reduction in the number of its branches and downsizing;

(c) ban on the acquisition of such assets as claims with high risks of default or assets prone to price fluctuations, or restrictions on the receiving of deposits at exorbitantly high interest rates;

(d) suspension of officers' duties or appointment of managers to act on behalf of officers;

(e) amortisation or consolidation of stocks;

(f) suspension of all or part of its business;

(g) merger with or assumption of a financial institution;

(h) business transfers or contract transfers pertaining to financial transactions such as deposits or loans (hereinafter referred to as "**contract transfers**"); and

(i) other measures equivalent to those listed in paragraphs (a) through (g) above, which are deemed necessary to improve any financial institution's financial soundness (collectively, "**timely corrective measures**").

In addition, managers may be appointed by the FSC pursuant to the ASIF in connection with any timely corrective measures requested by the FSC. Such managers may have the authority to make any decisions within the scope of authority of the officer of whom the managers act on behalf of. Such managers may also have the authority to manage and dispose of any assets and liabilities in connection with any decisions made by the FSC with respect to contract transfers.

When the FSC intends "timely corrective measures" to be taken, it shall in advance determine and notify the standards and contents of such measures.

Among the timely corrective measures, certain measures, such as suspension of all business, transfer of all business, transfer of all contracts or orders on amortisation of the total stocks and any equivalent measures, may only be taken if (i) the financial institution is insolvent or (ii) its financial status falls considerably short of certain standards and is deemed to pose a clear credit risk or to clearly prejudice the rights and interests of depositors. In addition, the ASIF also stipulates measures to be taken by the Government to support insolvent institutions and financial institutions merging with the insolvent financial institutions.

According to the ASIF, the FSC, where any financial institution fails to execute any request or order regarding timely corrective measures, may, on the recommendation of the Governor of the FSS, order the officers of the financial institution concerned to suspend the execution of their business and may appoint managers to conduct the business on behalf of such officers. In cases where:

(a) an insolvent financial institution fails to execute an order regarding timely corrective measures or is unable to execute such order;

(b) the merger of an insolvent financial institution under an order or arrangement given and made under the provisions of the ASIF fails to complete;

(c) where an insolvent financial institution is deemed incapable of either complying with orders or merging with or being acquired by another entity under the provisions of the ASIF due to its liabilities clearly exceeding its assets; or

(d) an insolvent financial institution prejudices depositors' rights and interests and becomes a credit risk after it has been unable to pay claims including deposits and repay borrowings due to its poor financial standing,

the FSC may take necessary measures, such as a decision for the transfer of contracts, suspension of business for a certain period against the insolvent financial institution, and cancellation of the authorisation or permission of its business.

Where financial institutions have their authorisation or permission to carry on business cancelled pursuant to the above, they shall be dissolved. If a decision for the transfer of contracts mentioned above is made, the rights and duties of the insolvent financial institution under the contracts which are subject to transfer shall be transferred to the financial institution which takes over those contracts (hereafter referred to as the "**undertaking financial institution**") at the time when such decision is made. In relation to this, the insolvent financial institution and the undertaking financial institution shall announce the transfer of the contracts in two or more daily newspapers. When the announcement is made, the legal relations of creditors, debtors, pledgors or other interested persons to the insolvent financial institution shall remain the same with the undertaking financial institution.

The FSC, where any financial institution is dissolved or becomes bankrupt, may, notwithstanding the provisions of the Korean Commercial Code and the DRBA, recommend a liquidator or a receiver to be appointed from among financial experts and officers or employees of the KDIC. In addition, when the FSC knows that the total amount of debt of a financial institution exceeds the total amount of its assets, it may make an application for declaration of bankruptcy.

Under the ASIF which was amended on December 29, 2020 and took effect from June 30, 2021, the FSC may temporarily suspend the termination or liquidation by the counterparty of the eligible financial transaction (as defined under the DRBA, and including the financial derivative transaction such as forward deliveries, options, and swaps the underlying assets of which are the prices or interest rates such as currencies, securities, equity interests, commodities, credit risk, energy, weather conditions, freights, frequencies, environment, etc., or any indexes or indicators based on such prices or interest rates) entered into between the domestic systemically important financial institution and such counterparty on the ground of occurrence of any of the following measures for the period from the day on which the FSC's decision on temporary suspension becomes effective to the end of the following business day:

(a) designation of such domestic systemically important financial institution as an insolvent financial institution under the ASIF;

(b) designation of such domestic systemically important financial institution as an insolvent financial company under the Depositor Protection Act;

(c) issuance of the timely corrective measures against such domestic systemically important financial institution; or

(d) other measures equivalent to those provided in items (a) to (c),

The FSC's temporary suspension takes effect when it makes a decision to such effect. The counterparty to the eligible financial transaction cannot terminate or liquidate such eligible financial transaction on the ground of any measure mentioned in the preceding paragraph even if the temporary suspension period expires if such eligible financial transaction falls within any of the following cases:

(a) the case where such eligible financial transaction remains outstanding in such domestic systemically important financial institution the capital of which has been increased through the capital injection by the Government and/or the KDIC under the ASIF; or

(b) the case where such eligible financial transaction is transferred to the undertaking financial institution in accordance with the FSC's decision for the transfer of contracts under the ASIF.

General Laws Relating to the Mortgage Loan Business

There is no specific legislation in Korea for regulating mortgage loan businesses other than basic private laws, including, among others, the Civil Code, the Civil Enforcement Act, and the Registration of Real Estate Act. Financial institutions carrying on mortgage loan businesses, however, are subject to specific laws that regulate such financial institutions, such as the Banking Act, the Specialized Credit Finance Business Act and the Insurance Business Act. Commercial banks, credit specialised finance companies and insurance companies must comply with the relevant laws and regulations in originating and servicing mortgaged loans and are regulated by the FSC under such laws.

Keun-Mortgages

The most frequently used form of loan security for residential property in Korea is the *Keun*-mortgage, which differs from a more traditional mortgage. With more traditional mortgages, a mortgagee's rights are automatically extinguished upon satisfaction of the underlying debt, whereas with a *Keun*-mortgage, the mortgagee's rights are not automatically extinguished upon satisfaction of the underlying debt. Instead, a mortgagee's rights are extinguished when the term of the *Keun*-mortgage agreement expires or if terminated earlier by the parties. Furthermore, the amount of the secured claim may be increased or decreased within the maximum amount as agreed upon by the mortgagee and the borrower of the secured claim (which is duly registered in the relevant real estate registry) during the term of the *Keun*-mortgage agreement. Since the mortgage rights and obligations are not automatically extinguished, the contracting parties are not required to enter into and record separate mortgage agreements each time a subsequent loan is made.

Keun-mortgages can be enforced in the same manner as various other real estate rights, including enforcement through petition for auction and entitlement to distribution in accordance with recorded priorities.

Korea is a "race" jurisdiction that assigns claim priority in chronological order according to the date of the registration of the mortgages and other security interests. Statutory liens are exceptions to this rule and may rank senior to prior recorded mortgages and other security interests.

Fixing of Keun-mortgage

Unless otherwise agreed in the relevant agreement, in general, the approval or consent from the borrower is not required for the transfer of a mortgage. In cases where the mortgage is a *Keun*-mortgage, however, the secured claims must be fixed prior to the transfer of such mortgage. If the secured claims are not fixed, consent from the borrower in order to fix the secured claims is required.

However, the Korean Covered Bond Laws provide that if an underlying asset in the Cover Pool is a claim secured by *Keun*-mortgage and such claim is being disposed of in accordance with the Korean Covered Bond Laws, the *Keun*-mortgage may be transferred together with the secured claim prior to the fixing of the principal of such claim secured by the *Keun*-mortgage.

General Description of Judicial Auction Laws in Korea *General*

A mortgagee of record, a creditor in possession of a validly notarized promissory note or a judgment creditor may apply for a court auction of real estate. All foreclosures of real estate based on general claims or mortgage loans must be carried out through a judicial auction. Nevertheless, financial institutions generally use mortgage agreements which provide that, if a mortgagor consents, creditors may dispose of the mortgaged property by any method that is reasonable and customary, with the proceeds of such disposition being applied to satisfy its secured obligations. The procedures for auction are governed by the Civil Enforcement Act.

Requirements for Exercising Remedies

The Gyongmae Shinchung, or petition for auction, must be filed with the relevant court having jurisdiction over the district in which the real estate is located. The petition for auction must set forth supporting facts and grounds for requesting an auction, and must be accompanied by various documents including a copy of the mortgage agreement, a certified copy of the court register relevant to the subject property and a registration tax payment certificate.

The court will order an appraisal to determine the value of the real estate. Fees and expenses incurred in connection with an auction generally amount to between 2 and 3% of the real estate's appraised value. In addition, a registration tax of 0.2% of the claim amount and a local educational surtax of 20% of the registration tax must be paid to the relevant municipal office. This registration tax is separate and distinct from the registration tax imposed on the transfer of title to the property.

Procedures for Auction

Once a petition for auction has been filed, the court will examine the petition and the supporting documents and will issue its order to commence the auction (usually within two to three days of the petition). Typically within seven days, the court order for auction is then entered in the *Deungki-Bu* (real estate registry) of the subject property.

The first auction date is generally set approximately five to six months from the date of petition filing. In the absence of any objection filed by the mortgagor or any other interested party, the auction will take place on the date set by the court. On the day of the auction, bidders must deposit 10% of the minimum price set by the court with the court unless the court decides otherwise. Distribution of auction proceeds will take place approximately 70 to 80 days after the auction date. However, it is not common that the property is sold at the first auction, thus necessitating subsequent auctions. A subsequent auction date is set for a date approximately one month following the first auction date. Each time an auction closes without a successful bid, the minimum price is lowered by 20 to 30%.

There are no restrictions preventing the mortgagee of a property to be auctioned from bidding in the auction for such property. A mortgagee may decide to purchase such property if the minimum auction price falls below a certain level. If a mortgagee is selected as the successful bidder, then such mortgagee may off-set its claim amount against its bidding price. However, the mortgagee purchaser must still pay in cash the amount sufficient to cover the senior claims and statutory liens having priority over its claim.

Priority of Distribution

Although priority among mortgages is determined by chronological order of their registration with the court, certain statutory liens and expenses (arising by operation of law) are given priority over registered mortgages. The statutory liens and expenses that have priority over mortgage claims which are registered prior to the due date of tax claims on the auctioned real estate are as follows (listed in the order of priority):

1. Auction expenses;

2. Refunds of Super-Priority Right for Small Leases up to the statutory limit on residential properties (see " — *Key Money Deposit Protection*" below); back wages of the mortgagor's employees for the last three months of employment, severance payments accrued within the last three years and accident compensation allowances under the Labor Standards Act;

3. Certain national taxes and additional dues thereon (e.g., inheritance tax, gift tax and asset revaluation tax) and local taxes and additional dues thereon (e.g., property tax, aggregate real estate tax, city planning tax and common facility tax) directly connected with the auctioned real estate; and

4. Mortgage claims and *jeonse-kwon* claims registered prior to the due date of tax claims/refund of key money deposit having Priority Rights for residential properties (see " — *Key Money Deposit Protection*" below).

For mortgage claims registered after the due date of tax claims on the auctioned real estate, other national and local taxes (lower in priority than those identified in paragraph 3 above) would have priority over the mortgage claims.

With respect to the priority among the mortgage claim, a *jeonse-kwon* claim and the refund of the key money deposit, priority is determined by chronological order of their registration with the court (in the case of a mortgage claim and a *jeonse-kwon* claim) or satisfaction of all the requirements as specified in " — *Rights of Tenants of Residential Leases — Priority Right*" below (in the case of refund of the key money deposit) (see " — *Key Money Deposit Protection*" below for more detail).

Key Money Deposit Protection

It is common practice in Korea for tenants to pay a lump sum deposit, known as a "key money deposit," to be held by a landlord until the expiration of a lease. During the lease term, the tenant is not required to make monthly rental payment. Instead, the landlord is free to invest the key money deposit and keep the proceeds thereof in lieu of such monthly rental payment. Upon the termination or expiration of the lease, the landlord is required to return the key money deposit to the tenant without any interest thereon.

Jeonse-kwon

A *jeonse-kwon* is a type of mortgage granted by a lessor to a lessee as security for the repayment of a lessee's key money deposit and also allows the lessee to occupy the leased premises until the later of the date on which (i) the lease term expires or (ii) the lessor returns the key money deposit to the lessee. A *jeonse-kwon* must be registered with the court. Upon such registration, the lessee with the *jeonse-kwon* is afforded similar protections as a mortgagor and can initiate foreclosure proceedings against the lessor/debtor upon the expiration or termination of the lease. Typically, a *jeonse-kwon* is granted on the building and not on the land. With respect to priority between a mortgage claim and a *jeonse-kwon* claim, priority is determined by chronological order of their registration with the court.

Rights of Tenants of Residential Leases

Under the Residential Tenant Protection Act, there are three levels of protection that are afforded to tenants of residential leases (even if they are not registered with the real estate registry) for their key money deposits: the Super-Priority Rights for Small Leases, the priority right (the "**Priority Right**") and the holdover right (the "**Holdover Right**").

Super-Priority Right for Small Leases

In order to secure a Super-Priority Right for Small Leases, the tenant must take possession of the relevant property ("**Occupancy Requirement**") and file his relocation to the property with the local government office

("**Move-in Report Requirement**"). In addition, the key money deposits must be equal to or less than the following amounts (depending on where the property is located): (a) ₩165 million for Seoul, (b) ₩145 million for "concentration control region" (as defined in Seoul Metropolitan Area Readjustment Planning Act but other than Seoul), Sejong Metropolitan Autonomous City, Yongin, Hwaseong and Gimpo, (c) ₩85 million for other metropolitan areas (such as Busan, Daegu etc.) Ansan, Gwangju, Paju, Ichoen and Pyeongtaek and (d) ₩75 million for other areas. The tenants satisfying the above requirements have super-priority rights in terms of refund of key money deposits over all mortgages and other security interests on the property for the following amounts out of the total amount of the key money deposit: (a) ₩55 million for Seoul, (b) ₩48 million for "concentration control region" (other than Seoul), Sejong Metropolitan Autonomous City, Yongin, Hwaseong and Gimpo, (c) ₩28 million for other metropolitan areas (such as Busan, Daegu etc.), Ansan, Gwangju, Paju, Icheon and Pyeongtaek, and (d) ₩25 million for other areas; provided that such amounts do not exceed one-half of the sale or auction price of the relevant property.

Priority Right

The requirements for a Priority Right are the Occupancy Requirement and Move-in Report Requirement, plus an additional requirement that the lease document be fixed date-stamped by a notary public, post office, or other government office. Upon the perfection of the Priority Right, the tenant has priority in terms of the refund of the entire key money deposit over all mortgages that are registered after the date on which all of the requirements are satisfied.

Holdover Right

The requirements for a Holdover Right are the Occupancy Requirement and the Move-in Report Requirement. Upon the perfection of the Holdover Right, the tenant has the following rights: (i) if there are no other mortgages perfected ahead of the tenant's rights at the time of auction sale, then the tenant is deemed to have a Holdover Right, in which case the acquirer of the relevant property pursuant to an auction must assume all of the terms and conditions of the lease, including the key money deposits unless the acquirer chooses to terminate the lease and refund the entire amount of the key money deposit; and (ii) if there is any mortgage perfected ahead of the tenant's rights, then the tenant is not deemed to have Holdover Right, in which case the acquirer of the relevant property pursuant to an auction need not assume any of the terms and conditions of the lease, including the key money deposits.

Generally, if a tenant has a Holdover Right, the acquirer of the relevant property will reduce the purchase price by the amount of the Holdover Right which it is obliged to assume. If a tenant refuses to vacate the premises, the acquirer may take the following actions to evict the tenant.

Within six months after the acquirer has paid the purchase price for the property, the acquirer may obtain an eviction order from the court that handled the auction process to evict the tenant. If the tenant refuses to vacate the premises, the tenant may be forcibly removed by court appointed persons. Following the six-month period, the acquirer has to initiate an eviction proceeding, which is separate from the auction proceeding and handled by a different court. In such case, it can take from six months to one year to obtain a court order to evict the tenant. As such, it is more efficient and less time consuming for the acquirer to obtain the eviction order during the six-month period following the payment of the purchase price. Moreover, the acquirer may seek an injunction to enjoin the tenant from transferring the lease to a third party.

Objections

An interested party, including the mortgagor, may file an objection to an auction at any time prior to a successful bidder paying the balance of its bid amount. Such parties may also file an objection to the declaration of the successful bidder within one week of such declaration. Objections can be made based on either procedural (e.g., irregularities or defects in the auction procedure) or substantive (e.g., defects in the title of the property or the underlying obligation) grounds. An objecting party may apply for an injunction (to delay the auction) by filing an action challenging the validity of the mortgagee's underlying claim and posting a bond that is usually equivalent to all or substantial part of the amount claimed by the mortgage in the auction petition.

Enforcement of English Judgments in Korea

A judgment duly obtained in the courts of England will be recognised by the Korean courts without re-examination of the merits of the case if:

(1) such judgment was finally and conclusively given by a court having valid jurisdiction in accordance with international jurisdiction principles under Korean law and applicable treaties;

(2) the Issuer was duly served with a service of process, other than by publication or similar means, in sufficient time to enable the Issuer to prepare its defence in conformity with applicable laws or respond to the action without being served with process;

(3) in view of the substance of such judgment and the procedures of litigation, such judgment is not contrary to the public policy of Korea; and

(4) judgments of the courts of Korea are accorded reciprocal treatment in England or (ii) the requirements for the recognition of a foreign judgment in England are neither manifestly inequitable nor substantially different in material respects from the requirements for recognition of a foreign judgment in Korea

TAXATION

Korea

The information provided below does not purport to be a complete summary of Korean tax law and practice currently applicable. Prospective investors who are in any doubt as to their tax position should consult with their own professional advisers.

The taxation of non-resident individuals and non-Korean corporations ("**Non-Residents**") generally depends on whether they have a "Permanent Establishment" (as defined under Korean law and applicable tax treaty) in Korea to which the relevant Korean-sourced income is attributable or with which such relevant Korean-sourced income is effectively connected. Non-Residents without such a Permanent Establishment in Korea are taxed in the manner described below. Non-Residents with such Permanent Establishment are taxed in accordance with different rules.

Income Tax and Corporation Tax on Interest

Interest on the Covered Bonds paid to Non-Residents (excluding payments to their Permanent Establishment in Korea) is exempt from income tax and corporation tax (whether payable by withholding or otherwise) pursuant to the Special Tax Treatment Control Law (the "**STTCL**"), so far as the Covered Bonds fall within "foreign currency denominated bonds" under the STTCL and the issuance of the Covered Bonds is deemed to be an overseas issuance under the STTCL. The term "foreign currency denominated bonds" in this context is not defined under the STTCL. In this regard, the Korean tax authority issued a ruling on 1 September 1990 to the effect that "Notes Issuance Facility, USCP, Euro CP and Banker's Acceptance, etc." are not treated as "foreign currency denominated bonds."

If not exempt under the STTCL, the rate of income tax or corporation tax applicable to interest or any premium paid on the Covered Bonds, for a Non-Resident without a Permanent Establishment in Korea, is currently 14.0%. In addition, a tax surcharge called a local income tax is imposed at the rate of 10.0% of the income tax or corporation tax (raising the total tax rate to 15.4%).

The tax is withheld by the payer of the interest or, where the transfer takes place before interest payment is made, by the purchaser of the instrument, or a designated withholding agent of such payer or purchaser.

The tax rates may be reduced or exempted by an applicable tax treaty, convention or agreement between Korea and the country of the recipient of the interest. The relevant tax treaties are discussed below.

Capital Gains Tax

The Korean tax laws currently exclude from Korean taxation gains made by a Non-Resident without a Permanent Establishment in Korea from the sale of the Covered Bonds to a Non-Resident (other than to its Permanent Establishment in Korea). In addition, capital gains earned by a Non-Resident with or without a Permanent Establishment from the transfer outside Korea of the Covered Bonds are currently exempt from taxation by virtue of the STTCL, provided that the Covered Bonds are foreign currency denominated bonds and the issuance of the Covered Bonds is deemed to be an overseas issuance.

In the absence of an applicable tax treaty or any other special tax laws eliminating capital gains tax, the applicable rate of tax is the lower of 11.0% (including local income tax) of the gross realisation proceeds (the

"**Gross Realization Proceeds**") or (subject to the production of satisfactory evidence of the acquisition cost and certain direct transaction costs of the relevant Covered Bonds) 22.0% (including local income tax) of the realised gain made. The realised gain is calculated as the Gross Realization Proceeds less the acquisition cost and certain direct transaction costs. If such evidence shows that no gain (or a loss) was made on the sale, no Korean tax would be payable. There is no provision under the relevant Korean law for offsetting gains and losses or otherwise aggregating transactions for the purpose of computing the net gain attributable to sales of securities issued by Korean companies.

The purchaser or any other designated withholding agent of Covered Bonds is obliged under Korean law to withhold the applicable amount of Korean tax and make payment thereof to the relevant Korean tax authority. Unless the seller can claim the benefit of an exemption from the tax under an applicable tax treaty or in the absence of the seller producing satisfactory evidence of his acquisition cost and certain direct transaction costs in relation to the Covered Bonds being sold, the purchaser or such withholding agent must withhold an amount equal to 11.0% (including local income tax) of the Gross Realization Proceeds. Any amounts withheld by the purchaser or such withholding agent must be paid to the relevant Korean tax authority no later than the tenth day of the month following the month in which the payment for the purchase of the relevant Covered Bonds occurred. Failure to transmit the withheld tax to the Korean tax authorities in time technically subjects the purchaser or the withholding agent to penalties under Korean tax laws and a Non-Resident who is liable for payment of any Korean tax on gains, as a purchaser or the withholding agent who is obliged to withhold such tax, is subject to the Korean tax authorities seeking enforcement through attachment of, or other legal proceedings against, payments due to it from its Korean investments and to enforcement against the assets or revenues of any of the Non-Resident's branch or representative offices in Korea.

Inheritance Tax and Gift Tax

Korean inheritance tax is imposed upon (a) all assets (wherever located) of the deceased if at the time of his death he was domiciled in Korea or resided in Korea for at least 183 days immediately prior to his death and (b) all property located in Korea which passes on death (irrespective of the domicile or residence of the deceased). Gift tax is imposed in similar circumstances to the above. The taxes are imposed if the value of the relevant property is above a certain limit and vary from 10% to 50% depending on the value of the relevant property and the identity of the parties involved.

Under Korean inheritance and gift tax laws, notes issued by Korean corporations are deemed located in Korea irrespective of where they are physically located or by whom they are held.

At present, Korea has not entered into any tax treaties regarding its inheritance tax or gift tax.

Stamp Duty and Securities Transaction Tax

No stamp, issue or registration duties will be payable in Korea by the Covered Bondholders in connection with the issue of the Covered Bonds except for nominal amount of stamp duty on certain documents executed in Korea. A securities transaction tax will not be imposed on the transfer of the Covered Bonds.

Tax Treaties

At the date of this offering circular, Korea has tax treaties with, *inter alios*, Australia, Austria, Belgium, Canada, Denmark, Finland, France, Germany, Ireland, Republic of Italy ("**Italy**"), Japan, Luxembourg, the Netherlands, New Zealand, Norway, Singapore, Sweden, Switzerland, the United Kingdom and the United States of America, under which the rate of withholding tax on interest is reduced, generally to between 5% and 15% (including local income tax), and the tax on capital gains is often eliminated.

Each Covered Bondholder should enquire for itself whether it is entitled to the benefit of a tax treaty with respect to this transaction. It is the responsibility of the party claiming the benefits of a tax treaty in respect of interest payments to file with the Issuer, the purchaser or the withholding agent, as applicable, a certificate as to its residence. In the absence of sufficient proof, the Issuer, the purchaser or the withholding agent, as applicable, must undertake to withhold taxes in accordance with the above discussion.

In order to claim the benefit of a tax rate reduction or tax exemption available under the applicable tax treaties, a Non-Resident holder must submit to the payer of such Korean-sourced income an application (for reduced withholding tax rate, "application for entitlement to reduced tax rate" and in the case of exemption from withholding tax, "application for exemption" under a tax treaty along with the documents proving the beneficial owner of such Korean source income including a certificate of the non-resident holder's tax residence issued by a competent authority of the Non-Resident holder's residence country) as the beneficial owner ("**BO Application**"), provided that if such tax exemption is being sought to be applied to an amount that is Won 1 billion or more (including where the aggregate amount exempted within one year from the last day of the month in which the payment was made, is Won 1 billion or more), in addition to the certificate of tax residence issued by a competent authority of the Non-Resident holder's residence country, it will also be required to submit the names and addresses of all of the members of board of directors, the identities and shareholding percentages of all of shareholders (provided that if there are more than 100 shareholders, the Non-Resident holder may instead provide a statement showing the total number of shareholders and aggregate investment amount from each country), and audit reports for the most recent three years submitted to the country of residence (or, if the entity has been in existence for less than three years, audit reports since incorporation). Such application should be submitted to the withholding agent prior to the payment date of the relevant income. Subject to certain exceptions, where the relevant income is paid to an overseas investment vehicle (which is not the beneficial owner of such income) ("**OIV**"), a beneficial owner claiming the benefit of an applicable tax treaty with respect to such income must submit its BO Application to such OIV, which must submit an OIV report and a schedule of beneficial owners (together with the applicable BO Application and the documents evidencing beneficial ownership) to the withholding agent prior to the payment date of such income. In the case of an application for tax exemption, the withholding agent is required to submit such application (together with the applicable OIV report in the case of income paid to an OIV) to the relevant district tax office by the ninth day of the month following the date of the payment of such income. If there is no change in the contents of such application or OIV report, it is not required to submit such application or OIV report again within three years thereafter. Effective from January 1, 2022, an OIV is deemed to be a beneficial owner of Korean-sourced income for income tax purposes, if (i) the OIV is liable to tax in its country of residence under the applicable tax treaty and qualifies for a tax exemption or reduced tax rate under the tax treaty on the Korean-sourced income; or (ii) the OIV is stipulated as the substantive (beneficial) owner under the relevant tax treaty and qualifies for a tax exemption or reduced tax rate under the tax treaty on the Korean-sourced income. The benefits under a tax treaty between Korea and the country of such OIV's residence will apply with respect to the relevant income paid to such OIV, subject to certain application requirements as prescribed by the Corporate Income Tax or Individual Income Tax Law. However, this requirement does not apply to exemptions under Korean tax law.

United States Federal Income Taxation

The following discussion is a summary of certain United States federal income tax consequences of the purchase, ownership and disposition of Registered Covered Bonds.

The discussion set forth below is applicable only to United States Holders (as defined below) (i) who are residents of the United States for purposes of the current income tax treaty between the United States and Korea (the "**Treaty**"); (ii) whose Registered Covered Bonds are not, for purposes of the Treaty, attributable to a permanent establishment in Korea; and (iii) who otherwise qualify for the full benefits of the Treaty.

This summary deals only with Registered Covered Bonds held as capital assets (within the meaning of Section 1221 of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**")). Furthermore, this summary does not represent a detailed description of the United States federal income tax consequences applicable to you if you are subject to special treatment under the United States federal income tax laws, including if you are:

- a dealer or broker in securities or currencies;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- a tax-exempt entity;
- an insurance company;
- a person holding the Registered Covered Bonds as part of a hedging, integrated, conversion or constructive sale transaction or a straddle;
- a trader in securities that has elected the mark-to-market method of accounting for your securities;
- a person liable for alternative minimum tax;
- a partnership or other pass-through entity (or an investor in such an entity);
- a person whose "functional currency" is not the U.S. dollar;
- a person required to accelerate the recognition of any item of gross income with respect to the Registered Covered Bonds as a result of such income being recognized on an applicable financial statement; or
- a United States expatriate.

As used herein, a "**United States Holder**" means a beneficial owner of a Registered Covered Bond that is for United States federal income tax purposes:

- an individual who is a citizen or resident of the United States;
- a corporation (or any other entity treated as a corporation for United States federal income tax purposes) created or organized in or under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to United States federal income taxation regardless of its source; or
- a trust if it (1) is subject to the primary supervision of a court within the United States and one or more United States persons have the authority to control all substantial decisions of the trust or (2) has a valid election in effect under applicable United States Treasury regulations to be treated as a United States person.

This summary is based upon provisions of the Code, final, temporary and proposed United States Treasury regulations, administrative rulings, judicial decisions and the Treaty, all as of the date hereof. Those authorities may be changed, perhaps retroactively, so as to result in United States federal income tax consequences different from those summarized below. In addition, the Bank has not sought any rulings from the Internal Revenue Service ("**IRS**") regarding the matters discussed below, and there can be no assurance that the IRS will not take positions concerning the tax consequences of the purchase, ownership or disposition of the Registered Covered Bonds that are different from those discussed below.

This summary does not address Registered Covered Bonds with an Extended Maturity Date, Registered Covered Bonds with a maturity of greater than 30 years, Registered Covered Bonds that by their terms may be retired for an amount less than their principal amount, Fixed/Floating Rate Covered Bonds and any other Registered Covered Bonds subject to special rules. The tax treatment of any such Registered Covered Bonds will generally be specified in the applicable Pricing Supplement. In addition, this summary does not address Bearer Covered Bonds. In general, United States federal income tax law imposes significant limitations on United States persons that invest in Bearer Covered Bonds. You should consult your tax advisors regarding the restrictions and penalties imposed under United States federal income tax law with respect to Bearer Covered Bonds and any other tax consequences with respect to the purchase, ownership and disposition of any of the Registered Covered Bonds mentioned above.

The discussion below assumes that all Registered Covered Bonds issued pursuant to this offering circular will be classified for United States federal income tax purposes as the Bank's indebtedness and you should note that in the event of an alternative characterization, the tax consequences to you would differ, possibly materially, from those discussed below. The Bank will summarize any special United States federal tax considerations relevant to a particular issue of the Registered Covered Bonds in the applicable Pricing Supplement.

In addition, the following discussion assumes that the Bank will not be acting through a branch other than its office in Korea. If the Bank acts through a branch in the United States with respect to a particular issuance of Registered Covered Bonds, the United States federal income tax consequences of holding such Registered Covered Bonds will be discussed in the applicable Pricing Supplement.

If a partnership (or other pass-through entity for United States federal income tax purposes) holds Registered Covered Bonds, the tax treatment of a partner in the partnership (or an owner of an interest in the pass-through entity) will generally depend upon the status of the partner (or owner) and the activities of the partnership (or other pass-through entity). If you are a partner in a partnership (or an owner of an interest in any other pass-through entity) holding Registered Covered Bonds, you should consult your tax advisors.

This summary does not represent a detailed description of the United States federal income tax consequences to you in light of your particular circumstances and does not address the Medicare contribution tax on net investment income, United States federal estate and gift taxes or the effects of any state, local or non-United States tax laws. **If you are considering the purchase of Registered Covered Bonds, you should consult your own tax advisors concerning the particular United States federal income tax consequences to you of the purchase, ownership and disposition of the Registered Covered Bonds, as well as the consequences to you arising under other United States federal tax laws and the laws of any other taxing jurisdiction.**

Payments of Interest

Except as set forth below, interest on a Registered Covered Bond (including any Korean tax withheld and additional amounts paid in respect thereof) will generally be taxable to you as ordinary income at the time it is paid or accrued, in accordance with your regular method of accounting for United States federal income tax purposes.

Subject to certain conditions and limitations (including a minimum holding period requirement), Korean withholding taxes on interest may be treated as foreign taxes eligible for credit against your United States federal income tax liability. However, Korean taxes withheld in excess of the rate allowed by the Treaty will not be eligible for credit against your United States federal income tax liability. For purposes of calculating the foreign tax credit, interest income (including any additional amounts) and any OID (as defined below) on a Registered Covered Bond will be treated as foreign source income and will generally constitute "passive category income." However, Treasury regulations addressing foreign tax credits impose additional requirements for foreign taxes to be eligible for a foreign tax credit, and there can be no assurance that those requirements will be satisfied. A recent notice from the IRS indicates that the IRS is considering proposing amendments to these regulations and also allows taxpayers to defer the application of many aspects of these regulations for taxable years ending on or before December 31, 2023. Instead of claiming a foreign tax credit, you may be able to deduct Korean withholding taxes on interest in computing your taxable income, subject to generally applicable limitations under United States law (including that a United States Holder is not eligible for a deduction for otherwise creditable foreign income taxes paid or accrued in a taxable year if such United States Holder claims a foreign tax credit for any foreign income taxes paid or accrued in the same taxable year). The rules governing the foreign tax credit and deductions for foreign taxes are complex. You are urged to consult your own tax advisors regarding the availability of the foreign tax credit or a deduction under your particular circumstances.

Original Issue Discount

If you own Registered Covered Bonds (other than short-term Covered Bonds, as defined below under "—Short-Term Covered Bonds") issued with original issue discount ("**OID**", and such Registered Covered Bonds, **"original issue discount Covered Bonds"**), you will be subject to special tax accounting rules, as described in greater detail below. In that case, you should be aware that you generally must include OID in gross income (as ordinary income) as it accrues (on a constant yield to maturity basis) in advance of the receipt of the cash payment thereof and regardless of your regular method of accounting for United States federal income tax purposes. However, you generally will not be required to include separately in income cash payments received on the Registered Covered Bonds, even if denominated as interest, to the extent those payments do not constitute "qualified stated interest," as defined below. Notice will be given in the applicable Pricing Supplement when the Bank determines that a particular Registered Covered Bond will be issued with OID.

Additional rules applicable to Registered Covered Bonds that are denominated in or determined by reference to a single currency other than the U.S. dollar ("**foreign currency Covered Bonds**") and that are issued with OID are described under " *—Foreign Currency Covered Bonds*" below.

A Registered Covered Bond with an "issue price" that is less than its stated redemption price at maturity (the sum of all payments to be made on the Registered Covered Bond other than "qualified stated interest") generally will be treated as issued with OID in an amount equal to that difference, unless that difference is less than a de minimis amount equal to 0.25% of the stated redemption price at maturity multiplied by the number of complete years to maturity in which case the Registered Covered Bond will not be treated as issued with OID. The "**issue price**" of each Registered Covered Bond in a particular offering will be the first price at which a substantial amount of that particular offering is sold to the public for money (excluding sales to bond houses, brokers or similar persons or organizations acting in the capacity of underwriter, placement agent or wholesaler). The term "**qualified stated interest**" means stated interest that is unconditionally payable in cash or in property, other than debt instruments of the Bank, and meets all of the following conditions:

- it is payable at least once per year;

- it is payable over the entire term of the Registered Covered Bond; and

- it is payable at a single fixed rate or, subject to certain conditions, a rate based on one or more interest indices.

The Bank will give you notice in the applicable Pricing Supplement when it determines that a particular Registered Covered Bond will bear interest that is not qualified stated interest.

If you own a Registered Covered Bond issued with de minimis OID, which is discount that is not treated as OID because it is less than 0.25% of the stated redemption price at maturity multiplied by the number of complete years to maturity, you generally must include the de minimis OID in income at the time principal payments on the Registered Covered Bond are made in proportion to the amount paid. Any amount of de minimis OID that you have included in income will be treated as capital gain.

Certain of the Registered Covered Bonds may contain provisions permitting them to be redeemed prior to their stated maturity date at the Bank's option and/or at your option. Original issue discount Covered Bonds containing those features may be subject to rules that differ from the general rules discussed herein. If you are considering the purchase of original issue discount Covered Bonds with those features, you should carefully examine the applicable Pricing Supplement and should consult your own tax advisors with respect to those features since the tax consequences to you with respect to OID will depend, in part, on the particular terms and features of the Registered Covered Bonds.

The amount of OID that you must include in income if you are the initial holder of an original issue discount Covered Bond is the sum of the "daily portions" of OID with respect to the Covered Bond for each day during the taxable year or portion of the taxable year in which you held that Covered Bond ("**accrued OID**"). The daily portion is determined by allocating to each day in any "accrual period" a pro rata portion of the OID allocable to that accrual period. The "accrual period" for an original issue discount Covered Bond may be of any length and may vary in length over the term of the Covered Bond, *provided that* each accrual period is no longer than one year and each scheduled payment of principal or interest occurs on the first day or the final day of an accrual period. The amount of OID allocable to any accrual period other than the final accrual period is an amount equal to the excess, if any, of:

- the original issue discount Covered Bond's "adjusted issue price" at the beginning of the accrual period multiplied by its yield to maturity, determined on the basis of compounding at the close of each accrual period and properly adjusted for the length of the accrual period, over

- the aggregate of all qualified stated interest allocable to the accrual period.

OID allocable to a final accrual period is the difference between the amount payable at maturity, other than a payment of qualified stated interest, and the adjusted issue price at the beginning of the final accrual period. Special rules will apply for calculating OID for an initial short accrual period. The **"adjusted issue price"** of an original issue discount Covered Bond at the beginning of any accrual period is equal to its issue price increased by the accrued OID for each prior accrual period, determined without regard to the amortization of any acquisition or bond premium, as described below, and reduced by any payments previously made on the Covered Bond other than qualified stated interest. Under these rules, you will generally have to include in income increasingly greater amounts of OID in successive accrual periods.

Floating Rate Covered Bonds are subject to special OID rules. In the case of an original issue discount Covered Bond that is a Floating Rate Covered Bond, both the "yield to maturity" and "qualified stated interest" will be determined solely for purposes of calculating the accrual of OID as though the Covered Bond will bear interest in all periods at a fixed rate generally equal to the rate that would be applicable to interest payments on the Covered Bond on its date of issue or, in the case of certain Floating Rate Covered Bond, the rate that reflects the yield to maturity that is reasonably expected for the Covered Bond. Additional rules may apply if either:

- the interest on a Floating Rate Covered Bond is based on more than one interest index; or

- the principal amount of the Covered Bond is indexed in any manner.

The discussion above generally does not address Registered Covered Bonds providing for contingent payments. You should carefully examine the applicable Pricing Supplement regarding the United States federal income tax consequences of the purchase, ownership and disposition of any Registered Covered Bonds providing for contingent payments.

You may elect to treat all interest on any Registered Covered Bond as OID and calculate the amount includible in gross income under the constant yield method described above. For purposes of this election, interest includes stated interest, acquisition discount, OID, de minimis OID, market discount, de minimis market discount and unstated interest, as adjusted by any amortizable bond premium or acquisition premium. You should consult with your own tax advisors regarding this election.

Korean withholding taxes may be imposed at times that differ from the times at which you are required to include interest or OID in income for United States federal income tax purposes and this disparity may limit the amount of foreign tax credit available.

Short-Term Covered Bonds

In the case of Registered Covered Bonds having a term of one year or less (**"short-term Covered Bonds"**), all payments, including all stated interest, will be included in the stated redemption price at maturity and will not be qualified stated interest. As a result, you will generally be taxed on the discount instead of stated interest. The discount will be equal to the excess of the stated redemption price at maturity over the issue price of a short-term Covered Bond, unless you elect to compute this discount using tax basis instead of issue price. In general, individuals and certain other cash method United States Holders of short-term Covered Bonds are not required to include accrued discount in their income currently unless they elect to do so, but may be required to include stated interest in income as the income is received. United States Holders that report income for United States federal income tax purposes on the accrual method and certain other United States Holders are required to accrue discount on short-term Covered Bonds (as ordinary income) on a straight-line basis, unless an election is made to accrue the discount according to a constant yield method based on daily compounding. If you are not required, and do not elect, to include discount in income currently, any gain you realize on the sale, exchange, redemption, retirement or other taxable disposition of a short-term Covered Bond will generally be ordinary income to you to the extent of the discount accrued by you through the date of the sale, exchange, redemption, retirement or other taxable disposition. In addition, if you do not elect to currently include accrued discount in income, you may be required to defer deductions for a portion of your interest expense with respect to any indebtedness attributable to the short-term Covered Bonds.

Market Discount

If you purchase a Registered Covered Bond (other than a short-term Covered Bond) for an amount that is less than its stated redemption price at maturity (or, in the case of an original issue discount Covered Bond, its adjusted issue price), the amount of the difference will generally be treated as "market discount" for United States federal income tax purposes, unless that difference is less than a specified de minimis amount. Under the

market discount rules, you will be required to treat any principal payment on, or any gain on the sale, exchange, redemption, retirement or other taxable disposition of, a Registered Covered Bond as ordinary income to the extent of the market discount that you have not previously included in income and are treated as having accrued on the Registered Covered Bond at the time of the payment or disposition. Any amount treated as ordinary income pursuant to the market discount rules should be treated as foreign source income.
In addition, you may be required to defer, until the maturity of the Registered Covered Bond or its earlier disposition in a taxable transaction, the deduction of all or a portion of the interest expense on any indebtedness attributable to the Registered Covered Bond. You may elect, for any particular Registered Covered Bond, to deduct the deferred interest expense in a tax year prior to the year of disposition. You should consult your own tax advisors regarding this election.

Any market discount will be considered to accrue ratably during the period from the date of acquisition to the maturity date of the Registered Covered Bond, unless you elect to accrue on a constant interest method. You may elect to include market discount in income currently as it accrues, on either a ratable or constant interest method, in which case the rule described above regarding deferral of interest deductions will not apply. An election to accrue market discount on a current basis will apply to all debt instruments with market discount that you acquire on or after the first day of the first taxable year for which the election is made. This election may not be revoked without the consent of the IRS. You should consult your own tax advisors regarding this election.

Acquisition Premium, Amortizable Bond Premium

If you purchase an original issue discount Covered Bond for an amount that is greater than its adjusted issue price but equal to or less than the sum of all amounts payable on the Covered Bond after the purchase date other than payments of qualified stated interest, you will be considered to have purchased that Covered Bond at an "acquisition premium." Under the acquisition premium rules, the amount of OID that you must include in gross income with respect to the original issue discount Covered Bond for any taxable year will be reduced by the portion of the acquisition premium properly allocable to that year.

If you purchase a Registered Covered Bond (including an original issue discount Covered Bond) for an amount in excess of the sum of all amounts payable on the Covered Bond after the purchase date other than qualified stated interest, you will be considered to have purchased the Covered Bond at a "premium" and, if it is an original issue discount Covered Bond, you will not be required to include any OID in income. You generally may elect to amortize the premium over the remaining term of the Registered Covered Bond on a constant yield method as an offset to interest when includible in income under your regular accounting method. Special rules limit the amortization of premium in the case of convertible debt instruments. In addition, if the Registered Covered Bond has an optional redemption feature, special rules will apply that may reduce, eliminate or defer the amount of bond premium that you may amortize. If you do not elect to amortize bond premium, that premium will decrease the gain or increase the loss you would otherwise recognize on disposition of the Registered Covered Bond. Any election to amortize the premium will apply to all bonds (other than bonds the interest on which is excludible from gross income for United States federal income tax purposes) held by you at the beginning of the first taxable year to which the election applies or thereafter acquired, and is irrevocable without the consent of the IRS. You should consult your own tax advisors regarding this election.

Sale, Exchange, Redemption, Retirement or Other Taxable Disposition of Registered Covered Bonds

Your adjusted tax basis in a Registered Covered Bond will, in general, be your cost for that Registered Covered Bond, increased by OID, market discount or any discount with respect to a short-term Covered Bond that you previously included in income, and reduced by any amortized premium and any cash payments on the Registered Covered Bond other than qualified stated interest. Upon the sale, exchange, redemption, retirement or other taxable disposition of a Registered Covered Bond, you will recognize gain or loss equal to the difference between the amount you realize upon the sale, exchange, redemption, retirement or other taxable disposition (less an amount equal to any accrued and unpaid qualified stated interest, which will be taxable as interest income to the extent not previously included in income) and your adjusted tax basis in the Registered Covered Bond. Except as described above with respect to certain short-term Covered Bonds or market discount, or with respect to gain or loss attributable to changes in exchange rates as discussed below with respect to foreign currency Covered Bonds, that gain or loss will generally be capital gain or loss and will generally be long-term capital gain or loss if you have held the Registered Covered Bond for more than one year. Long-term capital gains of non-corporate United States Holders (including individuals) are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations. Except as described above with respect to market discount, any gain or loss recognized by you on the sale, exchange, redemption, retirement or other taxable disposition of a Registered Covered Bond will generally be treated as United States source gain or loss.

Foreign Currency Covered Bonds

Payments of Interest. If you receive interest payments made in a currency other than the U.S. dollar (a "**foreign currency**") and you use the cash basis method of accounting for United States federal income tax purposes, you will be required to include in income the U.S. dollar value of the amount received, determined by translating the foreign currency received at the spot rate for such foreign currency on the date such payment is received regardless of whether the payment is in fact converted into U.S. dollars. You will not recognize exchange gain or loss with respect to the receipt of such payment.

If you use the accrual method of accounting for United States federal income tax purposes, you may determine the amount of income recognized with respect to such interest in accordance with either of two methods. Under the first method, you will be required to include in income for each taxable year the U.S. dollar value of the interest that has accrued during such year, determined by translating such interest at the average rate of exchange for the period or periods during which such interest accrued or, with respect to an accrual period that spans two taxable years, at the average rate for the partial period within the taxable year. Under the second method, you may elect to translate interest income at the spot rate on:

- the last day of the accrual period,
- the last day of the taxable year if the accrual period straddles your taxable year, or
- the date the interest payment is received if such date is within five business days of the end of the accrual period.

Any election made under the second method will apply to all debt instruments held by you at the beginning of the first taxable year to which the election applies or thereafter acquired, and will be irrevocable without the consent of the IRS.

If you use the accrual method of accounting, upon receipt of an interest payment on a Registered Covered Bond (including, upon the sale or other taxable disposition of a Registered Covered Bond, the receipt of proceeds that include amounts attributable to accrued interest previously included in income), you will recognize exchange gain or loss in an amount equal to the difference between the U.S. dollar value of such payment (determined by translating the foreign currency received at the spot rate for such foreign currency on the date such payment is received) and the U.S. dollar value of the interest income you previously included in income with respect to such payment. Any such exchange gain or loss will generally be treated as United States source ordinary income or loss.

Original Issue Discount. In the case of an original issue discount Covered Bond that is also a foreign currency Covered Bond, OID will be determined for any accrual period in the applicable foreign currency and then translated into U.S. dollars, in the same manner as interest income accrued by a holder on the accrual basis, as described above. You will recognize exchange gain or loss, which is generally United States source ordinary income or loss, when OID is paid (including, upon the sale or other taxable disposition of the foreign currency Covered Bond, the receipt of proceeds that include amounts attributable to OID previously included in income) to the extent of the difference between the U.S. dollar value of such payment (determined by translating the foreign currency received at the spot rate for such foreign currency on the date such payment is received) and the U.S. dollar value of the accrued OID (determined in the same manner as for accrued interest). For these purposes, all receipts on an original issue discount Covered Bond will be viewed:

- first, as the receipt of any qualified stated interest payments called for under the terms of the Covered Bond,

- second, as receipts of previously accrued OID (to the extent thereof), with payments considered made for the earliest accrual periods first, and

- third, as the receipt of principal.

Market Discount and Bond Premium. The amount of market discount includible in income with respect to a foreign currency Covered Bond will generally be determined by translating the market discount determined in the foreign currency into U.S. dollars at the spot rate on the date the foreign currency Covered Bond is retired or otherwise disposed of. If you have elected to accrue market discount currently, then the amount which accrues is determined in the foreign currency and then translated into U.S. dollars on the basis of the average exchange rate in effect during such accrual period. You will recognize exchange gain or loss, which is generally United States source ordinary income or loss, with respect to market discount which is accrued currently using the approach applicable to the accrual of interest income as described above.

Bond premium on a foreign currency Covered Bond will be computed in the applicable foreign currency. If you have elected to amortize the premium, the amortizable bond premium will reduce interest income in the applicable foreign currency. At the time bond premium is amortized, exchange gain or loss, which is generally United States source ordinary income or loss, will be realized with respect to such amortized premium based on the difference between spot rates at such time and the time of acquisition of the foreign currency Covered Bond.

If you elect not to amortize bond premium, you must translate the bond premium computed in the foreign currency into U.S. dollars at the spot rate on the maturity date and such bond premium will constitute a capital loss which may be offset or eliminated by exchange gain.

Sale, Exchange, Redemption, Retirement or Other Taxable Disposition of Foreign Currency Covered Bonds. Upon the sale, exchange, redemption, retirement or other taxable disposition of a foreign currency Covered Bond, you will recognize gain or loss equal to the difference between the amount realized upon the sale, exchange, redemption, retirement or other taxable disposition (less an amount equal to any accrued and unpaid qualified stated interest, which will be taxed as interest for United States federal income tax purposes to the extent not previously included in income) and your adjusted tax basis in the foreign currency Covered Bond. Your initial tax basis in a foreign currency Covered Bond generally will be your U.S. dollar cost. If you purchased a foreign currency Covered Bond with foreign currency, your cost generally will be the U.S. dollar value of the foreign currency amount paid for such foreign currency Covered Bond determined at the time of such purchase. If your foreign currency Covered Bond is sold, exchanged, redeemed, retired, or otherwise disposed of for an amount denominated in foreign currency, then your amount realized generally will be based on the spot rate of the foreign currency on the date of the sale, exchange, redemption, retirement or other disposition. If, however, you are a cash method taxpayer and the foreign currency Covered Bonds of the relevant Series are traded on an established securities market for United States federal income tax purposes, foreign currency paid or received will be translated into U.S. dollars at the spot rate on the settlement date of the purchase or sale. An accrual method taxpayer may elect the same treatment with respect to the purchase and sale of foreign currency Covered Bonds traded on an established securities market, *provided that* the election is applied consistently.

Except as described above under "—Short-Term Covered Bonds" and "—Market Discount," and subject to the foreign currency rules discussed below, any gain or loss recognized upon the sale, exchange, redemption, retirement or other taxable disposition of a foreign currency Covered Bond will generally be capital gain or loss and will generally be long-term capital gain or loss if at the time of the sale, exchange, redemption, retirement or other taxable disposition, the foreign currency Covered Bond has been held for more than one year. Long-term capital gains of non-corporate United States Holders (including individuals) are eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations. Except as described above with respect to market discount, gain or loss recognized by you on the sale, exchange, redemption, retirement or other taxable disposition of a foreign currency Covered Bond will generally be treated as United States source gain or loss.

A portion of your gain or loss with respect to the principal amount of a foreign currency Covered Bond may be treated as exchange gain or loss. Exchange gain or loss will generally be treated as United States source ordinary income or loss. For these purposes, the principal amount of the foreign currency Covered Bond is your purchase price for the foreign currency Covered Bond calculated in the foreign currency on the date of purchase, and the amount of exchange gain or loss recognized is equal to the difference between (i) the U.S. dollar value of the principal amount determined on the date of the sale, exchange, redemption, retirement or other taxable disposition of the foreign currency Covered Bond and (ii) the U.S. dollar value of the principal amount determined on the date you purchased the foreign currency Covered Bond (or, in each case, on the settlement date of such disposition or purchase, if the foreign currency Covered Bonds of the relevant Series are traded on an established securities market and you are a cash basis or electing accrual basis taxpayer, as described above). The amount of exchange gain or loss realized on the disposition of the foreign currency Covered Bond (with respect to both principal and accrued interest) will be limited to the amount of overall gain or loss realized on the disposition of the foreign currency Covered Bond.

Exchange Gain or Loss with Respect to Foreign Currency. Your tax basis in the foreign currency received as interest on a foreign currency Covered Bond or on the sale, exchange, redemption, retirement, or other taxable disposition of a foreign currency Covered Bond will be equal to the U.S. dollar value of the foreign currency, determined at the time the foreign currency is received. Any gain or loss recognized by you on a sale, exchange or other taxable disposition of the foreign currency will be ordinary income or loss and generally will be United States source gain or loss.

Reportable Transactions. Treasury regulations issued under the Code meant to require the reporting of certain tax shelter transactions could be interpreted to cover transactions generally not regarded as tax shelters, including certain foreign currency transactions. Under the Treasury regulations, certain transactions are required to be reported to the IRS, including, in certain circumstances, a sale, exchange, redemption, retirement or other taxable disposition of a foreign currency Covered Bond or foreign currency received in respect of a foreign currency Covered Bond to the extent that such sale, exchange, redemption, retirement or other taxable disposition results in a tax loss in excess of a threshold amount, which differs depending on the status of the United States Holder. If you are considering the purchase of foreign currency Covered Bonds, you should consult with your own tax advisors to determine the tax return obligations, if any, with respect to such an investment, including any requirement to file IRS Form 8886 (Reportable Transaction Disclosure Statement). The IRS may impose penalties on any taxpayer that fails to timely file an information return with the IRS with respect to a transaction resulting in a loss that is treated as a reportable transaction.

Information Reporting and Backup Withholding

In general, information reporting requirements will apply to payments of interest and principal on the Registered Covered Bonds, accruals of OID (if any) and the proceeds from a sale or other taxable disposition (including a retirement or redemption) of a Registered Covered Bond paid to you, unless you establish that you are an exempt recipient. Backup withholding may apply to any such payments if you fail to provide a taxpayer identification number and a certification that you are not subject to backup withholding or if you fail to report in full dividend and interest income.

Backup withholding is not an additional tax. Any amounts withheld under the backup withholding rules will be allowed as a refund or a credit against your United States federal income tax liability provided the required information is timely furnished to the IRS.

Certain United States Holders are required to report information relating to an interest in the Registered Covered Bonds, subject to certain exceptions (including an exception for Registered Covered Bonds held in accounts maintained by certain financial institutions), by attaching a complete IRS Form 8938 (Statement of Specified Foreign Financial Assets) with their tax return for each year in which they hold an interest in the Registered Covered Bonds. You are urged to consult your own tax advisors regarding information reporting requirements relating to your ownership of the Registered Covered Bonds.

Additional Withholding Requirements

Under Sections 1471 through 1474 of the Code (such Sections commonly referred to as "**FATCA**"), a "foreign financial institution" (as specifically defined under FATCA) that enters into an agreement with the United States Treasury Department may be required to withhold 30% from certain "foreign passthru payments" made to holders that fail to comply with certain certification and/or information reporting requirements. The term "foreign passthru payment" has not yet been defined by the IRS but is intended to capture payments that are from non-United States sources but are attributable to a United States source payment. Debt obligations issued before the date that is six months after the publication of final regulations defining the term foreign passthru payment would be grandfathered and therefore not subject to the FATCA rules for foreign passthru payment withholding. In addition, proposed United States Treasury regulations (upon which taxpayers may rely until final regulations are issued) provide that a foreign financial institution would not be required to withhold on foreign passthru payments before the date that is two years after the date of publication of final regulations defining the term foreign passthru payment. Prospective investors should consult their own tax advisors regarding the application of the FATCA rules to an investment in the Registered Covered Bonds.

Additional Tax Considerations

Persons considering the purchase of Registered Covered Bonds should carefully examine the applicable Pricing Supplement and should consult their own tax advisors regarding any special United States federal income tax consequences not discussed herein that may be applicable to the holding and disposition of Registered Covered Bonds offered under the Programme.

CERTAIN ERISA CONSIDERATIONS

The following is a summary of certain considerations associated with the purchase and holding of the Covered Bonds by (a) "employee benefit plans" within the meaning of Section 3(3) of the U.S. Employee Retirement Income Security Act of 1974, as amended ("**ERISA**") that are subject to Title I of ERISA, (b) plans, individual retirement accounts and other arrangements that are subject to Section 4975 of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**") or provisions under any other U.S. or non-U.S. federal, state, local or other laws or regulations that are similar to such provisions of ERISA or the Code (collectively, "**Similar Laws**"), and (c) entities whose underlying assets are considered to include the assets of any of the foregoing described in clauses (a) and (b) above (each of the foregoing described in clauses (a), (b) and (c) referred to hereto as a "**Plan**").

General Fiduciary Matters

ERISA and the Code impose certain duties on persons who are fiduciaries of a Plan subject to Title I of ERISA or Section 4975 of the Code (a "**Covered Plan**") and prohibit certain transactions involving the assets of a Covered Plan and its fiduciaries or other interested parties. Under ERISA and the Code, any person who exercises any discretionary authority or control over the administration of such a Covered Plan or the management or disposition of the assets of such a Covered Plan, or who renders investment advice for a fee or other compensation to such a Covered Plan, is generally considered to be a fiduciary of the Covered Plan.

In considering an investment in the Covered Bonds of a portion of the assets of any Plan, a fiduciary should determine whether the investment is in accordance with the documents and instruments governing the Plan and the applicable provisions of ERISA, the Code or any Similar Law relating to a fiduciary's duties to the Plan including, without limitation, the prudence, diversification, delegation of control and prohibited transaction provisions of ERISA, the Code and any other applicable Similar Laws.

Prohibited Transaction Issues

Section 406 of ERISA and Section 4975 of the Code prohibit Covered Plans from engaging in specified transactions involving plan assets with persons or entities who are "parties in interest," within the meaning of ERISA, or "disqualified persons," within the meaning of Section 4975 of the Code, unless an exemption is available. A party in interest or disqualified person who engaged in a non-exempt prohibited transaction may be subject to excise taxes and other penalties and liabilities under ERISA and the Code. In addition, the fiduciary of the Covered Plan that engaged in such a non-exempt prohibited transaction may be subject to penalties and liabilities under ERISA and the Code. The acquisition and/or holding of Covered Bonds by a Covered Plan with respect to which the Bank, a Dealer, the Arranger, the Principal Paying Agent, the Exchange Agent, the Registrar and Transfer Agent or any of their respective affiliates is considered a party in interest or a disqualified person may constitute or result in a direct or indirect prohibited transaction under Section 406 of ERISA and/or Section 4975 of the Code, unless the investment is acquired and is held in accordance with an applicable statutory, class or individual prohibited transaction exemption. In this regard, the U.S. Department of Labor has issued prohibited transaction class exemptions, or "**PTCEs,**" that may apply to the acquisition and holding of the Covered Bonds . These class exemptions include, without limitation, PTCE 84-14 respecting transactions determined by independent qualified professional asset managers, PTCE 90-1 respecting insurance company pooled separate accounts, PTCE 91-38 respecting bank collective investment funds, PTCE 95-60 respecting life insurance company general accounts and PTCE 96-23 respecting transactions determined by in-house asset managers. In addition, Section 408(b)(17) of ERISA and Section 4975(d)(20) of the Code provide limited relief from the prohibited transaction provisions of ERISA and Section 4975 of the Code for certain transactions, *provided that* neither the issuer of the securities nor any of its affiliates (directly or indirectly) have or exercise any discretionary authority or control or render any investment advice with respect to the assets of any Covered Plan involved in the transaction and provided further that the Covered Plan pays no more than adequate consideration in connection with the transaction. Each of the above-noted exemptions contains conditions and limitations on its application. Fiduciaries of Covered Plans considering acquiring and/or holding the Covered Bonds (or any beneficial interest therein) in reliance on these or any other exemption should carefully review the exemption with legal advisers to assure it is applicable. There can be no assurance that all of the conditions of any such exemptions will be satisfied.

Plans that are governmental plans, non-U.S. plans and certain church plans, while not necessarily subject to Title I of ERISA or Section 4975 of the Code, may nevertheless be subject to Similar Laws which may affect their investment in the Covered Bonds . Any fiduciary of such a Plan considering an investment in the Covered Bonds should consult with its counsel before purchasing Covered Bonds .

Because of the foregoing, the Covered Bonds should not be acquired or held by any person investing "plan assets" of any Plan, unless such acquisition and holding will not constitute a non-exempt prohibited transaction under ERISA and the Code or a similar violation of any applicable Similar Laws.

Representation

Accordingly, by acceptance of a Note or any beneficial interest therein, each purchaser and subsequent transferee of a Note or any beneficial interest therein will be deemed to have represented and warranted that either (i) no portion of the assets used by such purchaser or transferee to acquire or hold the Note or any beneficial interest therein constitutes assets of any Plan or (ii) the acquisition and holding of the Note or any beneficial interest therein by such purchaser or transferee will not result in a non-exempt prohibited transaction under Section 406 of ERISA or Section 4975 of the Code or a similar violation under any applicable Similar Laws.

The foregoing discussion is general in nature and is not intended to be all inclusive. Due to the complexity of these rules and the penalties that may be imposed upon persons involved in non-exempt prohibited transactions, it is particularly important that fiduciaries, or other persons considering acquiring the Covered Bonds on behalf of, or with the assets of, any Plan, consult with their counsel regarding the potential applicability of ERISA, Section 4975 of the Code and any Similar Laws to such investment and whether an exemption would be applicable to the acquisition and holding of the Covered Bonds . In this regard, neither this discussion nor anything provided in this offering circular is or is intended to be investment advice directed at any potential Plan purchasers or at Plan purchasers generally and such purchasers of any Covered Bonds (or beneficial interests therein) should consult and rely on their own counsel and advisers as to whether an investment in Covered Bonds is suitable for the Plan.

BOOK-ENTRY CLEARANCE SYSTEMS

*The information set out below is subject to any change in or reinterpretation of the rules, regulations and procedures of DTC, Euroclear or Clearstream (together, the "**Clearing System**") currently in effect. The information in this section concerning the Clearing System has been obtained from sources that the Issuer believes to be reliable, but none of the Issuer, the Arranger nor any Dealer takes any responsibility for the accuracy thereof. Investors wishing to use the facilities of any of the Clearing Systems are advised to confirm the continued applicability of the rules, regulations and procedures of the relevant Clearing System. None of the Issuer, the Arranger, any Dealer nor any other party to the Agency Agreement will have any responsibility or liability for any aspect of the records relating to, or payments made on account of, beneficial ownership interests in the Covered Bonds held through the facilities of any Clearing System or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests. The relevant Pricing Supplement will specify the Clearing System(s) applicable for each Series.*

Book-entry Systems

Depositary Trust Company

DTC has advised the Issuer that it is a limited purpose trust company organised under the New York Banking Law, a "banking organisation" within the meaning of the New York Banking Law, a "clearing corporation" within the meaning of the New York Uniform Commercial Code and a "clearing agency" registered pursuant to Section 17A of the Exchange Act. DTC holds securities that its participants ("**Participants**") deposit with DTC. DTC also facilitates the settlement among Participants of securities transactions, such as transfers and pledges, in deposited securities through electronic computerised book-entry changes in Participants' accounts, thereby eliminating the need for physical movement of securities certificates. Direct Participants include securities brokers and dealers, banks, trust companies, clearing corporations and certain other organisations. Access to the DTC System is also available to others such as securities brokers and dealers, banks and trust companies that clear through or maintain a custodial relationship with a Direct Participant, either directly or indirectly ("**Indirect Participants**").

Under the rules, regulations and procedures creating and affecting DTC and its operations (the "**Rules**"), DTC makes book-entry transfers of Registered Covered Bonds among Direct Participants on whose behalf it acts with respect to Covered Bonds accepted into DTC's book-entry settlement system ("**DTC Covered Bonds**") as described below and receives and transmits distributions of principal and interest on DTC Covered Bonds. The Rules are on file with the Securities and Exchange Commission. Direct Participants and Indirect Participants with which beneficial owners of DTC Covered Bonds ("**Owners**") have accounts with respect to the DTC Covered Bonds similarly are required to make book-entry transfers and receive and transmit such payments on behalf of their respective Owners. Accordingly, although Owners who hold DTC Covered Bonds through Direct Participants or Indirect Participants will not possess Registered Covered Bonds, the Rules, by virtue of the requirements described above, provide a mechanism by which Direct Participants will receive payments and will be able to transfer their interest in respect of the DTC Covered Bonds.

Purchases of DTC Covered Bonds under the DTC system must be made by or through Direct Participants, which will receive a credit for the DTC Covered Bonds on DTC's records. The ownership interest of each actual purchaser of each DTC Note ("**Beneficial Owner**") is in turn to be recorded on the Direct and Indirect Participant's records. Beneficial Owners will not receive written confirmation from DTC of their purchase, but Beneficial Owners are expected to receive written confirmations providing details of the transaction, as well as periodic statements of their holdings, from the Direct or Indirect Participant through which the Beneficial Owner entered into the transaction. Transfers of ownership interests in the DTC Covered Bonds are to be accomplished by entries made on the books of Participants acting on behalf of Beneficial Owners. Beneficial Owners will not receive certificates representing their ownership interests in DTC Covered Bonds, except in the event that use of the book-entry system for the DTC Covered Bonds is discontinued.

To facilitate subsequent transfers, all DTC Covered Bonds deposited by participants with DTC are registered in the name of DTC's partnership nominee, Cede & Co. The deposit of DTC Covered Bonds with DTC and their registration in the name of Cede & Co. effect no change in beneficial ownership. DTC has no knowledge of the actual Beneficial Owners of the DTC Covered Bonds; DTC's records reflect only the identity of the Direct Participants to whose accounts such DTC Covered Bonds are credited, which may or may not be the Beneficial Owners. The Participants will remain responsible for keeping account of their holdings on behalf of their customers.

Conveyance of notices and other communications by DTC to Direct Participants, by Direct Participants to Indirect Participants, and by Direct Participants and Indirect Participants to Beneficial Owners will be governed by arrangements among them, subject to any statutory or regulatory requirements as may be in effect from time to time.

Redemption notices shall be sent to Cede & Co. If less than all of the DTC Covered Bonds within an issue are being redeemed, selection of Covered Bonds for such partial redemption will be made in accordance of rules and procedures of DTC.

Neither DTC nor Cede & Co. will consent or vote with respect to DTC Covered Bonds. Under its usual procedures, DTC mails an Omnibus Proxy to the Issuer as soon as possible after the record date. The Omnibus Proxy assigns Cede & Co.'s consenting or voting rights to those Direct Participants to whose accounts the DTC Covered Bonds are credited on the record date (identified in a listing attached to the Omnibus Proxy).

Principal and interest payment on the DTC Covered Bonds will be made to DTC. DTC's practice is to credit Direct Participants' accounts on the due date for payment in accordance with their respective holdings shown on DTC's records unless DTC has reason to believe that it will not receive payment on the due date. Payments by Participants to Beneficial Owners will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers in bearer form or registered in "street name," and will be the responsibility of such Participant and not of DTC or the Issuer, subject to any statutory or regulatory requirements as may be in effect from time to time. Payment of principal and interest to DTC is the responsibility of the Issuer, disbursement of such payments to Direct Participants is the responsibility of DTC, and disbursement of such payments to the Beneficial Owners is the responsibility of Direct and Indirect Participants.

Under certain circumstances, including if there is an Event of Default under the Covered Bonds, DTC will exchange the DTC Covered Bonds for definitive Registered Covered Bonds, which it will distribute to its Participants in accordance with their proportionate entitlements and which, if representing interests in a Rule 144A Global Certificate, will be legended as set forth under "*Subscription and Sale and Transfer and Selling Restrictions*."

Since DTC may only act on behalf of Direct Participants, who in turn act on behalf of Indirect Participants, any Owner desiring to pledge DTC Covered Bonds to persons or entities that do not participate in DTC, or otherwise take actions with respect to such DTC Covered Bonds, will be required to withdraw its Registered Covered Bonds from DTC as described below.

Euroclear and Clearstream

Euroclear and Clearstream each holds securities for its customers and facilitates the clearance and settlement of securities transactions by electronic book-entry transfer between their respective account holders. Euroclear and Clearstream provide various services including safekeeping, administration, clearance and settlement of internationally traded securities and securities lending and borrowing. Euroclear and Clearstream also deal with domestic securities markets in several countries through established depository and custodial relationships. Euroclear and Clearstream have established an electronic bridge between their two systems across which their respective participants may settle trades with each other.

Euroclear and Clearstream customers are world-wide financial institutions, including underwriters, securities brokers and dealers, banks, trust companies and clearing corporations. Indirect access to Euroclear and Clearstream is available to other institutions that clear through or maintain a custodial relationship with an account holder of either system.

Book-entry Ownership of and Payments in respect of DTC Covered Bonds

The Issuer may apply to DTC in order to have any Tranche of Covered Bonds represented by a Registered Global Certificate accepted in its book-entry settlement system. Upon the issue of any such Registered Global Certificate, DTC or its custodian will credit, on its internal book-entry system, the respective nominal amounts of the individual beneficial interests represented by such Registered Global Certificate to the accounts of persons who have accounts with DTC. Such accounts initially will be designated by or on behalf of the relevant Dealer. Ownership of beneficial interests in such Registered Global Certificate will be limited to Direct Participants or Indirect Participants, including, in the case of any Regulation S Global Certificate, the respective depositaries of Euroclear and Clearstream. Ownership of beneficial interests in a Registered Global Certificate accepted by DTC will be shown on, and the transfer of such ownership will be effected only through, records maintained by DTC or its nominee (with respect to the interests of Direct Participants) and the records of Direct Participants (with respect to interests of Indirect Participants).

Payments in U.S. dollars of principal and interest in respect of a Registered Global Certificate accepted by DTC will be made to the order of DTC or its nominee as the registered holder of such Covered Bond. In the case of any payment in a currency other than U.S. dollars, payment will be made to the Exchange Agent on behalf of DTC or its nominee and the Exchange Agent will (in accordance with instructions received by it) remit all or a portion of such payment for credit directly to the beneficial holders of interests in the Registered Global Certificate in the currency in which such payment was made and/or cause all or a portion of such payment to be converted into U.S. dollars and credited to the applicable Participants' account.

The Issuer expects DTC to credit accounts of Direct Participants on the applicable payment date in accordance with their respective holdings as shown in the records of DTC unless DTC has reason to believe that it will not receive payment on such payment date. The Issuer also expects that payments by Participants to beneficial owners of Covered Bonds will be governed by standing instructions and customary practices, as is the case with securities held for the accounts of customers, and will be the responsibility of such Participant and not the responsibility of DTC, the Issuing and Paying Agent, the Registrar or the Issuer. Payment of principal, premium, if any, and interest, if any, on Covered Bonds to DTC is the responsibility of the Issuer.

Transfers of Covered Bonds Represented by Registered Global Covered Bonds

Transfers of any interests in Covered Bonds represented by a Registered Global Certificate within DTC, Euroclear and Clearstream will be effected in accordance with the customary rules and operating procedures of the relevant clearing system. The laws in some States within the United States require that certain persons take physical delivery of securities in definitive form. Consequently, the ability to transfer Covered Bonds represented by a Registered Global Certificate to such persons may depend upon the ability to exchange such Covered Bonds for Covered Bonds in definitive form.

Similarly, because DTC can only act on behalf of Direct Participants in the DTC system who in turn act on behalf of Indirect Participants, the ability of a person having an interest in Covered Bonds represented by a Registered Global Certificate accepted by DTC to pledge such Covered Bonds to persons or entities that do not participate in the DTC system or otherwise to take action in respect of such Covered Bonds may depend upon the ability to exchange such Covered Bonds for Covered Bonds in definitive form. The ability of any holder of Covered Bonds represented by a Registered Global Certificate accepted by DTC to resell, pledge or otherwise transfer such Covered Bonds may be impaired if the proposed transferee of such Covered Bonds is not eligible to hold such Covered Bonds through a direct or indirect participant in the DTC system.

Subject to compliance with the transfer restrictions applicable to the Registered Covered Bonds described under "*Subscription and Sale and Transfer and Selling Restrictions*," cross-market transfers between DTC, on the one hand, and directly or indirectly through Clearstream or Euroclear accountholders, on the other will be effected by the relevant clearing system in accordance with its rules and through action taken by the Registrar, the Issuing and Paying Agent and any custodian ("**Custodian**") with whom the relevant Registered Global Covered Bonds have been deposited.

On or after the Issue Date for any Series, transfers of Covered Bonds of such Series between accountholders in Clearstream and Euroclear and transfers of Covered Bonds of such Series between participants in DTC will generally have a settlement date two business days after the trade date (T+2). The customary arrangements for delivery versus payment will apply to such transfers.

Cross-market transfers between accountholders in Clearstream or Euroclear and DTC participants will need to have an agreed settlement date between the parties to such transfer. Because there is no direct link between DTC, on the one hand, and Clearstream and Euroclear, on the other, transfers of interests in the relevant Registered Global Covered Bonds will be effected through the Registrar, the Issuing and Paying Agent and the Custodian receiving instructions (and, where appropriate, certification) from the transferor and arranging for delivery of the interests being transferred to the credit of the designated account for the transferee. In the case of cross-market transfers, settlement between Euroclear or Clearstream accountholders and DTC participants cannot be made on a delivery versus payment basis. The securities will be delivered on a free delivery basis and arrangements for payment must be made separately.

DTC, Clearstream and Euroclear have each published rules and operating procedures designed to facilitate transfers of beneficial interests in Registered Global Covered Bonds among participants and accountholders of DTC, Clearstream and Euroclear. However, they are under no obligation to perform or continue to perform such procedures, and such procedures may be discontinued or changed at any time. None of the Issuer, the Agents or any Dealer will be responsible for any performance by DTC, Clearstream or Euroclear or their respective direct or indirect participants or accountholders of their respective obligations under the rules and procedures governing their operations and none of them will have any liability for any aspect of the records relating to or payments made on account of beneficial interests in the Covered Bonds represented by Registered Global Covered Bonds or for maintaining, supervising or reviewing any records relating to such beneficial interests.

SUBSCRIPTION AND SALE AND TRANSFER AND SELLING RESTRICTIONS

The Arranger and the Dealers have in a dealer agreement dated October 20, 2023 (as amended, supplemented and/or restated from time to time, the "**Dealer Agreement**") agreed with the Issuer a basis upon which they or any other Dealer appointed from time to time in respect of a specific issue of Covered Bonds may from time to time agree to purchase Covered Bonds. Any such agreement will extend to those matters stated under "*Terms and Conditions of the Covered Bonds.*" In the Dealer Agreement, the Issuer has agreed to reimburse the Arranger and the Dealers for certain of their expenses in connection with the establishment of the Programme and the issue of Covered Bonds under the Programme and to indemnify the Arranger and the Dealers against certain liabilities incurred by them in connection therewith.

In order to facilitate the offering of any Tranche of the Covered Bonds, certain persons participating in the offering of the Tranche may engage in transactions that stabilise, maintain or otherwise affect the market price of the relevant Covered Bonds during and after the offering of the Tranche. Specifically, such persons may over-allot or create a short position in the Covered Bonds for their own account by selling more Covered Bonds than have been sold to them by the Issuer. Such persons may also elect to cover any such short position by purchasing Covered Bonds in the open market. In addition, such persons may stabilise or maintain the price of the Covered Bonds by bidding for or purchasing Covered Bonds in the open market and may impose penalty bids, under which selling concessions allowed to syndicate members or other broker-dealers participating in the offering of the Covered Bonds are reclaimed if Covered Bonds previously distributed in the offering are repurchased in connection with stabilisation transactions or otherwise. The effect of these transactions may be to stabilise or maintain the market price of the Covered Bonds at a level above that which might otherwise prevail in the open market. The imposition of a penalty bid may also affect the price of the Covered Bonds to the extent that it discourages resales thereof. No representation is made as to the magnitude or effect of any such stabilising or other transactions. Such transactions, if commenced, may be discontinued at any time. Under UK laws and regulations, stabilising activities may only be carried on by the Stabilisation Manager named in the applicable Pricing Supplement and must end no later than the earlier of 30 days following the Issue Date of the relevant Tranche of Covered Bonds and 60 days following the date of the allotment of the relevant Tranche of Covered Bonds.

Certain Relationships

The Arranger and the Dealers and certain of their affiliates may have performed certain investment banking and advisory services for the Issuer or its affiliates from time to time for which they have received customary fees and expenses and may, from time to time, engage in transactions with, and perform services for, the Issuer or its affiliates in the ordinary course of business. The Arranger and the Dealers and certain of their affiliates may purchase Covered Bonds and be allocated Covered Bonds for asset management and/or proprietary purposes but not with a view to distribution.

The Arranger and the Dealers and their respective affiliates may purchase Covered Bonds for their own accounts and enter into transactions, including credit derivatives, such as asset swaps, repackaging and credit default swaps relating to Covered Bonds and/or other securities of the Issuer or its subsidiaries or associates, at the same time as the offer and sale of Covered Bonds or in secondary market transactions. Such transactions would be carried out as bilateral trades with selected counterparties and separately from any existing sale or resale of Covered Bonds to which this Offering Circular relates (notwithstanding that such selected counterparties may also be purchasers of Covered Bonds).

Transfer Restrictions

As a result of the following restrictions, purchasers of Covered Bonds in the United States are advised to consult legal counsel prior to making any purchase, offer, sale, resale or other transfer of such Covered Bonds.

Each purchaser of Registered Covered Bonds or person wishing to transfer an interest from one Global Certificate to another or from global to definitive form or vice versa, will be required to acknowledge, represent and agree as follows (terms used in this paragraph that are defined in Rule 144A or in Regulation S are used herein as defined therein):

(i) that either: (a) it is a QIB, purchasing (or holding) the Covered Bonds for its own account or for the account of one or more QIBs and it is aware that any sale to it is being made in reliance on Rule 144A; or (b) it is outside the United States and is not a U.S. person;

(ii) that the Covered Bonds are being offered and sold in a transaction not involving a public offering in the United States within the meaning of the Securities Act, and that the Covered Bonds have not been and will not be registered under the Securities Act or any other applicable U.S. state securities laws and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons except as set forth below;

(iii) that, unless it holds an interest in a Unrestricted Global Certificate and either is a person located outside the United States or is not a U.S. person, if in the future it decides to resell, pledge or otherwise transfer the Covered Bonds or any beneficial interests in the Covered Bonds, it will do so, prior to the date which is one year after the later of the last Issue Date and the last date on which the Issuer or an affiliate of the Issuer was the owner of such Covered Bonds, only (a) to the Issuer or any affiliate thereof, (b) inside the United States to a person whom the seller reasonably believes is a QIB purchasing for its own account or for the account of a QIB in a transaction meeting the requirements of Rule 144A, (c) outside the United States in compliance with Rule 903 or Rule 904 under the Securities Act, (d) pursuant to the exemption from registration provided by Rule 144 under the Securities Act (if available) or (e) pursuant to an effective registration statement under the Securities Act, in each case in accordance with all applicable U.S. state securities laws;

(iv) it will, and will require each subsequent holder to, notify any purchaser of the Covered Bonds from it of the resale restrictions referred to in paragraph (iii) above, if then applicable;

(v) that Covered Bonds initially offered in the United States to QIBs will be represented by one or more Restricted Global Certificates and that Covered Bonds offered outside the United States in reliance on Regulation S will be represented by one or more Unrestricted Global Certificates;

(vi) that the Covered Bonds, other than the Unrestricted Global Certificates, will bear a legend to the following effect unless otherwise agreed to by the Issuer:

“THE COVERED BONDS IN RESPECT OF WHICH THIS RESTRICTED GLOBAL CERTIFICATE IS ISSUED (THE “**COVERED BONDS**”) HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE “**SECURITIES ACT**”), OR ANY OTHER APPLICABLE U.S. STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S.

PERSONS EXCEPT AS SET FORTH IN THE FOLLOWING SENTENCE. BY ITS ACQUISITION HEREOF, THE HOLDER (A) REPRESENTS THAT IT IS A "QUALIFIED INSTITUTIONAL BUYER" (AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT) PURCHASING THE COVERED BONDS FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF ONE OR MORE QUALIFIED INSTITUTIONAL BUYERS; (B) AGREES THAT IT WILL NOT RESELL OR OTHERWISE TRANSFER THE COVERED BONDS EXCEPT IN ACCORDANCE WITH THE TRUST DEED AND, PRIOR TO THE DATE WHICH IS TWO YEARS AFTER THE LATER OF THE LAST ISSUE DATE FOR THE SERIES AND THE LAST DATE ON WHICH THE ISSUER OR AN AFFILIATE OF THE ISSUER WAS THE OWNER OF SUCH COVERED BONDS OTHER THAN (1) TO THE ISSUER OR ANY AFFILIATE THEREOF, (2) INSIDE THE UNITED STATES TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER WITHIN THE MEANING OF RULE 144A UNDER THE SECURITIES ACT PURCHASING FOR ITS OWN ACCOUNT OR FOR THE ACCOUNT OF A QUALIFIED INSTITUTIONAL BUYER IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A, (3) OUTSIDE THE UNITED STATES IN COMPLIANCE WITH RULE 903 OR RULE 904 UNDER THE SECURITIES ACT, (4) PURSUANT TO THE EXEMPTION FROM REGISTRATION PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (5) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, IN EACH CASE IN ACCORDANCE WITH ALL APPLICABLE SECURITIES LAWS OF THE STATES OF THE UNITED STATES AND ANY OTHER JURISDICTION; AND (C) IT AGREES THAT IT WILL DELIVER TO EACH PERSON TO WHOM THE COVERED BONDS ARE TRANSFERRED A NOTICE SUBSTANTIALLY TO THE EFFECT OF THIS LEGEND.";

(vii) if it is outside the United States and is not a U.S. person, that if it should resell or otherwise transfer the Covered Bonds prior to the expiration of the "Distribution Compliance Period" (defined as 40 days after the later of the commencement of the offering and the closing date with respect to the original issuance of the Covered Bonds), it will do so only (a)(i) outside the United States in compliance with Rule 903 or 904 under the Securities Act or (ii) to a QIB in compliance with Rule 144A and (b) in accordance with all applicable U.S. state securities laws; and it acknowledges that the Unrestricted Global Certificates will bear a legend to the following effect unless otherwise agreed to by the Issuer:

"THE COVERED BONDS IN RESPECT OF WHICH THIS UNRESTRICTED GLOBAL CERTIFICATE IS ISSUED (THE "**COVERED BONDS**") HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "**SECURITIES ACT**"), OR ANY OTHER APPLICABLE U.S. STATE SECURITIES LAWS AND, ACCORDINGLY, MAY NOT BE OFFERED OR SOLD WITHIN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, U.S. PERSONS EXCEPT IN ACCORDANCE WITH THE TRUST DEED AND PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT OR PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT. THIS LEGEND SHALL CEASE TO APPLY UPON THE EXPIRY OF THE PERIOD OF 40 DAYS AFTER THE COMPLETION OF THE DISTRIBUTION OF ALL THE COVERED BONDS OF THE TRANCHE OF WHICH THIS COVERED BOND FORMS PART."; and

(viii) that the Issuer and others will rely upon the truth and accuracy of the foregoing acknowledgements, representations and agreements and agrees that if any of such acknowledgements, representations or agreements made by it are no longer accurate, it shall promptly notify the Issuer; and if it is acquiring any Covered Bonds as a fiduciary or agent for one or more accounts it represents that it has sole investment discretion with respect to each such account and that it has full power to make the foregoing acknowledgements, representations and agreements on behalf of each such account.

No sale of Restricted Covered Bonds in the United States to any one purchaser will be for less than US$200,000 (or its foreign currency equivalent) principal amount and no Restricted Covered Bond will be issued in connection with such a sale in a smaller principal amount. If the purchaser is a non-bank fiduciary acting on behalf of others, each person for whom it is acting must purchase at least US$200,000 (or its foreign currency equivalent) of Registered Covered Bonds.

Selling Restrictions

United States

The Covered Bonds have not been and will not be registered under the Securities Act and may not be offered or sold within the United States or to, or for the account or benefit of, U.S. persons, except in certain transactions exempt from the registration requirements of the Securities Act. Terms used in this paragraph have the meanings given to them by Regulation S.

Bearer Covered Bonds are subject to U.S. tax law requirements and may not be offered, sold or delivered within the United States or its possessions or to a United States person, except in certain transactions permitted by U.S. tax regulations. Terms used in this paragraph have the meanings given to them by the U.S. Internal Revenue Code and regulations thereunder.

Each Dealer has agreed and each further Dealer appointed under the Programme will be required to agree that, except as permitted by the Dealer Agreement, it will not offer, sell or, in the case of Bearer Covered Bonds, deliver Covered Bonds (i) as part of their distribution at any time or (ii) otherwise until 40 days after the completion of the distribution of an identifiable tranche of which such Covered Bonds are a part, as determined and certified to the Issuing and Paying Agent by such Dealer (or, in the case of an identifiable tranche of Covered Bonds sold to or through more than one Dealer, by each of such Dealers with respect to Covered Bonds of an identifiable tranche purchased by or through it, in which case the Issuing and Paying Agent shall notify such Dealer when all such Dealers have so certified), within the United States or to, or for the account or benefit of, U.S. persons, and it will have sent to each Dealer to which it sells Covered Bonds during the distribution compliance period (other than resales pursuant to Rule 144A) a confirmation or other notice setting out the restrictions on offers and sales of the Covered Bonds within the United States or to, or for the account or benefit of, U.S. persons. Terms used in the preceding sentence have the meanings given to them by Regulation S.

The Covered Bonds are being offered and sold outside the United States to non-U.S. persons in reliance on Regulation S. The Dealer Agreement provides that the Dealers may directly or through their respective U.S. broker-dealer affiliates arrange for the offer and resale of Covered Bonds within the United States only to qualified institutional buyers in reliance on Rule 144A.

In addition, until 40 days after the commencement of the offering of any identifiable tranche of Covered Bonds, an offer or sale of Covered Bonds within the United States by any dealer (whether or not participating in the offering of such tranche of Covered Bonds) may violate the registration requirements of the Securities Act if such offer or sale is made otherwise than in accordance with Rule 144A.

This Offering Circular has been prepared by the Issuer for use in connection with the offer and sale of the Covered Bonds outside the United States and for the resale of the Covered Bonds in the United States. The Issuer and the Dealers reserve the right to reject any offer to purchase the Covered Bonds, in whole or in part, for any reason. This Offering Circular does not constitute an offer to any person in the United States or to any U.S. person, other than any qualified institutional buyer within the meaning of Rule 144A to whom an offer has been made directly by one of the Dealers or its U.S. broker-dealer affiliate. Distribution of this Offering Circular by any non-U.S. person outside the United States or by any qualified institutional buyer in the United States to any

U.S. person or to any other person within the United States, other than any qualified institutional buyer and those persons, if any, retained to advise such non-U.S. person or qualified institutional buyer with respect thereto, is unauthorised and any disclosure without the prior written consent of the Issuer of any of its contents to any such U.S. person or other person within the United States, other than any qualified institutional buyer and those persons, if any, retained to advise such non-U.S. person or qualified institutional buyer, is prohibited.

Prohibition of Sales to EEA Retail Investors

Unless the Pricing Supplement in respect of any Covered Bonds specifies the "Prohibition of Sales to EEA Retail Investors" as "Not Applicable," each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Covered Bonds which are the subject of the offering contemplated by this Offering Circular as completed by the Pricing Supplement in relation thereto to any retail investor in the European Economic Area. For the purposes of this provision:

(a) the expression "retail investor" means a person who is one (or more) of the following:

  (i) a retail client as defined in point (11) of Article 4(1) of MiFID II; or

  (ii) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II; or

  (iii) not a qualified investor as defined in the Prospectus Regulation; and

(b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Covered Bonds to be offered so as to enable an investor to decide to purchase or subscribe for the Covered Bonds.

If the Pricing Supplement in respect of any Covered Bonds specifies "Prohibition of Sales to EEA Retail Investors" as "Not Applicable," in relation to each Member State of the European Economic Area (each, a "**Relevant State**"), each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree, that it has not made and will not make an offer of Covered Bonds which are the subject of the offering contemplated by this Offering Circular as completed by the final terms in relation thereto to the public in that Relevant State except that it may make an offer of such Covered Bonds to the public in that Relevant State:

(a) if the final terms in relation to the Covered Bonds specify that an offer of those Covered Bonds may be made other than pursuant to Article 1(4) of the Prospectus Regulation in that Relevant State (a "**Non-exempt Offer**"), following the date of publication of a prospectus in relation to such Covered Bonds which has been approved by the competent authority in that Relevant State or, where appropriate, approved in another Relevant State and notified to the competent authority in that Relevant State, provided that any such prospectus has subsequently been completed by the final terms contemplating such Non-exempt Offer, in accordance with the Prospectus Regulation, in the period beginning and ending on the dates specified in such prospectus or final terms, as applicable and the Issuer has consented in writing to its use for the purpose of that Non-exempt Offer;

(b) at any time to any legal entity which is a qualified investor as defined in the Prospectus Regulation;

(c) at any time to fewer than 150 natural or legal persons (other than qualified investors as defined in the Prospectus Regulation), subject to obtaining the prior consent of the relevant Dealer or Dealers nominated by the Issuer for any such offer; or

(d) at any time in any other circumstances falling within Article 1(4) of the Prospectus Regulation, provided that no such offer of Covered Bonds referred to in (b) to (d) above shall require the Issuer or any Dealer to publish a prospectus pursuant to Article 3 of the Prospectus Regulation, or supplement a prospectus pursuant to Article 23 of the Prospectus Regulation.

For the purposes of this provision, the expression an "offer of Covered Bonds to the public" in relation to any Covered Bonds in any Relevant State means the communication in any form and by any means of sufficient information on the terms of the offer and the Covered Bonds to be offered so as to enable an investor to decide to purchase or subscribe for the Covered Bonds and the expression "Prospectus Regulation" means Regulation (EU) 2017/1129.

Prohibition of Sales to UK Retail Investors

Unless the Pricing Supplement in respect of any Covered Bonds specifies the "Prohibition of Sales to UK Retail Investors" as "Not Applicable," each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree, that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Covered Bonds which are the subject of the offering contemplated by this Offering Circular as completed by the Pricing Supplement in relation thereto to any retail investor in the United Kingdom. For the purposes of this provision:

(a) the expression "retail investor" means a person who is one (or more) of the following:

  (i) a retail client, as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA; or

  (ii) a customer within the meaning of the provisions of the FSMA and any rules or regulations made under the FSMA to implement the Insurance Distribution Directive, where that customer would not qualify as a professional client, as defined in point (8) of Article 2(1) of Regulation (EU) No 600/2014 as it forms part of domestic law by virtue of the EUWA; or

  (iii) not a qualified investor as defined in Article 2 of the UK Prospectus Regulation; and

(b) the expression "offer" includes the communication in any form and by any means of sufficient information on the terms of the offer and the Covered Bonds to be offered so as to enable an investor to decide to purchase or subscribe for the Covered Bonds.

If the Pricing Supplement in respect of any Covered Bonds specifies "Prohibition of Sales to UK Retail Investors" as "Not Applicable," each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree, that:

(a) in relation to any Covered Bonds which have a maturity of less than one year, (i) it is a person whose ordinary activities involve it in acquiring, holding, managing or disposing of investments (as principal or agent) for the purposes of its business and (ii) it has not offered or sold and will not offer or sell the Covered Bonds other than to persons whose ordinary activities involve them in acquiring, holding, managing or disposing of investments (as principal or as agent) for the purposes of their businesses or who it is reasonable to expect will acquire, hold, manage or dispose of investments (as principal or agent) for the purposes of their businesses where the issue of the Covered Bonds would otherwise constitute a contravention of Section 19 of the FSMA by the Issuer;

(b) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the FSMA) received by it in connection with the issue or sale of the Covered Bonds in circumstances in which Section 21(1) of the FSMA does not apply to the Issuer; and

(c) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to any Covered Bonds in, from or otherwise involving the United Kingdom.

Japan

The Covered Bonds have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948, as amended, the "**Financial Instruments and Exchange Act**"). Accordingly, each Dealer has represented and agreed that it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Covered Bonds in Japan or to, or for the benefit of, any resident of Japan (which term as used herein means any person resident in Japan, including any corporation or other entity organised under the laws of Japan) or to others for re-offering or resale, directly or indirectly, in Japan or to, or for the benefit of, any resident of Japan except pursuant to an exemption from the registration requirements of, and otherwise in compliance with, the Financial Instruments and Exchange Act and other relevant laws and regulations of Japan.

Singapore

Each Dealer has acknowledged, and each further Dealer appointed under the Programme will be required to acknowledge, that this Offering Circular has not been and will not be registered as a prospectus with the Monetary Authority of Singapore under the Securities and Futures Act 2001 of Singapore (the "**SFA**"). Accordingly, each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree, that it has not offered or sold any Covered Bonds or caused the Covered Bonds to be made the subject of an invitation for subscription or purchase and will not offer or sell any Covered Bonds or cause the Covered Bonds to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this Offering Circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Covered Bonds, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor under Section 274 of the SFA, (ii) to a relevant person pursuant to Section 275(1) of the SFA, or any person pursuant to Section 275(1A) of the SFA, and in accordance with the conditions specified in Section 275 of the SFA and (where applicable) Regulation 3 of the Securities and Futures (Classes of Investors) Regulations 2018 of Singapore, or (iii) otherwise pursuant to, and in accordance with the conditions of, any other applicable provision of the SFA.

Where the Covered Bonds are subscribed or purchased under Section 275 of the SFA by a relevant person which is:

(a) a corporation (which is not an accredited investor (as defined in Section 4A of the SFA)), the sole business of which is to hold investments and the entire share capital of which is owned by one or more individuals, each of whom is an accredited investor; or

(b) a trust (where the trustee is not an accredited investor) whose sole purpose is to hold investments and each beneficiary of the trust is an individual who is an accredited investor,

securities or securities-based derivatives contracts (each term as defined in the SFA) of that corporation or the beneficiaries' rights and interest (howsoever described) in that trust shall not be transferred within six months after that corporation or that trust has acquired the Covered Bonds pursuant to an offer made under Section 275 of the SFA except:

(i) to an institutional investor or to a relevant person defined in Section 275(2) of the SFA, or to any person arising from an offer referred to in Section 275(1A) or Section 276(4)(c)(ii) of the SFA;

(ii) where no consideration is or will be given for the transfer;

(iii) where the transfer is by operation of law;

(iv) as specified in Section 276(7) of the SFA; or

(v) as specified in Regulation 37A of the Securities and Futures (Offers of Investments) (Securities and Securities-based Derivatives Contracts) Regulations 2018 of Singapore.

Hong Kong

Each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree, that:

(a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Covered Bonds except for Covered Bonds which are a "structured product" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (the "**SFO**") other than (i) to "professional investors" as defined in the SFO and any rules made under the SFO; or (ii) in other circumstances which do not result in the document being a "prospectus" as defined in the Companies (Winding Up and Miscellaneous Provisions) Ordinance (Cap. 32) of Hong Kong (the "**C(WUMP)O**") or which do not constitute an offer to the public within the meaning of the C(WUMP)O; and

(b) it has not issued or had in its possession for the purposes of issue, and will not issue or have in its possession for the purposes of issue, whether in Hong Kong or elsewhere, any advertisement, invitation or document relating to the Covered Bonds, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Covered Bonds which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under the SFO.

Korea

The Covered Bonds have not been and will not be registered with the Financial Services Commission of Korea under the FSCMA.

Each Dealer has represented and agreed, and each further Dealer appointed under the Programme will be required to represent and agree that:

(a) in respect of the Covered Bonds relying on the exemption as set out in Article 2-2-2, Paragraph 2, Item 3 of the Securities Issuance and Disclosure Regulations promulgated by the Financial Services Commission of Korea, the Covered Bonds may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as defined under the Foreign Exchange Transactions Act of Korea and the rules and regulations promulgated thereunder) or to others for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations. In addition, during the first year after the issuance of the Covered Bonds, the Covered Bonds may not be transferred to any resident of Korea other than a "qualified institutional buyer" (a "Korean QIB," as defined in the Securities Issuance and Disclosure Regulations) who is registered with the Korea Financial Investment Association as a Korean QIB, provided that (i) the Covered Bonds are denominated, and the principal and interest payments thereunder are made, in a currency other than Korean won, (ii) the amount of the Covered Bonds acquired by the Korean QIBs in the primary market is limited to not more than 20% of the aggregate principal amount of the Covered Bonds, (iii) the Covered Bonds are listed on one of the major overseas securities markets designated by the Financial Supervisory Service of Korea, or certain procedures, such as registration or report with a foreign financial investment regulator of the country in which any major overseas securities market is established, have been completed for offering of the Covered Bonds, (iv) the one-year restriction on transfer of Covered Bonds to any resident of Korea other than the Korean QIBs is expressly stated in the Covered Bonds, the relevant purchase agreement and offering circular and (v) the Issuer and the Dealers shall individually or collectively keep the evidence of fulfilment of conditions (i) through (iv) above after having taken necessary actions therefor; and

(b) in respect of the Covered Bonds relying on the exemption as set out in Article 2-2-2, Paragraph 2 (other than Item 3) of the Securities Issuance and Disclosure Regulations promulgated by the Financial Services Commission of Korea, the Covered Bonds may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as defined under the Foreign Exchange Transactions Act of Korea and the rules and regulations promulgated thereunder) or to others for re-offering or resale, directly or indirectly, in Korea or to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations. In addition, during the first year after the issuance of the Covered Bonds, the Covered Bonds may not be transferred to any resident of Korea except as otherwise permitted under applicable Korean laws and regulations.

Each Dealer has undertaken, and each further Dealer appointed under the Programme will be required to undertake, to ensure that any securities dealer to which it sells the Covered Bonds confirms that it is purchasing such Covered Bonds as principal and agrees with such Dealer that it will comply with the restrictions described above.

Australia

No prospectus or other disclosure document (as defined in the Corporations Act 2001 of Australia (the "**Corporations Act**") in relation to the Programme or any Covered Bond has been or will be lodged with the

Australian Securities and Investments Commission ("**ASIC**"). Each Dealer has represented and agreed and each further Dealer appointed under the Programme will be required to represent and agree that it:

(a) has not (directly or indirectly) offered, and will not offer for issue or sale and has not invited, and will not invite, applications for issue, or offers to purchase, the Covered Bond in, to or from Australia (including an offer or invitation which is received by a person in Australia); and

(b) has not distributed or published, and will not distribute or publish, any information memorandum, advertisement or other offering material relating to the Covered Bond in Australia,

unless (i) the aggregate consideration payable by each offeree or invitee is at least AUD 500,000 (or its equivalent in other currencies, disregarding moneys lent by the offeror or its associates) or the offer or invitation otherwise does not require disclosure to investors in accordance with Part 6D.2 of the Corporations Act, (ii) such action complies with all applicable laws, regulations and directives, and (iii) such action does not require any document to be lodged with ASIC.

Canada

Prospective Canadian investors are advised that the information contained within this Offering Circular, and additionally, the relevant Pricing Supplement or any other offering material relating to the Covered Bonds has not been prepared with regard to matters that may be of particular concern to Canadian investors. Accordingly, prospective Canadian investors should consult with their own legal, financial and tax advisers concerning the information contained within this Offering Circular, the relevant Pricing Supplement or any other offering material relating to the Covered Bonds and as to the suitability of an investment in the Covered Bonds in their particular circumstances.

The offer and sale of the Covered Bonds in Canada will only be made under exemptions from the requirement to file a prospectus with the Canadian securities regulators and will be made only by authorised dealer representatives that are properly registered under the laws of the relevant Canadian jurisdictions or, alternatively, that are entitled to rely on exemptions from the dealer registration requirements in the relevant Canadian jurisdictions.

The Covered Bonds may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in NI 45-106 or subsection 73.3(1) of the Securities Act (Ontario), and that are permitted clients, as defined in National Instrument 31-103 Registration Requirements, Exemptions and Ongoing Registrant Obligations. Any resale of the Covered Bonds must be made in accordance with an exemption from, or in a transaction not subject to, the prospectus requirements of applicable securities laws.

Securities legislation in certain provinces or territories of Canada may provide a purchaser with remedies for rescission or damages if this Offering Circular, the relevant Pricing Supplement or any other offering material constituting an "offering memorandum" under applicable Canadian securities laws (including any amendment to any such documents) contains a misrepresentation, provided that the remedies for rescission or damages are exercised by the purchaser within the time limit prescribed by the securities legislation of the purchaser's province or territory. The purchaser should refer to any applicable provisions of the securities legislation of the purchaser's province or territory for particulars of these rights or consult with a legal adviser.

Pursuant to section 3A.3 of National Instrument 33-105 Underwriting Conflicts ("**NI 33-105**"), the Dealers are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with an offering of Covered Bonds.

The Issuer hereby notifies prospective Canadian purchasers that: (a) it may be required to provide personal information pertaining to the purchaser as required to be disclosed in Schedule I of Form 45106F1 under NI 45-106 (including its name, address, telephone number and the aggregate purchase price of any Covered Bonds purchased) ("**personal information**"), which Form 45-106F1 may be required to be filed by the Issuer under NI 45-106, (b) such personal information may be delivered to the Ontario Securities Commission (the "**OSC**") in accordance with NI 45-106, (c) such personal information is collected indirectly by the OSC under the authority granted to it under the securities legislation of Ontario, (d) such personal information is collected for the purposes of the administration and enforcement of the securities legislation of Ontario, and (e) the public official in Ontario who can answer questions about the OSC's indirect collection of such personal information is the Administrative Support Clerk at the OSC, Suite 1903, Box 55, 20 Queen Street West, Toronto, Ontario M5H 3S8, telephone: (416) 593-3684. Prospective Canadian purchasers that purchase Covered Bonds in this offering will be deemed to have authorised the indirect collection of the personal information by the OSC, and to have acknowledged and consented to its name, address, telephone number and other specified information, including the aggregate purchase price paid by the purchaser, being disclosed to other Canadian securities regulatory authorities, and to have acknowledged that such information may become available to the public in accordance with requirements of applicable Canadian laws.

Upon receipt of this Offering Circular, each Canadian purchaser hereby confirms that it has expressly requested that all documents evidencing or relating in any way to the sale of the Covered Bonds described herein (including for greater certainty any purchase confirmation or any notice) be drawn up in the English language only. Par la reception de cette prospectus de base, chaque acheteur canadien confirme par les présentes qu'il a expressément exigé que tous les documents faisant foi ou se rapportant de quelque maniere que ce soit a la vente des valeurs mobilieres décrites aux présentes (incluant, pour plus de certitude, toute confirmation d'achat ou tout avis) soient rédigés en anglais seulement.

General

Each Dealer has agreed, and each further Dealer appointed under the Programme will be required to agree, that it will (to the best of its knowledge and belief) comply with all applicable securities laws and regulations in force in any jurisdiction in which it purchases, offers, sells or delivers the Covered Bonds or possesses or distributes this Offering Circular, and will obtain any consent, approval or permission required by it for the purchase, offer, sale or delivery by it of the Covered Bonds under the laws and regulations in force in any jurisdiction to which it is subject or in which it makes such purchases, offers, sales or deliveries, and none of the Issuer, the Arranger or any other Dealer shall have any responsibility therefor.

If a jurisdiction requires that any offering of the Covered Bonds under the Programme be made by a licenced broker or dealer and the Arranger or any Dealer or any affiliate of the Arranger or any Dealer is a licenced broker or dealer in that jurisdiction, the offering shall be deemed to be made by the Arranger, such Dealer or such affiliate on behalf of the Issuer in such jurisdiction.

None of the Issuer, the Arranger or any of the Dealers represents that the Covered Bonds may at any time lawfully be sold in compliance with any applicable registration or other requirements in any jurisdiction, or pursuant to any exemption available thereunder, or assumes any responsibility for facilitating such sale.

With regard to each Tranche, the Arranger and the relevant Dealer will be required to comply with such other additional restrictions as the Issuer, the Arranger and the relevant Dealer shall agree and as shall be set out in the applicable Pricing Supplement.

GENERAL INFORMATION

Authorization

The establishment of the Programme and each issuance of any Covered Bonds thereunder have been duly authorized by the resolutions of the Board of Directors of the Issuer dated December 28, 2022. Each issue of Covered Bonds under the Programme will be authorized by the Board of Directors of the Issuer at the time of issue or at a meeting held annually to approve the issue of Covered Bonds to be issued in the following fiscal year.

Listing of Covered Bonds on the SGX-ST

Approval in-principle has been received from the SGX-ST in connection with the Programme and application will be made for the listing and quotation of any Covered Bonds that may be issued pursuant to the Programme and which are agreed at or prior to the time of issue thereof to be so listed and quoted on the SGX-ST. Such permission will be granted when such Covered Bonds have been admitted for listing and quotation on the SGX-ST. The SGX-ST assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained herein. Approval in-principle from, admission to the Official List of, and listing and quotation of any of the Covered Bonds on, the SGX-ST are not to be taken as an indication of the merits of the Issuer, the Programme or the Covered Bonds.

Documents Available

From the date hereof and so long as Covered Bonds are capable of being issued under the Programme, copies of the following documents will, when published, be available for inspection at the registered office of the Issuer (in the case of clause (v) below, those documents will also be available at the specified office of the Issuing and Paying Agent, being at the Issue Date at Citibank, N.A., London Branch, Citigroup Centre, Canada Square, Canary Wharf, London E14 5LB, United Kingdom at all reasonable times following written request and proof of holding and identity satisfactory to the Issuing and Paying Agent or, as the case may be, the Trustee, during usual business hours (being between 9:00 a.m. (London time) and 3:00 p.m. (London time))):

(i) the constitutional documents (together with English translations) of the Issuer;

(ii) the audited consolidated and separate financial statements of the Issuer as of and for the years ended December 31, 2020 and 2021 and audited consolidated and separate financial statements of the Issuer as of and for the years ended December 31, 2022 (together with English translations);

(iii) the reviewed consolidated and separate financial statements of the Issuer in respect of the six-month periods ended June 30, 2022 and 2023 (together with English translations);

(iv) the most recently published (if available) audited consolidated and separate financial statements of the Issuer and the most recently published (if available) reviewed consolidated and separate interim financial statements of the Issuer (together with English translations);

(v) the Transaction Documents;

(vi) a copy of this Offering Circular;

(vii) any future offering circulars, information memoranda and supplements, including Pricing Supplements (save that a Pricing Supplement relating to an unlisted Covered Bond will only be available for inspection by a holder of such Covered Bond and such holder must produce evidence satisfactory to the Issuer or the relevant Paying Agent, as the case may be, as to its holding and identity), to this Offering Circular and any other documents incorporated herein or therein by reference; and

(viii) in the case of each issue of listed Covered Bonds subscribed pursuant to a subscription agreement, the subscription agreement (or equivalent document).

Clearing Systems

The Covered Bonds have been accepted for clearance through Euroclear and Clearstream. The appropriate Common Code and ISIN for each Tranche of Covered Bonds allocated by Euroclear and Clearstream will be specified in the applicable Pricing Supplement. In addition, the Issuer will make an application for any Registered Covered Bonds to be accepted for trading in book-entry form by DTC. The CUSIP number for each Tranche of Registered Covered Bonds, together with the relevant ISIN and Common Code, will be specified in the applicable Pricing Supplement. If the Covered Bonds are to clear through an additional or alternative clearing system, the appropriate information will be specified in the applicable Pricing Supplement.

Significant or Material Change

Save as disclosed in this Offering Circular, there has been no significant change in the financial or trading position of the Issuer and its subsidiaries since June 30, 2023 and there has been no material adverse change in the financial position or prospects of the Issuer and its subsidiaries since June 30, 2023.

Litigation

Other than as described in "*Business — Legal Proceedings and Other Matters*," neither the Issuer nor any of its subsidiaries (whether as defendant or otherwise) is engaged in any legal, arbitration, administrative or other proceedings, the results of which might have or have had in the recent past (covering at least the previous 12 months) a significant effect on the financial position or the operations of the Issuer and its subsidiaries nor is the Issuer aware of any such proceedings pending or being threatened.

Independent Auditors

The Bank's audited consolidated financial statements as of and for the years ended December 31, 2022 and 2021 included in this offering circular have been audited by Samil PricewaterhouseCoopers, independent auditors, as stated in their report appearing herein. The Bank's annual consolidated financial statements as of and for the years ended December 31, 2021 and 2020 included in this offering circular have been audited by Samil PricewaterhouseCoopers, independent auditors, as stated in their audit report (which contains the emphasis of matter paragraphs that describe a negative impact of the rapid spread of the COVID-19 pandemic and provision of additional regulatory reserve for loan loss) appearing herein.

With respect to the Bank's unaudited consolidated interim financial statements for the three and six months ended June 30, 2022, before the effects of the adjustments to retrospectively reclass certain items in the consolidated statement of cash flows described in Note 39 to the unaudited consolidated interim financial statements included in this offering circular, Samil PricewaterhouseCoopers reported that they have applied limited procedures in accordance with professional standards for a review of such information. However, their separate report dated August 16, 2022 (which contains an emphasis of matter paragraph that describes a negative impact of the rapid spread of the COVID-19 pandemic) herein states that they did not audit and they do not express an opinion on that unaudited interim financial information. Accordingly, the degree of reliance on such information should be restricted in light of the limited nature of the review procedures applied.

With respect to the Bank's unaudited consolidated interim financial statements as of June 30, 2023 and for the six months ended June 30, 2023 included in this offering circular, KPMG Samjong Accounting Corp., the independent auditors, have reported that they applied limited procedures in accordance with professional standards for a review of such information. However, their separate report included herein states that they did not audit and they do not express an opinion on that interim financial information. Accordingly, the degree of reliance on their report on such information should be restricted in light of the limited nature of the review procedures applied.

GLOSSARY

The following is a summary of the definitions of capitalised terms set forth in the Master Definitions Agreement. Except where the context otherwise requires, capitalised terms used and not otherwise defined in this offering circular shall bear the meanings given to them in the Master Definitions Agreement.

"Acceleration Notice" .... has the meaning given in Condition 10(b) (*Covered Bond Events of Default*).

"Account Bank" .... means: (a) the Transaction Account Bank in connection with the Transaction Account; (b) each of the Reserve Account Banks in connection with the Cover Pool Cash Accounts (other than the Transaction Account); and/or (c) the Custodian Bank in connection with the Swap Securities Collateral Account(s) (if any), or, in each case, any successors, assigns and replacements acting as such.

"Account Bank Agreement"............. means: (a) the Korean Account Bank Agreement in connection with Shinhan Bank (or any successors, assigns and replacements) acting in its capacities as Transaction Account Bank and a Reserve Account Bank;

(b) the Hong Kong Account Bank Agreement in connection with Citibank, N.A., Hong Kong Branch (or any successors, assigns and replacements) acting in its capacity as a Reserve Account Bank; and

(c) the Custodian Bank Agreement in connection with Citibank, N.A., Hong Kong Branch (or any successors, assigns and replacements) acting in its capacity as Custodian Bank.

"Account Bank Termination Event" ... means a Transaction Account Bank Termination Event, a Reserve Account Bank Termination Event or a Custodian Bank Termination Event, as applicable.

"Additional Filing Date" .... means, in respect of any additional asset in the Cover Pool, the date on which an additional filing to amend or supplement the Covered Bond Issuance Plan is made with the FSC to register such asset as part of the Cover Pool.

"Adjusted Aggregate Loan Amount".................................... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test*."

"Agency Agreement"....................... has the meaning given in the Conditions.

"Agents" .... means the Issuing and Paying Agent, the other Paying Agents, each Calculation Agent, the Registrars and the Transfer Agents or any of them and shall include such other Agent or Agents as may be appointed from time to time under the Agency Agreement.

"Agreed Procedures"	means certain procedures set out in the Asset Monitor Agreement, as amended from time to time by agreement between the Issuer and the Asset Monitor, each amendment as notified to each other party to the Asset Monitor Agreement.
"Amortisation Test"	has the meaning given in "*Summary of the Principal Documents — Asset Monitor Agreement — Amortisation Test*."
"Amortisation Test Adjusted Aggregate Loan Amount"	has the meaning given in "*Summary of the Principal Documents — Asset Monitor Agreement — Amortisation Test*."
"Appointee"	means any attorney, manager, agent, delegate, nominee, custodian or other person appointed by the Trustee under the Trust Deed.
"Asset Coverage Test"	has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test*."
"Asset Coverage Test Breach Notice"	means the notice required to be served by the Asset Monitor pursuant to the Establishment Deed if the Asset Coverage Test has not been met.
"Asset Monitor"	means Korea Housing Finance Corporation or any successors, assigns and replacements acting as asset monitor under the Asset Monitor Agreement.
"Asset Monitor ACT Calculation Date"	means each Calculation Date in respect of which the Asset Monitor shall perform the Agreed Procedures in relation to the Issuer's calculation of the Asset Coverage Test, as determined pursuant to the Asset Monitor Agreement.
"Asset Monitor Agreement"	means the asset monitor agreement entered into on or about the Initial Filing Date, as may be amended or restated from time to time, between the Asset Monitor, the Issuer and the Trustee.
"Asset Monitor Fee Letter"	means the letter between the Asset Monitor and the Issuer with respect to, inter alia, the fees payable by the Issuer to the Asset Monitor.
"Asset Monitor Report"	has the meaning given in "*Summary of the Principal Documents — Asset Monitor Agreement — Asset Monitor Report*."

"Asset Monitor Report Date"	has the meaning given in "*Summary of the Principal Documents — Asset Monitor Agreement — Asset Monitor Report*."
"Asset Percentage"	has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"
"Asset Percentage Adjusted Loan Amount"	has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"
"Borrower"	means, in relation to a Mortgage Loan Asset, the borrower under the related Mortgage Loan Agreement.
"Business Day"	means: (a) in respect of the Conditions, "Business Day" as defined in Condition 4(h) (Definitions); (b) in respect of the Agency Agreement and each Covered Bond, (i) a day (other than a Saturday or Sunday) on which Euroclear, Clearstream and DTC are operating and (ii) a day (other than a Saturday or Sunday) on which banks and foreign exchange markets are open for general business in the city of the Issuing and Paying Agent's (and, in the case of Registered Covered Bonds, the city of the Registrar's) specified office in London, New York, Hong Kong and Seoul and (iii) (if a payment is to be made on that day) a day on which banks and foreign exchange markets are open for general business in the principal financial centre for the currency of the payment or, in the case of euro, a day on which T2 is operating; or (c) otherwise, a day (other than a Saturday or Sunday) on which banks and foreign exchange markets are open for general business in London, New York, Hong Kong and Seoul.
"Business Day Convention"	has the meaning given in Condition 4(b)(ii) (*Business Day Convention*).
"Calculation Agent"	has the meaning given in the Conditions.
"Calculation Date"	means the last day of each Calculation Period.
"Calculation Period"	means the period from, and including, the first day of each month to, and including, the last day of each month, except that the first Calculation Period means the period from and including the Programme Date to and including the last day of the month in which the Programme Date falls.
"Cash Release Conditions"	means each of the following conditions in which cash standing to the credit of the Transaction Account may be withdrawn by the Issuer: (a) the amount standing to the credit of the Reserve Ledger of the Reserve Cash Account (if any) is not less than the Reserve Fund Required Amount; (b) for so long as the Issuer is in breach of the

Pre-Maturity Test, the Pre-Maturity Test Cure Requirement has been satisfied; (c) the Asset Coverage Test was satisfied on the immediately preceding Calculation Date and would have been satisfied on such immediately preceding Calculation Date after taking into account the proposed withdrawal of cash, provided that the Asset Coverage Test shall be deemed to have been satisfied from and including the Programme Date to and excluding the Calculation Date immediately following the first Issue Date under the Programme and this limb shall not apply where no Covered Bonds are issued and remain outstanding at the time of withdrawal; and (d) there is no breach of the Korean Covered Bond Act both before and after the withdrawal.

"Cause of Disposal Event" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Registration and Amendment of the Covered Bond Issuance Plan.*"

"Collateral Security" .... means, in respect of a Mortgage Loan: (a) any Mortgage; (b) any: (i) guarantee, indemnity or other assurance; or (ii) asset, which, in either case, secures or otherwise provides for the repayment or payment of that Mortgage Loan but does not include the Mortgage relating to that Mortgage Loan; or (c) any MCI in respect of the Mortgage Loan.

"Collateral Security Provider" .... means, with respect to any Collateral Security, the provider of such Collateral Security.

"Contingent Swap Effective Date"...... means, in relation to a Swap, a rating or default-based trigger event that is specified as such by the Issuer and the relevant Swap Provider in the relevant Swap.

"Convertibility Notice Event"........... means, in relation to a Series of Covered Bonds, the giving of notice by the calculation agent under the relevant Swap Agreement of a Convertibility Occurrence to the Issuer pursuant to the relevant Swap Agreement.

"Convertibility Occurrence" .... means, the occurrence of any of the following events: (i) the adoption of any rule, regulation or statute by any governmental or regulatory authority in Korea including, without limitation, MOEF or FSC, or the issuance of any order, decree, ruling or directive by any governmental or regulatory authority in Korea, which has the effect of imposing limitations or restrictions on the convertibility of Korean Won to the Contractual Currency of any Series of Covered Bonds, or limiting or restricting the transfer of the Contractual Currency of any Series of Covered Bonds in any fashion to or from or out of Korea (including, without limitation, limiting the ability of the Swap Provider of such Series of Covered Bonds to make payments under the relevant Swap Agreement), (ii) the general unavailability of the Contractual Currency of any Series of Covered Bonds at a market spot rate of exchange (applicable to the purchase of the Contractual Currency of any Series of Covered Bonds for Korean Won), or the unavailability of a market quotation in any onshore legal exchange market transfer officially recognised as such by the government of Korea and in accordance with prevailing commercial practice at the time, or (iii) any action taken by the Bank of Korea, MOEF or FSC (or any successor to any of them), which has the effect described in (i) or (ii) above of this definition.

"Coupons" .... has the meaning given in the Conditions.

"Cover Pool" .... means all assets of the Issuer and rights of the Issuer under the Swaps from time to time registered with the FSC as comprising the cover pool in respect of the Programme under the Korean Covered Bond Laws and the Covered Bond Issuance Plan.

"Cover Pool Account"...................... means each Cover Pool Cash Account and each Cover Pool Securities Account.

"Cover Pool Cash Account" .... means each of the following accounts registered with the FSC as accounts of the Cover Pool: (a) the Transaction Account; (b) each Swap Cash Collateral Account; (c) the Reserve Cash Account; and (d) one or more additional KRW and/or non-KRW denominated cash accounts with either of the Reserve Account Banks or such other bank as may be approved by the Trustee and the Asset Monitor.

"Cover Pool Ledger" .... has the meaning given in *"Summary of the Principal Documents — Establishment Deed — Establishment and Segregation of the Cover Pool.*"

"Cover Pool Priority of Payments"..... means the order of priority for the allocation and distribution of amounts from the Cover Pool among the Priority Payment Right Holders as described in "*Summary of the Principal Documents — Establishment Deed — Cover Pool Priority of Payments.*"

"Cover Pool Securities Account"........ means each of the following accounts registered with the FSC as accounts of the Cover Pool: (a) each Swap Securities Collateral Account; and (b) the Reserve Securities Account.

"Cover Pool Value"......................... means the value of the Cover Pool, as determined in accordance with the Korean Covered Bond Laws.

"Covered Bond Event of Default" ...... has the meaning given in Condition 10(b) (*Covered Bond Events of Default*).

"Covered Bond Issuance Plan" .... means the issuance plan filed by the Issuer on or about the Initial Filing Date in respect of the Programme, as may be amended or supplemented from time to time.

"Covered Bond Timely Payment Rating Level" .... means the Timely Payment Rating Level in respect of the Issuer's mortgage covered bond programme, as most recently disclosed by Fitch in its rating report (including rating commentary) or in its covered bond surveillance data for such programme.

"Custodian Bank" .... means Citibank, N.A., Hong Kong Branch or any successors, assigns and replacements acting as such, as custodian in respect of any Swap Securities Collateral Account(s).

"Custodian Bank Agreement" .... means the account bank agreement entered into on or about the Programme Date, as may be amended or restated from time to time, between the Custodian Bank, the Issuer, the Trustee and the Asset Monitor and includes any replacement account bank agreement entered into pursuant to the terms of the Custodian Bank Agreement following a Custodian Bank Termination Event.

"Custodian Bank Required Ratings" .. means the required ratings specified below in relation to the Custodian Bank (or such other rating or ratings as published by the relevant Rating Agency in its most recent ratings criteria from time to time to maintain the then current ratings of the Covered Bonds by Moody's or the Relevant Rating by Fitch, as applicable), except that the relevant ratings shall be those of the guarantor, if the obligations of the Custodian Bank are guaranteed by a guarantor: (a) a short-term issuer default rating of at least "F1" by Fitch or a long-term issuer default rating of at least "A-" by Fitch with respect to the Custodian Bank or, if the Custodian Bank does not maintain a rating by Fitch, the Custodian Bank's head office; and (b) a long-term bank deposit rating of at least "Baa1" by Moody's with respect to the Custodian Bank or, in the case of the initial Custodian Bank, if it does not maintain a rating by Moody's, the initial Custodian Bank's head office.

"Custodian Bank Termination Event" .... has the meaning given in "*Summary of the Principal Documents — Account Bank Agreements — Account Bank Termination and Replacement.*"

"Daily Cash Release" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Payments and Cash Release — Daily Cash Release.*"

"Data File" .... has the meaning given in "*Summary of the Principal Documents — Asset Monitor Agreement — Provision of Information and Assistance to the Asset Monitor.*"

"Dealer Agreement" .... has the meaning given in "*Subscription and Sale and Transfer and Selling Restrictions.*"

"Deemed Reductions" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"

"Delegate" .... has the meaning given in "*Summary of the Principal Documents — Asset Monitor Agreement — The Asset Monitor to Monitor the Cover Pool.*"

"DTI Ratio" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Eligibility Criteria.*"

"Eligibility Criteria" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Eligibility Criteria.*"

"Eligible Asset Monitor" .... means an entity which satisfies the requirements in respect of an asset monitor as set out in the Korean Covered Bond Laws.

"Eligible Liquid Asset" .... means a Liquid Asset that, as at the relevant Calculation Date or other applicable date of determination: (a) satisfies the Fitch Qualified Investment Criteria (for so long as any Covered Bonds are rated by Fitch); and (b) has the Moody's Liquid Asset Required Rating (for so long as any Covered Bonds are rated by Moody's).

"Establishment Deed" .... means the establishment deed entered into on or about the Initial Filing Date, as may be amended or restated from time to time, between the Issuer, the Asset Monitor and the Trustee.

"Extended Covered Bonds" .... means each Series of Covered Bonds for which an Extended Maturity Date is specified in the relevant Pricing Supplement and in respect of which a Maturity Extension Event has occurred.

"Extended Maturity Date" .... means, if applicable in respect of a Series of Covered Bonds, such date that is specified as such in the relevant Pricing Supplement.

"Extension Charges Balance" .... in respect of a Swap, has the meaning given in the relevant Swap Agreement.

"Extraordinary Resolution" .... means a resolution of the Covered Bondholders passed as such under the terms of the Trust Deed.

"Final Exchange Date" .... in respect of a Swap, has the meaning given in the relevant Swap Agreement.

"Final Redemption Amount" .... means the Final Redemption Amount determined in accordance with the Conditions.

"Fitch" .... means Fitch Ratings Ltd.

"Fitch Qualified Investment Criteria" .... means, for so long as any Covered Bonds are rated by Fitch, that: (a) in respect of assets that mature in 30 days or less: (i) such assets have a short-term issuer default rating of at least "F1" by Fitch and/or a long-term issuer default rating of at least "A-" by Fitch; and (ii) the assets are scheduled to mature within 30 days; or (b) in respect of assets that mature in at least 30 days and not more than 365 days: (i) such assets have a short-term issuer default rating of at least "F1+" by Fitch and/or a long-term issuer default rating of at least "AA-" by Fitch; and (ii) the assets are scheduled to mature before the earlier of 365 days or the next Interest Payment Date; or (c) in respect of assets falling within sub-paragraph (c)(z) of the definition of Liquid Assets, the long-term issuer default rating and short-term issuer default rating of the entity with which the deposits are made are rated at least A or F1 by Fitch or, in each case, such other rating or ratings as published by Fitch in its most recent rating criteria from time to time to maintain the Relevant Rating by Fitch.

"Fixed Rate Covered Bond"............. means a Covered Bond which bears interest on its outstanding nominal amount in accordance with Condition 4(a) (*Interest on Fixed Rate Covered Bonds*).

"Floating Rate Covered Bond" .... means a Covered Bond which bears interest on its outstanding nominal amount in accordance with Condition 4(b) (*Interest on Floating Rate Covered Bonds*).

"FSC Regulations".......................... means the Supervision Regulations on Issuance of Covered Bonds (FSC Notification No. 2014-12), as amended.

"Hard Bullet Covered Bonds" .... means Covered Bonds which are scheduled to be redeemed in full on their relevant Maturity Date without any provision for extension of their scheduled redemption past their Maturity Date and for which an Extended Maturity Date is not specified in the relevant Pricing Supplement.

"Hong Kong Account Bank Agreement" .... means the account bank agreement entered into on or about the Programme Date, as may be amended or restated from time to time, in connection with Citibank, N.A., Hong Kong Branch in its capacity as a Reserve Account Bank, the Issuer, the Trustee and the Asset Monitor and includes any replacement account bank agreement entered into pursuant to the terms of such agreement following an Account Bank Termination Event.

"Housing Act"	means the Housing Act of Korea (No. 13803, January 19, 2016), as amended.
"Indexed Valuation"	has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"
"Ineligible Mortgage Loan"	means any Mortgage Loan that is in breach of any Mortgage Loan Warranties.
"Initial Cover Pool"	means the portfolio of Underlying Assets, Liquid Assets and Other Assets, particulars of which will be included in the Covered Bond Issuance Plan on or about the Initial Filing Date and registered with the FSC in accordance with the Korean Covered Bond Laws.
"Initial Filing Date"	means, in respect of the initial assets in the Cover Pool, the date on which filing of the Covered Bond Issuance Plan is made with the FSC to register such assets as part of the Cover Pool.
"Interest Payment Date"	has the meaning given in Condition 4(b)(i) (*Interest Payment Dates*).
"Investor Report"	means each monthly report prepared by the Issuer (or, following the appointment of a Replacement Servicer, the Replacement Servicer) in accordance with the Establishment Deed and made available to the Covered Bondholders, the Trustee and the Rating Agencies detailing, inter alia, compliance with the Asset Coverage Test and which is to be posted on the Issuer's website (or, following the appointment of a Replacement Servicer, as directed by the Asset Monitor).
"Investor Report Date"	means the 20th day of the month immediately following the relevant Calculation Period or, if such day is not a Korean Business Day, the immediately following Korean Business Day, provided that the first Investor Report Date will occur after the first issuance of a Series of Covered Bonds.
"ISDA"	means International Swaps and Derivatives Association, Inc.
"ISDA Master Agreement"	means the 2002 ISDA Master Agreement, as published by ISDA.
"Issue Date"	has the meaning given in the Conditions.
"Issuer Covenants"	has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Issuer Covenants.*"
"Issuer EOD Notice"	has the meaning given in Condition 10(a) (*Issuer Events of Default*).
"Issuer Event of Default"	has the meaning given in Condition 10(a) *(Issuer Events of Default*).

"KB Market Prices" .... means the market prices of properties in Korea as published by Kookmin Bank.

"KFTC" .... means the Korea Financial Telecommunications & Clearings Institute.

"KFTC Notices" .... has the meaning given in "*Summary of the Principal Documents — Account Bank Agreements — Account Bank Termination and Replacement.*"

"Korean Account Bank Agreement" ... means the account bank agreement entered into on or about the Programme Date, as may be amended or restated from time to time, between the Transaction Account Bank, Shinhan Bank in its capacity as a Reserve Account Bank, the Issuer, the Trustee and the Asset Monitor and includes any replacement account bank agreement entered into pursuant to the terms of such agreement following an Account Bank Termination Event.

"Korean Business Day" .... means a day (other than Saturday and Sunday) on which commercial banks are open for general business (including dealings in foreign exchange and foreign currency deposits) in Korea.

"Korean Covered Bond Laws" .... has the meaning given in Condition 3 (*Status*).

"Korean Privacy Laws" .... means the Personal Information Protection Act (No. 10465 of 29 March 2011) of Korea, as amended, the Act on Real Name Financial Transactions and Confidentiality (No. 5493 of December 31, 1997) of Korea, as amended, and the Use and Protection of Credit Information Act (No. 9617, April 1, 2014) of Korea, as amended.

"KRW Equivalent" .... means, in relation to an amount which is denominated in (i) a currency other than Korean Won, the Korean Won equivalent of such amount ascertained using (x) the relevant Swap Rate relating to such Covered Bond if such amount relates to the interest or principal (including the outstanding principal amount) in respect of a Covered Bond; or (y) where the relevant Swap Agreement has terminated, there is no Swap Agreement or the amount is not related to the interest or principal in respect of a Covered Bond, the Spot Rate, and (ii) Korean Won, the applicable amount in Korean Won.

"Liquid Asset" .... means any of the following assets (other than any Swap Collateral) or such other liquid assets as may be provided in the Korean Covered Bond Laws from time to time:

(a) cash (excluding Other Assets and Underlying Assets);

(b) certificates of deposit with a maturity of no more than 100 days issued by financial companies (as defined in the Korean Covered Bond Act) other than the Issuer; and

(c) (x) bonds (other than Korean government bonds) issued by any government rated "AAA" to "AA-" by eligible credit rating agencies as designated by the Financial Supervisory Service of Korea; (y) financial instruments issued by any bank or securities company (other than any bank or securities company incorporated in Korea) which is rated "A" by internationally recognised credit rating agencies whose nature and maturity are comparable to those described in (b) above and otherwise satisfies the requirements as set out under the Korean Covered Bond Laws; and (z) deposits and term deposits at either domestic financing companies (as defined in the Korean Covered Bond Act) or foreign financial companies as prescribed by the FSC with a maturity of three months or less,

in each case, which the Issuer or (following the service of an Issuer EOD Notice on the Issuer) the Asset Monitor has determined are readily able to be liquidated within three months.

"Liquid Assets Ledger" .... means either: (i) the ledger in the Reserve Cash Account of such name maintained by the Issuer pursuant to the Korean Account Bank Agreement, to record the crediting and the debiting of Liquid Assets which are in the form of cash; or (ii) the ledger in the Reserve Securities Account of such name maintained by the Issuer pursuant to the Korean Account Bank Agreement to record the credits and debits of Liquid Assets which are other than in the form of cash, in each case in accordance with the terms of the Establishment Deed.

"Liquid Assets Value" .... means, in respect of any day, the aggregate value of the Eligible Liquid Assets (if any) in the Cover Pool as of such day in KRW, as determined in accordance with the Korean Covered Bond Laws and if applicable, multiplied by the valuation percentage (if applicable) to each such Eligible Liquid Assets being the percentage figures that are necessary to ensure that the Covered Bonds maintain the then current ratings assigned to them by Fitch and Moody's, provided that the applicable valuation percentage shall in no circumstances be greater than 100%.

"LTV Adjusted Loan Amount" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"

"LTV Limit" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"

"Margin" .... means, in respect of a Series of Covered Bonds, the Margin (if any) specified in the relevant Pricing Supplement.

"Material Adverse Effect" .... means any event or condition which would have a material adverse effect on: (a) the collectability or value of any Underlying Assets, Liquid Assets or Other Assets (whether as a result of a material adverse effect on the business, condition (financial or otherwise), operations, performance or properties of the Issuer); (b) the ability of the Issuer to perform its obligations under the Transaction Documents; or (c) the interests of the Covered Bondholders.

"Maturity Extension Event"............. means, in respect of any Series of Covered Bonds to which an Extended Maturity Date is specified as applicable in the Pricing Supplement, the Issuer fails to redeem all of those Covered Bonds in full on the Maturity Date of such Covered Bonds or within 10 calendar days thereafter.

"Maximum Liquid Assets Requirement" .... means the requirement, pursuant to Article 5(3) of the Korean Covered Bond Act (or any successor provision), that the KRW Equivalent of the value of the Liquid Assets forming part of the Cover Pool (as determined in accordance with the Korean Covered Bond Laws) shall not exceed 10% of the Cover Pool Value, or such other limit on Liquid Assets as may be specified by the Korean Covered Bond Laws from time to time.

"MCI"... means with respect to a Mortgage Loan, if applicable, mortgage credit insurance issued by SGIC in favour of the Issuer pursuant to the Master MCI Agreement.

"Minimum Required Ratings".......... means the required ratings specified below in relation to the Issuer (or such other rating or ratings as published by the relevant Rating Agency in its most recent ratings criteria from time to time to maintain the Relevant Rating by Fitch or the then current ratings of the Covered Bonds by Moody's, as applicable, except such other rating or ratings shall not apply for sub-paragraph (a) below in relation to Moody's): (a) in relation to the satisfaction of the Pre-Maturity Test pursuant to the Establishment Deed (i) a short-term counterparty risk assessment rating, or, if such short-term counterparty risk assessment rating in respect of the Issuer is not available, a senior unsecured rating or an issuer rating of at least "P-1" by Moody's; and (ii) a short-term issuer default rating of at least "F1+" by Fitch; (b) in relation to the funding of the Reserve Ledger of the Reserve Cash Account with an amount equal to the Reserve Fund Required Amount pursuant to the Establishment Deed (i) a long-term deposit rating, or, if such long-term deposit rating in respect of the Issuer is not available, a senior unsecured rating or an issuer rating, of at least "A2" by Moody's; and (ii) a short-term issuer default rating of at least "F1" by Fitch; or (iii) a long-term issuer default rating of at least "A-" by Fitch; and (c) in relation to conducting the Agreed Procedures pursuant to the Asset Monitor Agreement (i) a long-term counterparty risk assessment rating, or, if such long-term counterparty risk assessment rating in respect of the Issuer is not available, a senior unsecured rating or an issuer rating, of at least "Baa3" by Moody's; and (ii) a long-term issuer default rating of at least "BBB-" by Fitch.

"Monthly Distribution Date"............ means, following the service of an Issuer EOD Notice, the day falling one Korean Business Day following each Test Date.

"Moody's".................................... means Moody's Investors Service.

"Moody's Liquid Asset Required Ratings" .... means, in respect of Liquid Assets other than cash, that such Liquid Assets have: (a) in respect of Liquid Assets falling within paragraph (b) and (c)(z) of the definition of Liquid Assets, a long-term deposit rating or, as the case may be, a long-term issuer rating in respect of the relevant financial company, domestic financing company or foreign financial company of at least "A3"by Moody's; (b) in respect of Liquid Assets falling within paragraph (c)(x) of the definition of Liquid Assets, a long-term issuer or senior unsecured rating of at least "A3" by Moody's; or (c) in respect of Liquid Assets falling within paragraph (c)(y) of the definition of Liquid Assets, a deposit rating or, as the case may be, a debt rating, of at least "A3" by Moody's, or, in each case, such other rating or ratings as published by Moody's in its most recent rating criteria from time to time to maintain the then current ratings of the Covered Bonds by Moody's.

"Mortgage" .... means, with respect to a Mortgage Loan Agreement or a Mortgage Loan, a Keunmortgage (as such term is used under Korean law) securing the obligations of the Borrower or any third party under or in relation to such Mortgage Loan Agreement or Mortgage Loan.

"Mortgage Loan"........................... means, at any time, a transaction constituted by a Mortgage Loan Agreement between the Issuer as lender and the related Borrower(s), together with the related Mortgage and any other Related Assets in respect of such Mortgage Loan Agreement that is registered as part of the Cover Pool.

"Mortgage Loan Agreement" .... means, with respect to a Mortgage Loan, the mortgage loan agreement between the Issuer as lender and the related Borrower, which mortgage loan agreement governs the terms and conditions on which, among other things, a loan was advanced to, and is to be repaid by, such Borrower and the payment of interest on such loan, as such mortgage loan agreement may be amended, modified or otherwise changed from time to time and any other agreements entered into in connection with such Mortgage Loan, including, but not limited to, the general terms and conditions for credit transactions, the mortgage creation agreement between the Issuer, as mortgagee, and the relevant Mortgagor, and the mortgage loan application forms.

"Mortgage Loan Assets"	means, at any time, all of the right, title, interest and benefit in, to, under and in respect of Mortgage Loans that are part of the Cover Pool at such time.
"Mortgage Loan Warranties"	means the warranties set out in "*Summary of the Principal Documents — Establishment Deed — Mortgage Loan Warranties.*"
"Mortgaged Property"	means, in relation to any Mortgage, the property which is subject to such Mortgage.
"Mortgagor"	means, in relation to a Mortgage Loan, the mortgagor under the related Mortgage.
"New Mortgage Loan"	means any Mortgage Loan, other than the Mortgage Loans forming part of the Initial Cover Pool, which the Issuer may add to the Cover Pool in accordance with the Korean Covered Bond Laws after the Initial Filing Date.
"Obligors"	means, collectively, all of the Borrowers and the Mortgagors, and each an "Obligor."
"Other Assets"	has the meaning given in "*Summary of Korean Legislation Regarding Covered Bonds — Cover Pool — Composition of Assets and Eligibility Criteria.*"
"Perfection Notice"	means a perfection notice signed by the Issuer and delivered as soon as practicable and, in any event, within 15 Korean Business Days following the occurrence of a Cause of Disposal Event, by content and delivery proof mail (Naeyong Juengmyung Baedal Juengmyung in Korean) to the Borrowers or to SGIC, in accordance with the Korean Covered Bond Laws and the Korean Civil Code.
"PMT Ongoing Test Series"	has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Pre-Maturity Liquidity.*"
"PMT Shortfall Amount"	means, in respect of all PMT Ongoing Test Series and a PMT Shortfall Valuation Date, the amount by which the portion of the Required Redemption Amount which relates to PMT Ongoing Test Series exceeds the Pre-Maturity Liquidity Assets Value in respect of such PMT Shortfall Valuation Date.
"PMT Shortfall Valuation Date"	means, in respect of all PMT Ongoing Test Series, the Friday of each week, provided that if such day is not a Korean Business Day, such PMT Shortfall Valuation Date shall be the next following Korean Business Day.

"Pre-Maturity Liquidity Assets" .... means any of the following assets deposited by the Issuer into the Pre-Maturity Liquidity Ledger of the Reserve Cash Account and/or of the Reserve Securities Account (as applicable): (a) Liquid Assets; and (b) Underlying Assets other than (i) residential mortgage loans or (ii) loans secured by vessels or aircraft.

"Pre-Maturity Liquidity Assets Value" .... means, at any time, the aggregate value of the Pre-Maturity Liquidity Assets, calculated as the sum of:

(a) in respect of the portion of Pre-Maturity Liquidity Assets that are Eligible Liquid Assets, the portion of the Liquid Assets Value relating to such Eligible Liquid Assets; and

(b) in respect of the portion of Pre-Maturity Liquidity Assets that are Underlying Assets: (i) the aggregate value of such Underlying Assets in KRW, as determined in accordance with the Korean Covered Bond Laws, multiplied by the valuation percentage applicable to each such Underlying Asset as specified below: (1) in respect of Underlying Assets that are fixed rate Korean government bonds with a remaining maturity of: (A) less than or equal to one year, 99%; (B) more than one year but less than or equal to two years, 98%; (C) more than two years but less than or equal to three years, 97%; (D) more than three years but less than or equal to five years, 97%; (E) more than five years but less than or equal to seven years, 96%; (F) more than seven years but less than or equal to 10 years, 93%; (G) more than 10 years but less than or equal to 20 years, 90%; (H) more than 20 years, 88%; or

(c) in respect of the portion of Underlying Assets which are not Korean government bonds, zero,

in each case subject to update from time to time in accordance with the most recent applicable rating criteria published by Fitch to maintain the then current ratings of the Covered Bonds and the most recent applicable rating criteria published by Moody's to maintain the then current ratings of the Covered Bonds by Moody's; provided that a prior written confirmation is obtained from Moody's in respect of the applicability of such other rating or ratings to Pre-Maturity Liquidity Assets in the context of the ratings by Moody's of the Covered Bonds.

"Pre-Maturity Liquidity Ledger" .... means either: (i) the ledger in the Reserve Cash Account of such name maintained by the Issuer pursuant to the Korean Account Bank Agreement to record the credits and debits of Pre-Maturity Liquidity Assets which are in the form of cash; or (ii) the ledger in the Reserve Securities Account of such name maintained by the Issuer pursuant to the Korean Account Bank Agreement to record the credits and debits of Pre-Maturity Liquidity Assets which are other than in the form of cash, in each case available to repay any series of Hard Bullet Covered Bonds on the Maturity Date thereof if the Pre-Maturity Test has been breached.

"Pre-Maturity Test" .... means a test in relation to a Series of Hard Bullet Covered Bonds on a Pre-Maturity Test Date to see whether the Issuer ceases to have the applicable Minimum Required Ratings from one or both Rating Agencies.

"Pre-Maturity Test Cure Requirement" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Pre-Maturity Liquidity.*"

"Pre-Maturity Test Date"................ has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Pre-Maturity Liquidity.*"

"Pre-Maturity Test Period" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Pre-Maturity Liquidity.*"

"Preceding Business Day Convention" .... has the meaning given in Condition 4(b)(ii) (*Interest on Floating Rate Covered Bonds — Business Day Convention*).

"Priority Payment Right Holder"....... means any person with a Priority Payment Right.

"Priority Payment Rights"............... means each of the following: (a) any fees, costs or expenses of the Asset Monitor or any Delegate; (b) any fees, costs or expenses (including properly incurred legal fees and expenses) of or any other amounts (including by way of indemnity) owing to the Trustee, any Appointee or any Agent; (c) any fees, costs or expenses (including properly incurred legal fees and expenses) of or any other amounts (including by way of indemnity) owing to: (i) the Transaction Account Bank in relation to the Transaction Account; (ii) the Reserve Account Banks in relation to the Cover Pool Cash Accounts (other than the Transaction Account); and (iii) the Custodian Bank in relation to any Swap Securities Collateral Accounts; (d) any amounts payable to the Covered Bondholders under the Covered Bonds; and (e) any amounts payable to any Swap Provider under any Swap.

"Programme Date" .... means October 20, 2023.

"Rating Agencies"........................... means Moody's and Fitch, in each case, for so long as it continues to provide a rating in respect of Covered Bonds, and each a "Rating Agency."

"Regulatory Requirements" .... means any law, rule, code or regulatory requirement of any Governmental Authority.

"Relevant Rating" .... means the Covered Bond Timely Payment Rating Level or, to the extent that Fitch has not disclosed a Covered Bond Timely Payment Rating Level in respect of the Issuer's mortgage covered bond programme, the then current rating of the Covered Bonds.

"Reserve Cash Account" .... means the account designated as such in the name of the Issuer held with a Reserve Account Bank or such other bank from time to time, as applicable, into which the Reserve Fund, Pre-Maturity Liquidity Assets in the form of cash and Liquid Assets in the form of cash may be deposited in accordance with the terms of the Establishment Deed.

"Reserve Fund" .... means the reserve fund that the Issuer will be required to establish in the Reserve Cash Account which will be credited with an aggregate amount equal to the Reserve Fund Required Amount.

"Reserve Fund Required Amount" ..... means: (a) if, and for so long as, the Issuer's credit rating is equal to or higher than the then applicable Minimum Required Ratings, nil; or (b) if, and for so long as, the Issuer's credit rating is below one or more of the Minimum Required Ratings, an amount equal to the KRW Equivalent of the sum of: (i) (x) in relation to each Series of Covered Bonds where a Swap is in place, the aggregate amounts due to the relevant Swap Provider in respect of interest under each Series of Covered Bonds in the immediately following three months, or (y) in relation to each Series of Covered Bonds where a Swap is not in place, the aggregate amounts of interest due in respect of each such Series of Covered Bonds in the immediately following three months; provided that, in determining the Reserve Fund Required Amount, where any amount in respect of the Covered Bonds or a Swap is determined by reference to a floating rate, the applicable rate for the purposes of such determination will be the then current floating rate as at the date on which the amount is calculated; (ii) prior to service of Perfection Notices, the greater of (x) KRW 500,000,000 and (y) the product of KRW 7,500 and the total number of Borrowers as of the date of determination (representing the amount reimbursable for the costs of preparing and delivering Perfection Notices in accordance with the Establishment Deed), and thereafter, zero; and (iii) the aggregate amounts known to be due to the Trustee, any Appointee, the Agents, the Asset Monitor (and Delegates), any Replacement Servicer, the Transaction Account Bank and the Reserve Account Banks, in each case pursuant to the terms of the relevant Transaction Documents or applicable fee letters, in the immediately following three months.

"Reserve Ledger" .... means the ledger in the Reserve Cash Account of such name maintained by the Issuer pursuant to the Korean Account Bank

Agreement, to record the crediting and the debiting of the Reserve Fund in accordance with the terms of the Establishment Deed.

"Reserve Securities Account" .... means the account designated as such in the name of the Issuer held with the Securities Depositary, Euroclear or such other custodian or securities depositary from time to time, as applicable, into which Liquid Assets or Pre-Maturity Liquidity Assets other than cash may be deposited in accordance with the terms of the Establishment Deed.

"Securities Depositary" .... means the Korea Securities Depositary.

"Series" .... means a series of Covered Bonds comprising one or more Tranches, whether or not issued on the same date, that (except in respect of the first payment of interest and their issue price) have identical terms on issue and are expressed to have the same series number.

"Series Required Redemption Amount" .... means, in respect of the Pre-Maturity Test and a Series of Hard Bullet Covered Bonds which are scheduled to mature during the relevant Pre-Maturity Test Period, the aggregate principal amount outstanding of such Series.

"Series Required Redemption Amount Cut-off Date" .... has the meaning given in "*Summary of the Principal Documents — Establishment Deed — Pre-Maturity Liquidity.*"

"Series Reserved Matter" .... means, in respect of a Series, those matters to which special quorum provisions of the Trust Deed apply.

"Servicer Replacement Event" .... means the Issuer ceases to have a long-term counterparty risk assessment rating, or, if such long-term counterparty risk assessment rating in respect of the Issuer is not available, a senior unsecured rating or an issuer rating, of at least "Baa3" by Moody's or its long-term issuer default rating is rated below "BBB-" by Fitch or such other rating or ratings as published by the relevant Rating Agency in its most recent ratings criteria from time to time to maintain the then current ratings of the Covered Bonds by such Rating Agency.

"Set-Off Amount" .... has the meaning given in *"Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"

"Set-Off Rating Event" .... has the meaning given in *"Summary of the Principal Documents — Establishment Deed — Asset Coverage Test.*"

"SGIC" .... means Seoul Guarantee Insurance Company.

"Spot Rate" .... means a spot rate for the sale of KRW against the purchase of the currency of the relevant amount other than KRW in the foreign exchange market in Seoul quoted by any leading bank selected by: (i) the Issuer; (ii) following service of an Issuer EOD Notice, the Asset Monitor; or (iii) in respect of a determination to be made by the Trustee, the Trustee, in each case on the relevant day of calculation.

"Subscription Agreement"............... means an agreement between two or more Relevant Dealers and the Issuer made pursuant to the Dealer Agreement.

"Substitution Resolution"................ means the substitution of any entity for the Issuer (or any previous substitute) as principal debtor under the Trust Deed and the other Transaction Documents to which the Issuer is a party, provided that such substitution is permitted under the Korean Covered Bond Laws.

"Swap".. means any cross-currency swap transaction governed by any Swap Agreement.

"Swap Agreement" .... means each agreement between the Issuer, a Swap Provider and the Trustee governing a Swap entered into with such Swap Provider in the form of an ISDA Master Agreement, including a schedule and confirmation and any credit support annex entered into pursuant thereto, as amended from time to time.

"Swap Cash Collateral Account" .... means an account in the name of the Issuer held with the relevant Reserve Account Bank or such other bank (which will be subject to the Reserve Account Bank Required Ratings as if such other bank is a Reserve Account Bank) as may be approved by the Asset Monitor from time to time, as applicable, into which Swap Collateral in the form of cash in respect of any Swap may be deposited.

"Swap Collateral".......................... means, at any time, any asset (including, without limitation, cash and/ or securities) which is paid or transferred by a Swap Provider to the Issuer as collateral to secure the performance by such Swap Provider of its obligations under the relevant Swap Agreement, together with any income or distributions received in respect of such asset and any equivalent of such asset into which such asset is transformed.

"Swap Collateral Available Amounts".................................. means, at any time, the amount of Swap Collateral which, under the terms of the relevant Swap Agreement, may be applied at that time in satisfaction of the relevant Swap Provider's obligations to the Issuer.

"Swap Collateral Excluded Amounts".................................. means: (a) the amount of Swap Collateral which may not be applied under the terms of the relevant Swap Agreement at that time in satisfaction of the relevant Swap Provider's obligations to the Issuer, including Swap Collateral which is to be returned to the relevant Swap Provider from time to time in accordance with the terms of the Swap Agreements and ultimately upon termination of the relevant Swap Agreement after paying for amounts due in respect of the replacement swap pursuant to clause 11.4.2 (*Swap Payments*) of the Establishment Deed; and (b) any cash benefit relating to any Tax Credits received or obtained in respect of a Swap (the amount of such cash benefit as determined in accordance with the relevant Swap Agreement), which is to be returned to the relevant Swap Provider from time to time in accordance with the terms of the Swap Agreements.

"Swap Payment Account" .... means an onshore account in the relevant currency of the Covered Bonds to be opened in the name of the Issuer upon the occurrence of a Convertibility Notice Event and held with the relevant Reserve Account Bank or such other bank (which will be subject to the Reserve Account Bank Required Ratings as if such other bank is a Reserve Account Bank) as may be approved by the Asset Monitor from time to time, as applicable, into which Swap Payment Amounts may be paid.

"Swap Payment Amount"................ means, at any time, any KRW Equivalent which is transferred by a Swap Provider to the account of the Issuing and Paying Agent (or upon the occurrence of a Convertibility Notice Event, the Swap Payment Account opened by the Issuer).

"Swap Payment Date" .... means, in respect of a Series of Covered Bonds, any date on which the Issuer is obliged to pay under the relevant Swap.

"Swap Provider" .... means each provider (or any successors, assigns and replacements) of a Swap under a Swap Agreement.

"Swap Provider Default"................. means the occurrence of an Event of Default or Termination Event (other than a Termination Event that is an "Illegality" or "Tax Event"), each as defined in the relevant Swap Agreement, where the relevant Swap Provider is the Defaulting Party or the sole Affected Party (each as defined in the relevant Swap Agreement), as applicable.

"Swap Rate" .... means the foreign exchange conversion rate of the currency of the relevant Series of Covered Bonds and KRW specified as the `Covered Bond Swap Rate' in the confirmation relating to the relevant Swap.

"Swap Securities Collateral Account".................................. means an account in the name of the Issuer held with the Custodian Bank or such other bank from time to time, as applicable, into which Swap Collateral in the form of securities in respect of any Swap may be deposited.

"Swap Termination Payment"	means, in relation to a Swap Agreement, an amount equal to the amount of any termination payment due and payable to the relevant Swap Provider as a result of a termination of such Swap Agreement in accordance with its terms.
"T2"	has the meaning given in Condition 4(g) (*Definitions*).
"Talons"	has the meaning given in the Conditions.
"Tax Credit"	means a credit against any Tax or any relief or remission for Tax (or its repayment).
"Taxes"	means all present and future taxes, levies, imposts, duties (including stamp and transaction duties), fees, deductions, withholdings or charges of any nature whatsoever and wheresoever imposed, except if imposed on, or calculated having regard to the net income of the relevant party, but including, without limitation, income tax, company tax, corporation tax, goods and services tax or value added tax or other tax in respect of added value and any franchise, transfer, sales, gross receipts, use, business, occupation, excise, personal property, real property or other tax imposed by any national, local or supranational taxing or fiscal authority or agency, together with any penalties, fines or interest, and "Tax" and "Taxation" shall be construed accordingly.
"Test Date"	means: (a) in respect of a Calculation Period and the Asset Coverage Test, the tenth Korean Business Day of the month immediately following such Calculation Period; and (b) in respect of a Calculation Period and the Amortisation Test, the tenth Korean Business Day of the month immediately following such Calculation Period.
"Tranche"	means, in relation to a Series, those Covered Bonds of that Series that are issued on the same date at the same issue price and in respect of which the first payment of interest is identical.
"Timely Payment Rating Level"	means the Fitch rating scenario corresponding to the expectation of timely payment in respect of the covered bonds in a mortgage covered bond programme.
"Tranche"	means, in relation to a Series, those Covered Bonds of that Series that are issued on the same date at the same issue price and in respect of which the first payment of interest is identical.
"Transaction Account"	means the account designated as such in the name of the Issuer held with the Transaction Account Bank and maintained subject to the terms of the Korean Account Bank Agreement or such other account

as may for the time being be in place with the prior consent of the Asset Monitor and designated as such.

"Transaction Account Bank" .... means Shinhan Bank or any successors, assigns and replacements acting as account bank of the Transaction Account in connection with the Cover Pool and appointed pursuant to the Korean Account Bank Agreement.

"Transaction Account Bank Relevant Entity" .... means the Transaction Account Bank and any financial institution that has provided a guarantee of the Transaction Account Bank's obligations under the Korean Account Bank Agreement (provided that each Rating Agency is notified in respect of such guarantee).

"Transaction Account Bank Required Ratings" .... means the required ratings specified below in relation to the Transaction Account Bank (or such other rating or ratings as published by the relevant Rating Agency in its most recent ratings criteria from time to time to maintain the then current ratings of the Covered Bonds by Moody's or the Relevant Rating by Fitch, as applicable), except that the relevant ratings shall be those of the guarantor, if the obligations of such Transaction Account Bank are guaranteed by a guarantor: (a) (x) if the Issuer is the Transaction Account Bank, a short-term issuer default rating of at least "F2" by Fitch or a long-term issuer default rating of at least "BBB" by Fitch; or (y) if the Issuer is not the Transaction Account Bank, a short-term issuer default rating of at least "F1" by Fitch or a long-term issuer default rating of at least "A-" by Fitch with respect to the Transaction Account Bank or, if the Transaction Account Bank does not maintain a rating by Fitch, the Transaction Account Bank's head office; and (b) a long-term bank deposit rating of at least "Baa1" by Moody's with respect to the Transaction Account Bank or, in the case of the initial Transaction Account Bank, if it does not maintain a rating by Moody's, the initial Transaction Account Bank's head office.

"Transaction Account Bank Termination Event" .... has the meaning given in "*Summary of the Principal Documents — Account Bank Agreements — Account Bank Termination and Replacement.*"

"Transaction Documents" .... means each of the following: (a) each Account Bank Agreement; (b) the Agency Agreement; (c) the Asset Monitor Agreement; (d) each Swap Agreement; (e) the Establishment Deed; (f) the Master Definitions Agreement; (g) each Pricing Supplement (as applicable in the case of each issue of listed Covered Bonds subscribed pursuant to a subscription agreement); (h) the Dealer Agreement; (i) each Subscription Agreement (as applicable in the case of each issue of listed Covered Bonds subscribed pursuant to a subscription agreement); (j) the Trust Deed (including the Conditions); (k) each document, agreement or deed ancillary or supplemental to any of the documents specified in paragraphs (a) to (j) (inclusive) above of this definition; and (l) any other agreement or document from time to time designated as such by the Issuer and the Trustee.

"Transaction Party"	means any person who is a party to a Transaction Document and "Transaction Parties" means some or all of them.
"Trust Deed"	has the meaning given in the Conditions.
"Trustee"	has the meaning given in the Conditions.
"Underlying Asset"	means any asset that complies with sub-paragraph 1 of Article 5(1) of the Korean Covered Bond Act (or any successor provision).

INDEX TO FINANCIAL STATEMENTS

Condensed Consolidated Interim Financial Statements of the Bank as of June 30, 2023 and for the Six Months Ended June 30, 2023 and 2022

Independent Auditors' Review Report by KPMG Samjong Accounting Corp F-2

Report on Review of Interim Financial Statements by Samil PricewaterhouseCoopers F-4

Consolidated Interim Statements of Financial Position as of June 30, 2023 and December 31, 2022 .... F-6

Consolidated Interim Statements of Comprehensive Income for the three-month and six-month periods ended June 30, 2023 and 2022 .... F-7

Consolidated Interim Statements of Changes in Equity for the six-month periods ended June 30, 2023 and 2022 .... F-9

Consolidated Interim Statements of Cash Flows for the six-month periods ended June 30, 2023 and 2022 .... F-11

Notes to the Condensed Consolidated Interim Financial Statements F-13

Audited Consolidated Financial Statements of the Bank as of and for the Years Ended December 31, 2022 and 2021

Independent Auditor's Report F-159

Consolidated Statements of Financial Position as of December 31, 2022 and 2021 .... F-161

Consolidated Statements of Comprehensive Income for the years ended December 31, 2022 and 2021 .... F-162

Consolidated Statements of Changes in Equity for the years ended December 31, 2022 and 2021 .... F-164

Consolidated Statements of Cash Flows for the years ended December 31, 2022 and 2021 .... F-166

Notes to the Consolidated Financial Statements for the years ended December 31, 2022 and 2021 .... F-168

Audited Consolidated Financial Statements of the Bank as of and for the Years Ended December 31, 2021 and 2020

Independent Auditor's Report F-361

Consolidated Statements of Financial Position as of December 31, 2021 and 2020 .... F-364

Consolidated Statements of Comprehensive Income for the years ended December 31, 2021 and 2020 .... F-365

Consolidated Statements of Changes in Equity for the years ended December 31, 2021 and 2020 .... F-367

Consolidated Statements of Cash Flows for the years ended December 31, 2021 and 2020 .... F-369

Notes to the Consolidated Financial Statements for the years ended December 31, 2021 and 2020 .... F-371

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Independent Auditors' Review Report

The Board of Directors and Stockholder
Shinhan Bank:

Reviewed financial statements
We have reviewed the accompanying condensed consolidated interim financial statements of Shinhan Bank and its subsidiaries (collectively the "Group"), which comprise the consolidated interim statement of financial position as of June 30, 2023, the consolidated interim statements of comprehensive income for the three-month and six-month period ended June 30, 2023, changes in equity and cash flows for the six-month period ended June 30, 2023 and notes, comprising of material accounting policy information and other explanatory information.

Management's responsibility
Management is responsible for the preparation and fair presentation of these condensed consolidated interim financial statements in accordance with Korean International Financial Reporting Standards ("K-IFRS") No.1034 *Interim Financial Reporting*, and for such internal control as management determines is necessary to enable the preparation of the condensed consolidated interim financial statements that are free from material misstatement, whether due to fraud or error.

Auditors' review responsibility
Our responsibility is to issue a report on these condensed consolidated interim financial statements based on our review.

We conducted our review in accordance with the Review Standards for Quarterly and Semiannual Financial Statements established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion
Based on our review, nothing has come to our attention that causes us to believe that the accompanying condensed consolidated interim financial statements referred to above are not prepared, in all material respects, in accordance with K-IFRS No.1034 *Interim Financial Reporting*.

Other matters
The procedures and practices utilized in the Republic of Korea to review such condensed consolidated interim financial statements may differ from those generally accepted and applied in other countries.

The accompanying consolidated interim statements of comprehensive income for the three-month and six-month period ended June 30, 2022, changes in equity and cash flows for the six-month period ended June 30, 2022, were reviewed by other auditors whose report thereon, dated August 16, 2022, expressed that nothing came to their attention that caused them to believe that those interim financial statements are not prepared, in all material respects, in accordance with K-IFRS No. 1034 *Interim Financial Reporting*. The condensed consolidated interim financial statements that other auditors reviewed were those before reflecting the adjustments due to the change in accounting policy described in Note 39. The accompanying consolidated interim statements of cash flows for the six-month period ended June 30, 2022, presented for comparative purposes, are those after reflecting such adjustments.

The consolidated statement of financial position of the Group as of December 31, 2022, and the related consolidated statements of comprehensive income, changes in equity and cash flows for the year then ended, which are not accompanying this report, were audited by other auditors in accordance with Korean Standards on Auditing and their report thereon, dated March 6, 2023, expressed an unqualified opinion. The accompanying consolidated statement of financial position of the Group as of December 31, 2022, presented for comparative purposes, is consistent, in all material respects, with the audited consolidated statement of financial position from which it has been derived.

/s/ KPMG Samjong Accounting Corp.
Seoul, Korea
August 14, 2023

This report is effective as of August 14, 2023, the review report date. Certain subsequent events or circumstances, which may occur between the review report date and the time of reading this report, could have a material impact on the accompanying condensed consolidated interim financial statements and notes thereto. Accordingly, the readers of the review report should understand that the above review report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

Report on Review of Interim Financial Statements

To the Shareholder and Board of Directors of Shinhan Bank
(A wholly owned subsidiary of Shinhan Financial Group Inc.)

Reviewed Financial Statements

We have reviewed consolidated interim statements of comprehensive income for the three-month and six-month periods ended June 30, 2022, and consolidated interim statements of changes in equity and cash flows for the six-month period ended June 30, 2022 of Shinhan Bank and its subsidiaries (collectively referred to as the "Group"), including related notes (collectively referred to as the "consolidated interim financial statements"), before the effects of the adjustments to retrospectively reclass certain items in the consolidated statement of cash flows described in Note 39.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated interim financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS) 1034 *Interim Financial Reporting*, and for such internal control as management determines is necessary to enable the preparation of consolidated interim financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to issue a report on these consolidated interim financial statements based on our review.

We conducted our review in accordance with quarterly or semi-annual review standards established by the Securities and Futures Commission of the Republic of Korea. A review of interim financial information consists of making inquiries, primarily of persons responsible for financial and accounting matters, and applying analytical and other review procedures. A review is substantially less in scope than an audit conducted in accordance with Korean Standards on Auditing and consequently does not enable us to obtain assurance that we would become aware of all significant matters that might be identified in an audit. Accordingly, we do not express an audit opinion.

Conclusion

Based on our review, nothing has come to our attention that causes us to believe the consolidated interim financial statements, before the effects of the adjustments to retrospectively reclass certain items in the consolidated statement of cash flows described in Note 39, are not presented fairly, in all material respects, in accordance with Korean IFRS 1034 *Interim Financial Reporting.* (the 2022 consolidated interim financial statements before the effects of adjustments discussed in Note 39 are not presented herein).

Emphasis of Matter

Without modifying our conclusion, we draw attention to Note 2 of the financial statements. As explained in Note 2 to the 2022 consolidated interim financial statements, the rapid spread of the COVID-19 epidemic has had a negative impact on the global economy, which can result in an increase in expected credit losses, potential impairment of assets, and negatively affecting the Group's ability to generate revenue.

Other Matters

We were not engaged to audit, review or apply any procedures to the retrospective adjustments related to the reclassification of certain items in the consolidated statement of cash flows described in Note 39 to the consolidated interim financial statements as of and for the six-month period ended June 30, 2023 and, accordingly, we do not express an opinion or any other form of assurance on them.

Review standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to review such financial statements may differ from those generally accepted and applied in other countries.

/s/ Samil PricewaterhouseCoopers

August 16, 2022
Seoul, Korea

This report is effective as of August 16, 2022, the review report date. Certain subsequent events or circumstances, which may occur between the review report date and the time of reading this report, could have a material impact on the accompanying consolidated interim financial statements and notes thereto. Accordingly, the readers of the review report should understand that there is a possibility that the above review report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Interim Statements of Financial Position

As of June 30, 2023 and December 31, 2022

(In millions of Korean won)	Notes		June 30, 2022 (Unaudited)	December 31, 2022
Assets				
Cash and due from banks	3,5,8,34,35	₩	30,455,007	22,569,882
Securities at fair value through profit or loss	3,6,35,37		19,062,035	21,201,704
Derivative assets	3,7,35,37		3,812,880	4,904,096
Loans at amortized cost	3,8,35,37		341,389,953	344,298,939
Loans at fair value through profit or loss	3,8		780,029	972,553
Securities at fair value through other comprehensive income	3,9,37		48,020,658	48,770,784
Securities at amortized cost	3,9,37		30,059,169	28,379,986
Property and equipment	4,10,11		2,526,365	2,537,482
Intangible assets	4,12		1,086,473	636,487
Investments in subsidiaries and associates	13		302,745	266,893
Investment properties	4		641,006	604,940
Net defined benefit assets	20		451,349	530,174
Current tax assets			40,474	31,780
Deferred tax assets			179,601	437,896
Other assets	3,8,14,35,38		18,325,752	15,808,585
Non-current assets held for sale			30,829	29,211
Total assets		₩	497,164,325	491,981,392
Liabilities				
Financial liabilities designated at fair value through profit or loss	3,15	₩	243,893	47,327
Deposits	3,16,35		374,577,704	373,104,189
Financial liabilities at fair value through profit or loss	3,17		404,190	424,964
Derivative liabilities	3,7,35,37		4,406,066	5,779,626
Borrowings	3,18		23,092,778	24,212,792
Debt securities issued	3,19		30,607,275	33,186,180
Net defined benefit obligations	20		7,140	7,020
Provisions	21,33		399,384	369,201
Current tax liabilities			241,978	478,724
Deferred tax liabilities			14,240	14,247
Other liabilities	3,22,35,38		31,057,479	23,189,862
Total liabilities		₩	465,052,127	460,814,132
Equity				
Capital stock	23	₩	7,928,078	7,928,078
Hybrid bonds	23		2,188,082	2,088,542
Capital surplus	23		403,164	403,164
Capital adjustments	23,31		2,398	2,515
Accumulated other comprehensive loss	23,31		(895,903)	(1,260,828)
Retained earnings	23,24		22,474,094	21,997,438
(Reserve for loan loss)			(2,500,641)	(2,631,990)
(Required amount of loan loss (gain))			((202,936))	((131,349))
(Expected amount of loan loss (gain))		₩	((202,936))	((131,349))
Total equity attributable to equity holder of Shinhan Bank			32,099,913	31,158,909
Non-controlling interests	23		12,285	8,351
Total equity			32,112,198	31,167,260
Total liabilities and equity		₩	497,164,325	491,981,392

See accompanying notes to the condensed consolidated interim financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Interim Statements of Comprehensive Income

For the three-month and six-month periods ended June 30, 2023 and 2022

(In millions of won, except earnings per share data)

	Notes		June 30, 2023 (Unaudited) Three-month	June 30, 2023 (Unaudited) Six-month	June 30, 2022 (Unaudited) Three-month	June 30, 2022 (Unaudited) Six-month
Interest income		₩	5,035,522	9,818,367	3,117,494	5,883,315
Financial instruments at fair value through profit or loss			137,076	263,654	82,366	153,430
Financial instruments at fair value through other comprehensive income and amortized cost			4,898,446	9,554,713	3,035,128	5,729,885
Interest expense			2,919,159	5,699,446	1,079,657	1,993,154
Net interest income	3,4,25,35		2,116,363	4,118,921	2,037,837	3,890,161
Fees and commission income			319,577	632,808	317,924	653,372
Fees and commission expense			80,092	156,814	80,079	149,827
Net fees and commission income	3,4,26,35		239,485	475,994	237,845	503,545
Dividend income	27		1,527	42,241	2,087	14,003
Net gain on financial instruments at fair value through profit or loss	7,17,28		165,462	314,816	30,501	88,521
Net foreign currencies transaction gain			21,343	122,717	39,718	124,185
Net gain on financial instruments designated at fair value through profit or loss	15,35		14,708	13,434	1,406	1,406
Net gain(loss) on disposal of financial assets at fair value through other comprehensive income	9		5,984	15,152	(1,677)	1,684
Net loss on disposal of securities at amortized cost	9		(1)	(2)	(14)	(55)
Provision for credit loss allowance	3,8,9,21,35		271,509	448,723	204,899	301,437
General and administrative expenses	29		928,221	1,786,162	848,292	1,643,025
Net other operating expenses	30,35		(303,666)	(579,212)	(184,386)	(405,020)
Operating income	4		1,061,475	2,289,176	1,110,126	2,273,968
Net non-operating income (loss)	4		(45,575)	(30,712)	(7,481)	2,251
Share of profit (loss) of associates	4,13		2,791	58	(3,722)	171
Profit before income taxes	4		1,018,691	2,258,522	1,098,923	2,276,390
Income tax expense	4,31		269,627	577,825	278,786	592,958
Profit for the period	4,24		749,064	1,680,697	820,137	1,683,432

(Adjusted profit after reflection of reserve for loan loss
Three-month in the first half: 876,723 million won
Cumulative for the current half year: 1,883,633 million won
Three-month in the previous half: 902,055 million won
Cumulative for the previous half year: 1,787,852 million won)

SHINHAN BANK AND SUBSIDIARIES

Consolidated Interim Statements of Comprehensive Income (Continued)

For the three-month and six-month periods ended June 30, 2023 and 2022

(In millions of won, except earnings per share data)	Notes		June 30, 2023 (Unaudited)		June 30, 2022 (Unaudited)	
			Three-month	Six-month	Three-month	Six-month
Items that are or may be reclassified subsequently to profit or loss:						
Foreign currency translation differences for foreign operations			(57,224)	97,643	85,127	108,952
Unrealized net change in fair value of financial assets at fair value through other comprehensive income			(48,466)	323,282	(491,886)	(891,557)
Shares in other comprehensive income (loss) of associates			4,261	6,154	(3,289)	(9,064)
			(101,429)	427,079	(410,048)	(791,669)
Items that will never be reclassified to profit or loss:						
Remeasurements of defined benefit obligations			(26,580)	(25,460)	144,830	147,253
Unrealized net change in fair value of financial assets at fair value through other comprehensive income			(18,487)	(37,415)	(1,292)	18,268
			(45,067)	(62,875)	143,538	165,521
Other comprehensive income (loss) for the period, net of income tax	3,23	₩	(146,496)	364,204	(266,510)	(626,148)
Total comprehensive income for the period		₩	602,568	2,044,901	553,627	1,057,284
Profit attributable to:						
Equity holders of Shinhan Bank		₩	749,000	1,680,548	819,953	1,683,045
Non-controlling interests			64	149	184	387
Profit for the period	4	₩	749,064	1,680,697	820,137	1,683,432
Total comprehensive income attributable to:						
Equity holders of Shinhan Bank		₩	602,391	2,044,212	553,035	1,056,329
Non-controlling interests			177	689	592	955
Total comprehensive income for the period		₩	602,568	2,044,901	553,627	1,057,284
Earnings per share:						
Basic and diluted earnings per share in won	32	₩	457	1,031	508	1,044

See accompanying notes to the condensed consolidated interim financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Interim Statements of Changes in Equity

For the six-month period ended June 30, 2022

(In millions of won)		Attributable to equity holder of Shinhan Bank							
		Capital stock	**Hybrid bonds**	**Capital surplus**	**Capital adjustments**	**Accumulated other comprehensive income (loss)**	**Retained earnings**	**Non-controlling interests**	**Total**
Balance at January 1, 2022	₩	7,928,078	1,586,662	403,164	2,742	(607,040)	19,914,560	7,472	29,235,638
Total comprehensive income (loss), net of income tax									
Profit for the period		-	-	-	-	-	1,683,045	387	1,683,432
Other comprehensive income (loss) for the period:									
Foreign currency translation differences for foreign operations		-	-	-	-	108,380	-	572	108,952
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income		-	-	-	-	(875,179)	1,919	(29)	(873,289)
Share of other comprehensive loss of associates		-	-	-	-	(9,064)	-	-	(9,064)
Remeasurements of defined benefit plans		-	-	-	-	147,228	-	25	147,253
Total comprehensive income (loss) for the period		-	-	-	-	(628,635)	1,684,964	955	1,057,284
Transactions with owners, recognized directly in equity									
Annual dividends to equity holder		-	-	-	-	-	(900,000)	-	(900,000)
Dividends to hybrid bond holders		-	-	-	-	-	(27,632)	-	(27,632)
Issuance of hybrid bonds		-	322,276	-	-	-	-	-	322,276
Repayment of hybrid bonds		-	(129,701)	-	(299)	-	-	-	(130,000)
Share-based payment transactions		-	-	-	(87)	-	-	-	(87)
Total transactions with owners		-	192,575	-	(386)	-	(927,632)	-	(735,443)
Balance at June 30, 2022(Unaudited)	₩	7,928,078	1,779,237	403,164	2,356	(1,235,675)	20,671,892	8,427	29,557,479

See accompanying notes to the condensed consolidated interim financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Interim Statements of Changes in Equity (Continued)

For the six-month period ended June 30, 2023

(In millions of Korean won)		Attributable to equity holder of Shinhan Bank							
		Capital stock	**Hybrid bonds**	**Capital surplus**	**Capital adjustments**	**Accumulated other comprehensive income (loss)**	**Retained earnings**	**Non-controlling interests**	**Total**
Balance at January 1, 2023	₩	7,928,078	2,088,542	403,164	2,515	(1,260,828)	21,997,438	8,351	31,167,260
Total comprehensive income (loss), net of income tax									
Profit for the period		-	-	-	-	-	1,680,548	149	1,680,697
Other comprehensive income for the period									
Foreign currency translation differences for foreign operations		-	-	-	-	97,119	-	524	97,643
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income		-	-	-	-	287,124	(1,261)	4	285,867
Share of other comprehensive loss of associates		-	-	-	-	6,154	-	-	6,154
Remeasurements of defined benefit plans		-	-	-	-	(25,472)	-	12	(25,460)
Total comprehensive income for the period		-	-	-	-	364,925	1,679,287	689	2,044,901
Transactions with owners in their capacity as owner									
Annual dividends to equity holder		-	-	-	-	-	(1,157,105)	-	(1,157,105)
Dividends to hybrid bond holders		-	-	-	-	-	(45,227)	-	(45,227)
Issuance of hybrid bonds		-	399,107	-	-	-	-	-	399,107
Repayment of hybrid bonds		-	(299,567)	-	(433)	-	-	-	(300,000)
Share-based payment transactions		-	-	-	17	-	-	-	17
Additional investments in subsidiaries		-	-	-	-	-	-	3,245	3,245
Others		-	-	-	299	-	(299)	-	-
Total transactions with owners in their capacity as owners		-	99,540	-	(117)	-	(1,202,631)	3,245	(1,099,963)
Balance at June 30, 2023 (Unaudited)	₩	7,928,078	2,188,082	403,164	2,398	(895,903)	22,474,094	12,285	32,112,198

See accompanying notes to the condensed consolidated interim financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Interim Statements of Cash Flows
For the six-month periods ended June 30, 2023 and 2022

(In millions of Korean won)		Six-month periods ended June 30	
		2023 (Unaudited)	**2022 (Unaudited)**
Cash flows from operating activities			
Profit before income tax	₩	2,258,522	2,276,390
Adjustments for:			
Interest income		(9,818,367)	(5,883,315)
Interest expense		5,699,446	1,993,154
Dividend income		(42,241)	(14,003)
		(4,161,162)	(3,904,164)
Income and expense items without cash in/outflow:			
Net (gain) loss on financial instruments at fair value through profit or loss		(226,898)	320,941
Net non-cash foreign currencies transaction loss		(64,678)	(20,896)
Net loss on financial instruments designated at fair value through profit or loss		(13,434)	(1,406)
Net loss on disposal of financial assets at fair value through other comprehensive income		(15,152)	(1,684)
Net gain on disposal of securities at amortized cost		2	55
Provision for credit loss allowance		448,723	301,437
Non-cash employee benefits		48,725	66,093
Depreciation and amortization		241,784	221,852
Net non-cash other operating expenses		58,110	60,617
Share of profit of associates		(58)	(171)
Non-operating (income) expense		7,146	(16,442)
		484,270	930,396
Changes in assets and liabilities:			
Deposits at amortized cost		425,497	(198,588)
Securities at fair value through profit or loss		2,769,735	1,367,213
Derivative assets		3,052,122	1,937,036
Loans at amortized cost		3,143,744	(11,392,554)
Loans at fair value through profit or loss		192,200	648,672
Other assets		(2,427,220)	(8,153,238)
Deposits due to customers		1,455,101	8,134,893
Financial liabilities at fair value through profit or loss		(52,714)	(99,551)
Derivative liabilities		(3,176,148)	(1,934,668)
Defined benefit liabilities		1,874	(170,588)
Provisions		(6,906)	(8,563)
Other liabilities		5,920,946	13,764,081
		11,298,231	3,894,145
Income tax paid		(667,653)	(446,672)
Interest received		9,750,856	5,924,403
Interest paid		(4,312,152)	(1,813,524)
Dividends received		44,105	17,054
Net cash inflow from operating activities	₩	14,695,017	6,878,028

SHINHAN BANK AND SUBSIDIARIES

Consolidated Interim Statements of Cash Flows (Continued)

For the six-month periods ended June 30, 2023 and 2022

(In millions of Korean won)		Six-month periods ended June 30	
		2023 (Unaudited)	**2022 (Unaudited)**
Cash flows from investing activities			
Net cash flow of derivative financial instruments for hedges	₩	6,120	(6,604)
Proceeds from decrease of securities at fair value through profit or loss		395,977	1,046,271
Acquisition of securities at fair value through profit or loss		(852,255)	(1,096,196)
Proceeds from decrease of securities at fair value through other comprehensive income		17,283,092	7,994,307
Acquisition of securities at fair value through other comprehensive income		(16,221,220)	(11,935,426)
Proceeds from decrease of securities at amortized cost		1,490,834	2,612,970
Acquisition of securities at amortized cost		(3,076,688)	(4,416,553)
Proceeds from disposal of property and equipment		252	403
Acquisition of property and equipment		(74,855)	(96,393)
Proceeds from disposal of intangible assets		-	700
Acquisition of intangible assets		(125,104)	(156,972)
Proceeds from disposal of investments in associates		9,659	3,352
Acquisition of investments in associates		(27,122)	(48,098)
Acquisition of investment properties		(3,135)	(2,232)
Proceeds from disposal of non-current assets for sale		1,576	-
Decrease in other assets		281,622	453,963
Increase in other assets		(279,661)	(367,090)
Net cash outflow from investing activities		(1,190,908)	(6,013,598)
Cash flows from financing activities			
Net cash flow of derivative financial instruments for hedges		-	88
Increase in financial liabilities designated at fair value through profit or loss		209,969	49,993
Net increase (decrease) in borrowings		(1,492,111)	3,200,058
Proceeds from issuance of debt securities		11,649,456	10,627,933
Repayment of debt securities		(14,509,272)	(13,194,690)
Dividends paid		(1,203,297)	(927,632)
Issuance of hybrid bonds		399,107	322,276
Repayment of hybrid bonds		(300,000)	(130,000)
Increase in other liabilities		70,715	70,314
Decrease in other liabilities		(168,422)	(178,272)
Increase in non-controlling interests		3,245	-
Net cash outflow from financing activities		(5,340,610)	(159,932)
Effect of exchange rate fluctuations on cash and cash equivalents held		47,602	35,662
Net increase in cash and cash equivalents		8,211,101	740,160
Cash and cash equivalents at the beginning of the period (Note 34)		21,379,922	21,238,317
Cash and cash equivalents at the end of the period (Note 34)	₩	29,591,023	21,978,477

See accompanying notes to the condensed consolidated interim financial statements.

1. Reporting entity

(a) Overview

Shinhan Bank Co., Ltd., the controlling company (hereinafter referred to as the "Bank") has its headquarters at 20 Sejong-daero 9-gil, Jung-gu, Seoul. The condensed consolidated interim financial statements for the reporting period ended on June 30, 2023 consist of shares in the Bank and its subsidiaries (hereinafter collectively referred to as the "Group"), and its associates and joint ventures.

The Bank is established with a new merger (October 1, 1943, bank named Choheung Bank Co., Ltd.) of Hansung Bank established on February 19, 1897, and Dongil Bank established on August 8, 1906.

The Bank acquired Chungbuk Bank and Kangwon Bank in 1999 and the former Shinhan Bank on April 1, 2006, and subsequently changed its name to Shinhan Bank. As of June 30, 2023, the Bank has 1,585,615,506 outstanding common shares with par value of ₩7,928,078 million which is 100% owned by Shinhan Financial Group Co., Ltd. ("Shinhan Financial Group"). As of June 30, 2023, the Bank operates through 609 domestic branches, 113 depository offices, 27 premises and 14 overseas branches.

(b) Subsidiaries included in consolidation (structured entities excluded)

Details of ownerships in subsidiaries as of June 30, 2023 and December 31, 2022 are as follows:

Controlling company	Name of subsidiary	Location	Closing month	Sectors	Ownership (%) June 30, 2023	Ownership (%) December 31, 2022
Shinhan Bank	Shinhan Bank America	U.S.A	December 31	Bank	100.00%	100.00%
	Shinhan Bank Europe GmbH	Germany	December 31	Bank	100.00%	100.00%
	Shinhan Bank Cambodia	Cambodia	December 31	Bank	97.50%	97.50%
	Shinhan Bank Kazakhstan Ltd.	Kazakhstan	December 31	Bank	100.00%	100.00%
	Shinhan Bank Canada	Canada	December 31	Bank	100.00%	100.00%
	Shinhan Bank China Ltd.	China	December 31	Bank	100.00%	100.00%
	Shinhan Bank Japan	Japan	June 30	Bank	100.00%	100.00%
	Shinhan Bank Vietnam Ltd.	Vietnam	December 31	Bank	100.00%	100.00%
	Banco Shinhan de Mexico	Mexico	December 31	Bank	99.99%	99.99%
	PT Bank Shinhan Indonesia	Indonesia	December 31	Bank	99.00%	99.00%
Shinhan Bank Japan	SBJ DNX	Japan	June 30	Computer Service	100.00%	100.00%

i) Shinhan Bank America

Shinhan Bank America ("Shinhan America") is established through the merger of Chohung Bank of New York and California Chohung Bank. Shinhan America's capital stock amounted to USD 173 million as of June 30, 2023.

ii) Shinhan Bank Europe GmbH

Shinhan Bank Europe GmbH ("Shinhan Europe") is established in 1994 for obtaining the authorization of banking business. As of June 30, 2023, Shinhan Europe's capital stock amounted to EUR 63 million.

iii) Shinhan Bank Cambodia

Shinhan Bank Cambodia ("Shinhan Cambodia") is established on October 15, 2007, for obtaining the authorization of banking business. Shinhan Cambodia was renamed from Shinhan Khmer Bank PLC during the year ended December 31, 2018. Shinhan Cambodia's capital stock amounted to USD 175 million as of June 30, 2023.

1. Reporting entity (continued)

(b) Subsidiaries included in consolidation (structured entities excluded) (continued)

iv) Shinhan Bank Kazakhstan Limited

Shinhan Bank Kazakhstan Limited ("Shinhan Kazakhstan") is established on December 16, 2008, for the purpose of engaging banking business, etc. As of June 30, 2023, Shinhan Kazakhstan's capital stock amounted to KZT 10,029 million.

v) Shinhan Bank Canada

Shinhan Bank Canada ("Shinhan Canada") is established on March 9, 2009, for the purpose of engaging banking business, etc. As of June 30, 2023, Shinhan Canada's capital stock amounted to CAD 80 million.

vi) Shinhan Bank China Limited

The local branch of the Group has been incorporated as the entity on May 12, 2008, for the purpose of engaging banking business, etc. As of June 30, 2023, Shinhan China's capital stock amounted to CNY 2,000 million.

vii) Shinhan Bank Japan

The local branch of the Group has been converted its organization type to an entity on September 14, 2009. Shinhan Japan's capital stock amounted to JPY 20,000 million as of June 30, 2023.

viii) Shinhan Bank Vietnam Ltd.

The local branch of the Group has been converted its organization type to an entity on November 16, 2009, for the purpose of engaging banking business, etc. and merged with Shinhan Vina Bank on November 28, 2011. On December 17, 2017, Shinhan Vietnam acquired the retail business of ANZ Vietnam. As of June 30, 2023, Shinhan Vietnam's capital stock amounted to VND 5,709,900 million.

ix) Banco Shinhan de Mexico

Banco Shinhan de Mexico ("Shinhan Mexico") is established on October 12, 2015, for obtaining the authorization of banking business. As of June 30, 2023, Shinhan Mexico's capital stock amounted to MXN 1,583 million.

x) PT Bank Shinhan Indonesia

On November 30, 2015, the Bank obtained the control of PT Bank Metro Express, which is established on September 8, 1967, for obtaining the authorization of banking business and is engaged in the banking business. PT Bank Metro Express is renamed as PT Bank Shinhan Indonesia ("Shinhan Indonesia") in 2016 and merged PT Centratama Nasional Bank, a former subsidiary of the Bank, on December 6, 2016. As of June 30, 2023, Shinhan Indonesia's s capital stock amounted to IDR 944,278 million.

xi) SBJ DNX

It is established on April 1, 2020, for the purpose of operating the computer service business, and as of June 30, 2023, and SBJ DNX's capital stock amounted to JPY 50 million.

1. Reporting entity (continued)

(c) Structured entities included in consolidation

Structured entities included in consolidation as of June 30, 2023 are as follows:

Structured entities	Location	Closing month	Sectors
MPC Yulchon Green 1st	Korea	3/6/9/12	Other financial business
MPC Yulchon 2nd	Korea	3/6/9/12	Other financial business
MPC Yulchon 1st	Korea	3/6/9/12	Other financial business
Shinhan-S-Russell Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan-Daesung Contents Fund	Korea	12	Others
Tiger Eyes 3rd Co., Ltd.	Korea	12	Other financial business
Sunny Smart 4th Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB portfolio a 3rd Co., Ltd.	Korea	1/4/7/10	Other financial business
S-redefine 3rd Co., Ltd.	Korea	7	Other financial business
Maestro ER Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTROST Co., Ltd.	Korea	12	Other financial business
S-redefine 10th Co., Ltd.	Korea	1/4/7/10	Other financial business
Maestrogongdeok Co., Ltd.	Korea	3/6/9/12	Other financial business
GIBDAEMYUNG 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
GIBLAB 2nd Co., Ltd.	Korea	9	Other financial business
MaestroDcube Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO Byeolnae Co., Ltd.	Korea	1/4/7/10	Other financial business
SH ROAD No.1 Co., Ltd.	Korea	1/4/7/10	Other financial business
MAESTRO Landmark Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO DS Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB ST Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO H No.2 Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Caps Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger 10th Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB JDT Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mobility 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB YB Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO Aero Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO YS Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Bright 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Games Co., Ltd.	Korea	3/6/9/12	Other financial business
Maestro Iksan Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger LIP Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Chemical Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB HwangGeum Co., Ltd.	Korea	3/6/9/12	Other financial business
S-bright Hongdae	Korea	3/6/9/12	Other financial business
BRIGHT WOONJEONG Co., Ltd.	Korea	2/5/8/11	Other financial business
S BRIGHT CHEONHO Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB County 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mokpo Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Tech Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB SungSan Co., Ltd.	Korea	3/6/9/12	Other financial business
S BRIGHT PANGYO Co., Ltd.	Korea	3/6/9/12	Other financial business

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities included in consolidation as of June 30, 2023 are as follows: (continued)

Structured entities	Location	Closing month	Sectors
S-Tiger K Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Energy Co., Ltd.	Korea	1/4/7/10	Other financial business
Shinhan-GIB-SKL Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate YONGSAN Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate Shinseol Corp.	Korea	3/6/9/12	Other financial business
S BRIGHT ENERGY Co., Ltd.	Korea	2/5/8/11	Other financial business
S BRIGHT IKSAN Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Jeju Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Magok Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Sahwa Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB HC 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Munjung Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan GIB Rozen Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger First Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB RB 1st Co., Ltd.	Korea	7	Other financial business
Rich gate Box Corp.	Korea	2/5/8/11	Other financial business
GIB EMT Co., Ltd.	Korea	1/4/7/10	Other financial business
S BRIGHT LDC Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Chowol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Gyeongju Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Duwol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 2nd Co., Ltd.	Korea	11	Other financial business
GIB ST 2nd Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Haeundae Co., Ltd.	Korea	12	Other financial business
Rich gate Alpha Corp.	Korea	1/4/7/10	Other financial business
GIB AL 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Sinchon Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate Baegot Corp.	Korea	2/5/8/11	Other financial business
Rich gate Jaseok Corp.	Korea	2/5/8/11	Other financial business
Shinhan GIB Mirae Co., Ltd.	Korea	2/5/8/11	Other financial business
S First 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Dujeong Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Pungmu Co., Ltd.	Korea	2/5/8/11	Other financial business
Shinhan GIB Hwaseong Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate N Corp.	Korea	3/6/9/12	Other financial business
S-Tiger Jinro Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Doan Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Yucheon Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Yongmun Co., Ltd.	Korea	1/4/7/10	Other financial business
OSHC Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Sinsa Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Segyo Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Gildong Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB JD Co., Ltd.	Korea	6	Other financial business
GIB Sahwa Co., Ltd.	Korea	3/6/9/12	Other financial business

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities included in consolidation as of June 30, 2023 are as follows: (continued)

Structured entities	Location	Closing month	Sectors
S-Tiger Oil Co., Ltd.	Korea	3/6/9/12	Other financial business
S-First L Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mighty 3rd Co., Ltd.	Korea	3/6/9/12	Other financial business
Gangnam Landmark 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
RICHGATE GANGNAM Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger SP Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB SOOPYO Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB SINJEONG Co., Ltd.	Korea	1/4/7/10	Other financial business
GIBMAJANG Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB HOMEPLUS. Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB YD Co., Ltd.	Korea	1/4/7/10	Other financial business
S TIGER BIZON Co., Ltd.	Korea	2/5/8/11	Other financial business
S TIGER SI Co., Ltd.	Korea	2/5/8/11	Other financial business
RICH GATE GANGSEO Co., Ltd.	Korea	2/5/8/11	Other financial business
S TIGER HD Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB GYEONGAN Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB NAMSA Co., Ltd.	Korea	3/6/9/12	Other financial business
S TIGER LEC Co., Ltd.	Korea	2/5/8/11	Other financial business
Hana Micron 3rd Co., Ltd.	Korea	1/4/7/10	Other financial business
RICH GATE H	Korea	3/6/9/12	Other financial business
S TIGER MOBILE INC.	Korea	2/5/8/11	Other financial business
Green Bio No.3 Co., Ltd.	Korea	12	Other financial business
GIB Eunpyeong Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate GS Corp.	Korea	1/4/7/10	Other financial business
Shinhan Display 4th Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Loex No.2 Co., Ltd.	Korea	1/4/7/10	Other financial business
S Project D Co., Ltd	Korea	1/4/7/10	Other financial business
S TIGER H Co., Ltd.	Korea	1/4/7/10	Other financial business
S TIGER HL Co., Ltd.	Korea	2/5/8/11	Other financial business
S Solution C Co., Ltd	Korea	2/5/8/11	Other financial business
S TIGER NM Co., Ltd.	Korea	3/6/9/12	Other financial business
Development Trust	Korea	12	Trust
Non-specified Money Trust	Korea	12	Trust
Old-age Living Pension Trust	Korea	12	Trust
New-Personal Pension Trust	Korea	12	Trust
Personal Pension Trust	Korea	12	Trust
Retirement Trust	Korea	12	Trust
New Old-age Living Pension Trust	Korea	12	Trust
Pension Trust	Korea	12	Trust
Household Money Trust (Shinhan)	Korea	12	Trust
Corporation Money Trust (Shinhan)	Korea	12	Trust
Shinhan SG Rail Professional Investment Type Private Special Asset Investment Trust No. 2	Korea	1/4/7/11	Beneficiary certificate
Shinhan AIM Private Real Estate Investment Trust No.31	Korea	6/12	Beneficiary certificate

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

The Group consolidates a structured entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to most significantly affect those returns through its power over the structured entity based on the terms in the agreement relating to the establishment of the structured entity. There is no non-controlling interest in the structured entities since the ownership interest in the structured entities is presented as a liability of the Group.

As of June 30, 2023 and December 31, 2022, the Group provides credit guarantees (ABCP purchase agreement, etc.) amounting to ₩5,168,560 million and ₩4,573,327 million to the structured entities described above.

(d) Changes in subsidiaries

Subsidiaries newly included or excluded for the six-month period ended June 30, 2023 are as follows:

	Subsidiaries
Newly included subsidiaries for the six-month period ended June 30, 2023	Green B io No.3 Co., Ltd.
	GIB Eunpyeong Co., Ltd.
	Rich gate GS Corp.
	Shinhan Display 4th Co., Ltd.
	S-Tiger Loex No.2 Co., Ltd.
	S Project D Co., Ltd
	S TIGER H Co., Ltd.
	S TIGER HL Co., Ltd.
	S Solution C Co., Ltd
	S TIGER NM Co., Ltd.

	Subsidiaries
Excluded subsidiaries for the six-month period ended June 30, 2023	S-Force 2nd Co., Ltd.
	S-Tiger Loex Co., Ltd.
	Shinhan Display 3rd Co., Ltd.
	MAESTRO H Co., Ltd.
	GIB DM Co., Ltd.
	Rich gate 14th Corp.

2. Material accounting policies

The material accounting policies applied by the Group are as follows:

(a) Basis of preparation

The Group's consolidated interim financial statements have been prepared in accordance with K-IFRS. These consolidated interim financial statements were prepared in accordance with K-IFRS No.1034, *'Interim Financial Reporting'* as part of the period covered by the Group's K-IFRS annual financial statements and contains less information than required in the annual consolidated financial statements. Selective comments include a description of transactions or events that are significant in understanding the changes in the financial position and management performance of the Group that occurred after December 31, 2022.

(b) Use of estimates and judgements

In preparation of the interim financial statements according to the K-IFRS, the use of estimates and assumptions is required for the application of accounting policies or matters affecting the reporting amounts of assets, liabilities and revenues and expenses as of June 30, 2023. Estimates and assumptions based on management's judgment as of June 30, 2023, may differ from these estimates and actual results.

Estimates and underlying assumptions are continually reviewed, and changes in accounting estimates are recognized during the period in which the estimate is changed and the future period in which it will be affected.

The management's assessment of the Bank's accounting policies and estimated amounts used in condensed consolidated financial statements in the summary of interim financial statements used the same accounting policies and estimates as the annual consolidated financial statements for the year ended December 31, 2022.

The prolonged spread of the COVID-19 is negatively affecting the global economy. The Group uses forward-looking information to estimate expected credit losses in accordance with K-IFRS No.1109 'Financial Instruments' and there have been significant changes in forward-looking information due to the spread of the COVID-19 for the year ended December 31, 2022. As of December 31, 2022, the forecast default rate is re-estimated using changed forward-looking information on the GDP growth rate, consumer price index growth rate, unemployment rate, etc. which are major variables for calculating the default rate. The forward-looking information used by the Group to estimate expected credit losses as of June 30, 2023 is the same as that of the annual consolidated financial statements as at December 31, 2022. The Group will continue to monitor the impact of the COVID-19 on the economy.

2. Material accounting policies (continued)

(c) New and amended standards and interpretations adopted by the Group

From the accounting period beginning on January 1, 2023, the Group has newly applied the following standards and interpretations

i)Amendments to K-IFRS No.1001 'Presentation of Financial Statements' –Disclosure of Accounting Policies

The amendments define material accounting policy information and require disclosure of material accounting policy information. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

ii) Amendments to K-IFRS No.1001 'Presentation of Financial Statements'– Disclosure of gains or losses on valuation of financial liabilities with variable exercise price

The amendments require disclosure of the carrying amount of financial liabilities and the related gain or loss if all or part of financial instruments with variable exercise price as the contractual term are classified as financial liabilities. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

iii) Amendments to K-IFRS No.1008 'Accounting Policies, Changes in Accounting Estimates and Errors'– Definition of Accounting Estimates

The amendments define accounting estimates and clarify the way to distinguish changes in accounting policies from changes in accounting estimates. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

iv) Amendments to K-IFRS No.1012 'Income Taxes'- Deferred Tax related to Assets and Liabilities arising from a Single Transaction

The amendments add a requirement to the initial recognition exemption by requiring entities to recognize the deferred tax on transactions that give rise to equal amounts of taxable and deductible temporary differences. The amendments will not have a significant impact on the consolidated financial statements.

(d) The following new accounting amendments are published but are not mandatory as of June 30, 2023.

i) Amendments to K-IFRS 1001 'Presentation of Financial Statements' amended - Classification of Liabilities as Current or Noncurrent

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group is currently reviewing the effects of the amendments on its financial statements.

3. Financial risk management

3-1. Credit risk

Credit risk is the risk of financial loss of the Group if a customer or counterparty fails to meet its contractual obligation. Credit risk is classified as the most important risk to be managed in the Group's business activities, and management carefully manages the maximum credit risk exposure. Credit exposure arises principally from due from banks, the lending process related to loans, investment activities in debt securities, drafts in the Group's asset portfolio and off-balance sheet items including loan commitments, etc.

(a) Credit risk management

The Group's basic policy on credit risk management is determined by the Risk Policy Committee. The Risk Policy Committee consists of the Chief Risk Officer (CRO) as the chairman, the Chief Credit Officer (CCO), the head of the business group, and the head of the risk management department, and decides the credit risk management plan and the direction of the loan policy for the entire bank. Apart from the Risk Policy Committee, the Credit Review Committee is established to separate credit monitoring, such as large loans and limit approval, and the CCO is composed of the chairman, CRO and the head of the group in charge of the credit-related business group, the head of the credit planning department, and the senior examination team to enhance the credit quality of the loan and profitability of operation.

The risk management of the asset is primarily carried out by all operating units that hold and manage the asset subject to credit risk, and the credit risk management department, such as the risk management department and the credit planning department, is in charge of the credit risk management of the Bank as a whole. The risk management department and the risk engineering department manage credit portfolio management by managing credit risk limits set by the Risk Policy Committee and credit maximum exposure limits for the same parties, affiliates, industries, and countries. The Group also measures and manages risk components such as PD (Probability of Default), LGD (Loss Given Default), and EAD (Exposure at Default) through the operation of the credit rating system and collateral management system. As an organization for supporting and checking loan decisions, the Credit Planning Department manages the credit policy and system of the entire bank, and the Credit Review Department conducts independent credit rating and loan decision making. Also, the Credit Supervision Department conducts individual credit supervision on large loans.

Each of the Group’s borrowers (retail borrowers and companies) is assigned with a credit rating, which is based on a comprehensive internal credit evaluation system that considers a variety of criteria. For retail borrowers, the credit rating takes into account the borrower’s individual information, past dealings with the Group and external credit rating information. For corporate borrowers, the credit rating takes into account financial indicators as well as non-financial indicators such as industry risk, operational risk and management risk, among others. The credit rating, once assigned, serves as the fundamental instrument in the Group’s credit risk management, and is applied in a wide range of credit risk management processes, including credit approval, credit limit management, loan pricing and computation of allowance for credit loss.

The Group's credit rating system reflects the requirements of Basel III, ACE (Automatic Credit Evaluation) and operates retail SOHO credit rating system with a maximum exposure of ₩500 million or less, and Advanced Internal Rating System (AIRS).

The credit decision for companies is based on a collective decision-making system, making objective and prudent decisions. In the case of a general credit, the credit is approved by agreement between the branch's RM (Relationship Manager) and headquarters of each business division. In the case of a large or important credit, the credit is approved by a screening body. In particular, the Credit review Committee, which is the highest decision-making body of loans, examines important loans, such as large loans that exceed the limit. The individual credit is evaluated by the individual credit evaluation system based on objective statistical methods and an automated credit scoring system (CSS) based on the bank's credit policy.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(a) Credit risk management (continued)

The Group operates a regular monitoring system for the regular management of individual loans. The review team and RM are required to conduct Loan Reviews by automatically searching for non-performing companies among the corporate loan clients, and the credit supervision department, which is independent from the business group, determines the adequacy of Loan Review results and requests credit rating adjustment of the company as necessary. In accordance with these procedures, a company is classified as an early warning company, an observer company, and a normal company, and discriminatory management is carried out in accordance with the management guidelines for each risk stage to prevent the insolvency of the loans at an early stage. The financial analysis support system affiliated with a professional credit rating agency supports credit screening and management, and the credit planning department calculates and manages industrial grades and analyzes and provides industry trends and company information.

(b) Risk management and risk mitigation policy

To control the credit risk of the Group at an appropriate level, the following risk management system is established and operated.
- Credit risk limits are set and managed by business sector, customer, product, industry, etc. based on credit VaR (Value at Risk) and maximum exposure amount.
- The Risk Management Department establishes and manages limits for credit VaR, and maximum exposure limits. The Credit Planning Department and the credit assessment department conduct maximum exposure limits.
- The Risk Management Department and Risk Engineering Department establish a credit risk limit operation plan for the entire bank at least once a year and commit it to the risk policy committee.
- Each business unit monitors and adheres to credit risk limits assigned to each business unit.
- The risk is re-assessed on an annual basis or within the period if deemed necessary, and the limit of risk is set and managed for each sector, such as by the person, industry and country.
- The maximum exposure for each borrower, including institutions, is managed by low level limits that are individually set for accounts in the consolidated financial statements and off-balance sheet accounts, and risk limits for daily transactions related to commodity trading including foreign currency forward trading, are also determined.
- Actual maximum exposure limits are managed daily.
- Maximum credit risk exposure is managed in the process of analyzing the interest and principal repayment ability of the borrower, and if necessary, changes the loan limit in the process.

Other risk management measures are as follows.

i) Collateral

The Group has adopted policies and procedures to mitigate credit risk. In connection with credit risk, collateral bond is generally used, and the Group has adopted a policy for pledging certain types of assets. The main types of collateral are as follows:

- Mortgage
- Real estate, inventories, accounts receivable, etc.
- Financial instruments such as debt securities and equity securities

3. Financial risk management (continued)

3-1. Credit risk (continued)

(b) Risk management and risk mitigation policy (continued)

i) Collateral (continued)

Long-term loans are generally collateralized. On the other hand, revolving personal loans are generally unsecured. In addition, to minimize losses due to credit risk, the Group establishes additional collateral for the counterparty in the event of an indication of impairment of the asset.

Collateral for financial assets other than loans is subject to the nature of the products. Except for special cases such as Asset Backed Securities (ABS), unsecured securities are common in the case of debt securities.

ii) Derivative financial instruments

The Group maintains a credit limit on the amount and duration of derivative financial instruments that are in between the disposal agreements after purchase.

iii) Master netting agreements

The Group limits its maximum exposure to credit losses by entering master netting agreements with counterparties in performing significant number of transactions.

Master netting agreements generally do not result from offsetting assets and liabilities in the consolidated financial statements, as transactions are usually set at a gross amount basis. However, the right to offset, which is legally enforceable and affects the realization of individual financial assets and the settlement of financial liabilities, may arise under a master netting agreement, and the credit risk of financial assets associated with this is reduced by master netting agreements within the scope of financial liabilities.

The group's overall maximum exposure to credit risk within the master netting agreements is subject to each transaction belonging to the agreement and thus can substantially change over a short period of time.

iv) Credit related contracts

Guarantees and credit enhancements have credit risks similar to credit. Credit (which guarantees credit on behalf of the customer by issuing a note to a third party for the amount requested under specific terms and conditions) is secured by the underlying commodities associated with them, it involves less risk. The credit enhancement arrangements represent the unused portion of the credit limit in the form of a credit, guarantee or letter of credit. In relation to the credit risk of a credit enhancement arrangement, the Group is potentially exposed to the same amount as the total unused arrangements. Long-term contracts generally have a greater degree of credit risk than short-term, and the Group monitors the maturity of credit arrangements.

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model)

i) Determining significant increases in credit risk since initial recognition

At the end of each reporting period, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Group uses the change in the risk of a default occurring over the expected life of the financial assets instead of the change in the amount of expected credit losses. To make that assessment, the Group compares the risk of a default occurring on the financial instruments at the end of the

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

i) Determining significant increases in credit risk since initial recognition (continued)

reporting period with the risk of a default occurring on the financial instrument as at the date of initial recognition and considers reasonable and supportable information, that is available without undue cost or effort and indicative of significant increases in credit risk since initial recognition. Information includes the default experience data held by the Group and the analysis by internal credit risk rating specialists.

i)-1. Measuring the risk of default

The Group assigns an internal credit risk rating to each individual exposure based on observable data and historical experiences that have been found to have a reasonable correlation with the risk of default. The internal credit risk rating is determined by considering both qualitative and quantitative factors that indicate the risk of default, which may vary depending on the nature of the exposure and the type of borrower.

The internal credit risk rating based on the borrower's information related to each individual exposure on initial recognition, may change depending on the results of continuing monitoring and reviews.

i)-2. Measuring term structure of probability of default

Internal credit risk rating is the main variable input to determine the term structure for the risk of default. The Group accumulates information after analyzing the information regarding exposure to credit risk and default information by the type of product and borrower and results of internal credit risk assessment. For some portfolios, the Group uses information obtained from external credit rating agencies when performing these analyses.

The Group applies statistical techniques to estimate the probability of default for the remaining life of the exposure from the accumulated data and to estimate changes in the estimated probability of default over time.

i)-3. Significant increases in credit risk

The Group uses the indicators defined as per portfolio to determine the significant increase in credit risk and such indicators generally consist of changes in the risk of default estimated from changes in the internal credit risk rating, qualitative factors, days of delinquency, and others. The method used to determine whether credit risk of financial instruments has significantly increased after the initial recognitions is summarized as follows:

Corporate exposures	Retail exposures
Significant change in credit ratings	Significant change in credit ratings
Continued past due more than 30 days	Continued past due more than 30 days
Loan classification of precautionary and below	Loan classification of precautionary and below
Borrower with early warning signals	Borrower with early warning signals
Negative net assets	Specific pool segment
Adverse audit opinion or disclaimer of opinion	Collective loans for housing for which the constructors are insolvent
Interest coverage ratio below 1 for a consecutive period of three years or negative cash flows from operating activities for a consecutive period of two years	Loans with identified indicators for significant increases in other credit risk
Loans with identified indicators for significant increases in other credit risk	

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

The Group assumes the credit risk of the financial instrument has been increased significantly since initial recognition if a specific exposure is past due more than 30 days. The Group counts the number of days past due from the earliest date on which the Group fails to fully receive the contractual payments from the borrower and does not take into account the grace period granted to the borrower.

The Group regularly reviews the criteria for determining if there have been significant increases in credit risk from the following perspective.

- A significant increase in credit risk shall be identified prior to the occurrence of default.
- The criteria established to judge the significant increase in credit risk shall represent proactive prediction than the days of delinquency criteria.
- As a result of applying the judgment criteria, financial assets shall not be to move too frequently between the 12-months expected credit losses measurement and the lifetime expected credit losses measurement.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

ii) Modified financial assets

If the contractual cash flows on a financial asset have been renegotiated or modified and the financial asset is not derecognized, the Group assesses whether there has been a significant increase in the credit risk of the financial assets by comparing the risk of a default occurring at initial recognition based on the original, unmodified contractual terms and the risk of a default occurring at the end of the reporting period based on the modified contractual terms.

The Group may adjust the contractual cash flows of loans to customers who are in financial difficulties to manage the risk of default and enhance the collectability (hereinafter referred to as 'debt restructuring'). These adjustments generally involve extension of maturity, changes in interest payment schedule, and changes in other contractual terms.

Debt restructuring is a qualitative indicator of a significant increase in credit risk and the Group recognizes lifetime expected credit losses for the exposure expected to be the subject of such adjustments. If a borrower faithfully makes payments of contractual cash flows that are modified in accordance with the debt restructuring or if the borrower's internal credit rating has recovered to the level prior to the recognition of the lifetime expected credit losses, the Group recognizes the 12-months expected credit losses for that exposure again.

iii) Risk of default

The Group considers a financial asset to be in default if it meets one or more of the following conditions:

- If a borrower is overdue 90 days or more from the contractual payment date
- If the Group judges that it is not possible to recover principal and interest without enforcing the collateral on a financial asset

The Group uses the following indicators when determining whether a borrower is in default:

- Qualitative factors (e.g., breach of contractual terms),
- Quantitative factors (e.g., if the same borrower does not perform more than one payment obligations to the Group, the number of days past due per payment obligation. However, in the case of a specific portfolio, the Group uses the number of days past due for each financial instrument.)
- Internal observation and external data

The definition of default applied by the Group generally conforms to the definition of default defined for regulatory capital management purposes; however, depending on the situations, the information used to determine whether a default has incurred, and the extent thereof may vary.

iv) Reflection of forward-looking information

The Group reflects forward-looking information presented by a group of internal experts based on various information when measuring expected credit losses. The Group utilizes economic forecasts disclosed by domestic and foreign research institutes, governments, and public institutions to forecast forward-looking information.

The Group reflects future macroeconomic conditions anticipated from a neutral standpoint that is free from bias in measuring expected credit losses. Expected credit losses in this respect reflect conditions that are most likely to occur and are based on the same assumptions that the Group used in its business plan and management strategy.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The Group identified the key macroeconomic variables needed to forecast credit risk and credit losses for each portfolio by analyzing data obtained from past experience and drew correlations across credit risk for each variable, and then reflected future forecast information through regression estimation. To reflect the prolonged COVID-19 and internal and external economic uncertainties, the Group reviewed not only the existing 3 scenarios (‘upside’, ‘central’, and ‘downside’) but also an additional scenario, the ‘worst’ scenario for final forward-looking information.

The economic variables considered by the Group for the six-month periods ended June 30, 2023 and 2022 are as follows for each scenario;

Key macroeconomic variables	Correlation with credit risk
GDP growth rate (YoY%)	Negative
Private consumption index growth rate (YoY %)	Negative
Index of equipment investment growth rate (YoY %)	Negative
Consumer price index growth rate(%)	Positive
Balance on current account (100 million US dollars)	Negative

The predicted correlations between the macroeconomic variables and the risk of default, used by the Group, are derived based on long-term data over the past ten years.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The recent historical default rate is an important reference when estimating the default rate in consideration of the future economic outlook. Although the economy has slowed down by COVID-19 since 2020, the actual default rate of the Group has remained stable because of various government support in response to the COVID-19. The Group operates the financial relief programs such as deferral of interest payments and repayment in installments, and manages credit risk of the loans subject to such deferral program by classifying those loans as Stage 2 and performing additional expected loss assessment to reflect the potential insolvency. In addition, the Group also manages credit risk through an additional assessment of expected loss for other non-retail and retail SOHO loans from borrowers with the loans subject to the deferral program, for the loans with extension of maturity by the financial relief programs, and for the loans classified as estimated loss.

As of June 30, 2023 the credit exposure of non-retail and retail SOHO loans to borrowers who applied for the deferral programs of interest payments and repayment in installments are ₩1,345,804 million, and the provisions are ₩159,514 million.

As of June 30, 2023 and December 31, 2022, the exposure and provisions of loans to borrowers who applied extension of maturity and deferral of interest payments and repayment in installments are as follows:

		June 30, 2023	
		Exposure	Provision
Deferral of interest payments	₩	108,556	19,692
Deferral of repayment in installments		844,459	93,069
Deferral of interest payments and repayment in installments		55,230	6,874
Extension of maturity (*)		6,320,877	116,541
	₩	7,329,122	236,176

(*) It includes exposures of W58,679 million and provisions of W5,829 million for loans applied for extension maturity.

		December 31, 2022	
		Exposure	Provision
Deferral of interest payments	₩	165,442	26,582
Deferral of repayment in installments		1,105,481	123,735
Deferral of interest payments and repayment in installments		66,218	9,814
Extension of maturity (*)		7,528,585	116,447
	₩	8,865,726	276,578

(*) It includes exposures of W46,188 million and provisions of W6,080 million for loans applied for extension maturity.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

To reflect the COVID-19 economic situation, the Group has additionally applied the scenario of worst to three macroeconomic variable scenarios: upside, central, and downside as of June 30, 2023. The probability weight of each scenario is determined by considering the probability distribution of the economic growth rate (GDP) estimated based on the economic growth rate forecast for each scenario that reflected future forecast information presented by the internal expert group.

v) Measurement of expected credit losses

Key variables used in measuring expected credit losses are as follows:

- Probability of default (PD)
- Loss given default (LGD)
- Exposure at default (EAD)

These variables have been estimated from historical experience data by using the statistical techniques developed internally by the Group and have been adjusted to reflect forward-looking information.

Estimates of PD over a specified period are estimated by reflecting characteristics of counterparties and their exposure, based on a statistical model at a specific point of time. The Group uses its own information to develop a statistical credit assessment model used for the estimation, and additional information observed in the market is considered for some portfolios such as a group of large corporates. When a counterparty or exposure is concentrated in specific grades, the method of measuring PD for those grades would be adjusted, and the PD by grade is estimated by considering contract expiration of the exposure.

LGD refers to the expected loss if a borrower default. The Group calculates LGD based on the experience recovery rate measured from past default exposures. The model for measuring LGD is developed to reflect type of collateral, seniority of collateral, type of borrower, and cost of recovery. In particular, LGD for retail loan products uses loan to value (LTV) as a key variable. The recovery rate reflected in the LGD calculation is based on the present value of recovery amount, discounted at the effective interest rate.

EAD refers to the expected exposure at the time of default. The Group derives EAD reflecting a rate at which the current exposure is expected to be used additionally up to the point of default within the contractual limit. EAD of financial assets is equal to the total carrying amount of the asset, and EAD of loan commitments or guarantee contracts is calculated as the sum of the amount expected to be used in the future.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model) (continued)

v) Measurement of expected credit losses (continued)

In measuring expected credit losses on financial assets, the Group uses the contractual maturity as the period subject to expected credit loss measurement. The contractual maturity is computed considering the extension right held by the borrower.

Risk factors such as PD, LGD and EAD are collectively estimated according to the following criteria:

- Type of products
- Internal credit risk rating
- Type of collateral
- Loan to value (“LTV”)
- Industry that the borrower belongs to
- Location of the borrower or collateral
- Days of delinquency

The criteria classifying groups is periodically reviewed to maintain homogeneity of the group and adjusted if necessary. The Group uses external benchmark information to supplement internal information for a particular portfolio that did not have sufficient internal data accumulated from the past experiences.

vi) Write-off of financial assets

The Group writes off a portion of or entire loan or debt security that is not expected to receive its principal and interest. In general, the Group conducts write-off when it is deemed that the borrower has no sufficient resources or income to repay the principal and interest. Such determination on write-off is carried out in accordance with the internal rules of the Group. Apart from write-off, the Group may continue to exercise its right of collection under its own recovery policy even after the write-off of financial assets.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(d) Maximum exposure to credit risk

The Group's maximum exposure to credit risk of the financial instruments held as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Due from banks(*1)(*2):			
Banks	₩	3,953,684	6,687,333
Government/Public sector/Central bank/Etc		24,062,524	13,622,717
		28,016,208	20,310,050
Loans at amortized cost(*1)(*2):			
Banks		6,291,384	8,857,702
Retail			
Mortgage lending		58,462,484	56,469,256
Others		104,795,534	109,004,701
		163,258,018	165,473,957
Government/Public sector/Central bank/Etc		1,235,038	1,077,981
Corporate			
Large enterprises		45,539,198	45,855,175
Small and medium-sized enterprises		113,973,709	111,967,778
Special finance		10,812,097	10,822,148
Others		87	103
		170,325,091	168,645,204
Credit cards		280,422	244,095
		341,389,953	344,298,939
Loans at FVTPL(*2):			
Banks		-	109,099
Corporate			
Large enterprises		780,029	863,454
		780,029	972,553
Securities at FVTPL:			
Debt securities		18,699,564	20,900,078
Gold/silver deposits		100,428	75,969
		18,799,992	20,976,047
Securities at FVTOCI(*1)		46,866,915	47,554,952
Securities at amortized cost(*1)		30,059,169	28,379,986
Derivative assets		3,812,880	4,904,096
Other financial assets(*1)(*3)		17,967,446	15,463,269
Off-balance accounts:			
Guarantee contracts		18,147,802	17,995,698
Loan commitments and other credit related liabilities		117,562,980	111,110,774
		135,710,782	129,106,472
	₩	623,403,374	611,966,364

(*1) The maximum exposure amounts for due from banks, loans, securities, and other financial assets are measured as the amount net of unamortized balances and allowances.
(*2) Due from banks and loans are classified as similar credit risk group to be with consistent calculating capital adequacy ratio under New Basel Capital Accord (Basel III).
(*3) Other financial assets comprise accounts receivable, accrued income, guarantee deposits, domestic exchange settlement receivables, suspense payments, etc.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023								
		12-month expected loss		Life-time expected loss						
		Grade 1	Grade 2	Grade 1	Grade 2	Impaired	Total	Allowances	Net	Mitigation of credit risk due to collateral
Due from banks:										
Banks	₩	3,257,828	701,782	-	76	-	3,959,686	(6,002)	3,953,684	-
Government/ Public sector/Central bank/Etc		22,807,909	1,258,662	-	4,019	-	24,070,590	(8,066)	24,062,524	-
		26,065,737	1,960,444	-	4,095	-	28,030,276	(14,068)	28,016,208	-
Loans at amortized cost:										
Banks		4,156,178	1,694,712	447,992	-	-	6,298,882	(7,498)	6,291,384	39,930
Retail										
Residential real estate mortgage loan		55,430,252	228,492	1,946,223	787,917	95,168	58,488,052	(25,568)	58,462,484	54,203,743
Others		93,721,614	3,009,976	6,721,772	1,305,471	537,343	105,296,176	(500,642)	104,795,534	64,153,912
Government/ Public sector/Central bank/Etc		1,074,078	149,449	12,055	-	-	1,235,582	(544)	1,235,038	-
Corporate										
Large enterprises		28,035,901	9,535,767	4,768,652	3,454,764	122,857	45,917,941	(378,743)	45,539,198	11,737,642
Small and medium-sized enterprises		67,328,058	23,947,315	8,534,751	14,834,033	514,673	115,158,830	(1,185,121)	113,973,709	83,254,365
Special finance		2,222,019	8,332,611	39,175	259,771	-	10,853,576	(41,479)	10,812,097	5,082,148
Others		-	33	-	71	-	104	(17)	87	-
Credit cards		18	280,058	2	4,658	7,061	291,797	(11,375)	280,422	71
		251,968,118	47,178,413	22,470,622	20,646,685	1,277,102	343,540,940	(2,150,987)	341,389,953	218,471,811
Securities at FVTOCI (*)		38,226,893	8,524,822	-	115,200	-	46,866,915	-	46,866,915	-
Securities at amortized cost		27,624,724	2,438,299	-	7,884	-	30,070,907	(11,738)	30,059,169	-
	₩	343,885,472	60,101,978	22,470,622	20,773,864	1,277,102	448,509,038	(2,176,793)	446,332,245	218,471,811

(*) Credit loss allowance recognized in other comprehensive income on securities at FVTOCI is ₩18,217 million.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of June 30, 2023 and December 31, 2022 are as follows:(continued)

	December 31, 2022								
	12-month expected loss		Life-time expected loss						
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired	Total	Allowances	Net	Mitigation of credit risk due to collateral
Due from banks:									
Banks	₩ 4,822,966	1,875,057	-	177	-	6,698,200	(10,867)	6,687,333	-
Government/ Public sector/Central bank/Etc	12,560,296	1,068,372	-	556	-	13,629,224	(6,507)	13,622,717	-
	17,383,262	2,943,429	-	733	-	20,327,424	(17,374)	20,310,050	-
Loans at amortized cost:									
Banks	6,501,512	2,255,363	111,593	-	-	8,868,468	(10,766)	8,857,702	42,418
Retail									
Residential real estate mortgage loan	53,501,020	228,730	1,967,926	716,564	76,723	56,490,963	(21,707)	56,469,256	53,729,184
Others	98,302,645	3,138,300	6,354,309	1,296,396	404,929	109,496,579	(491,878)	109,004,701	66,719,130
Government/ Public sector/Central bank/Etc	1,063,999	2,863	12,055	-	-	1,078,917	(936)	1,077,981	-
Corporate									
Large enterprises	30,191,499	10,823,234	2,368,333	2,725,435	132,406	46,240,907	(385,732)	45,855,175	10,942,389
Small and medium-sized enterprises	67,181,097	23,458,473	8,491,172	13,379,684	438,675	112,949,101	(981,323)	111,967,778	80,698,917
Special finance	2,154,704	8,515,020	26,997	156,358	-	10,853,079	(30,931)	10,822,148	4,668,799
Others	-	43	-	86	-	129	(26)	103	-
Credit cards	14	244,400	-	3,111	4,325	251,850	(7,755)	244,095	64
	258,896,490	48,666,426	19,332,385	18,277,634	1,057,058	346,229,993	(1,931,054)	344,298,939	216,800,901
Securities at FVTOCI(*)	38,391,288	9,096,464	-	67,200	-	47,554,952	-	47,554,952	-
Securities at amortized cost	26,735,483	1,643,688	-	10,517	-	28,389,688	(9,702)	28,379,986	-
	₩ 341,406,523	62,350,007	19,332,385	18,356,084	1,057,058	442,502,057	(1,958,130)	440,543,927	216,800,901

(*) Credit loss allowance recognized in other comprehensive income on securities at FVTOCI is ₩ 24,746 million.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

ii) Credit risk exposure per credit grade of off-balance sheet accounts as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantee contracts:					
Grade 1	₩	13,989,021	697,605	-	14,686,626
Grade 2		3,123,478	236,627	-	3,360,105
Impaired		-	-	101,071	101,071
		17,112,499	934,232	101,071	18,147,802
Loan commitment and other credit related liabilities:					
Grade 1		92,677,956	6,946,939	-	99,624,895
Grade 2		15,922,451	2,015,634	-	17,938,085
Impaired		-	-	-	-
		108,600,407	8,962,573	-	117,562,980
	₩	125,712,906	9,896,805	101,071	135,710,782

		December 31, 2022			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantee contracts:					
Grade 1	₩	13,997,614	385,819	-	14,383,433
Grade 2		3,313,927	199,925	-	3,513,852
Impaired		-	-	98,413	98,413
		17,311,541	585,744	98,413	17,995,698
Loan commitment and other credit related liabilities:					
Grade 1		89,495,753	4,215,975	-	93,711,728
Grade 2		15,415,924	1,983,122	-	17,399,046
Impaired		-	-	-	-
		104,911,677	6,199,097	-	111,110,774
	₩	122,223,218	6,784,841	98,413	129,106,472

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iii) Credit risk exposure per collateral of financial instruments as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
		12-month expected credit loss	Lifetime expected credit loss		
			Not impaired	Impaired	Total
Guarantees	₩	58,015,688	9,329,584	349,152	67,694,424
Deposits and savings		2,210,786	317,113	4,944	2,532,843
Property and equipment		1,575,290	454,738	14,468	2,044,496
Real estate		131,822,880	17,039,472	279,059	149,141,411
	₩	193,624,644	27,140,907	647,623	221,413,174

		December 31, 2022			
		12-month expected credit loss	Lifetime expected credit loss		
			Not impaired	Impaired	Total
Guarantees	₩	60,505,261	8,502,095	226,585	69,233,941
Deposits and savings		2,482,402	232,114	2,360	2,716,876
Property and equipment		1,541,842	391,621	11,523	1,944,986
Real estate		129,871,227	15,916,705	240,894	146,028,826
	₩	194,400,732	25,042,535	481,362	219,924,629

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iv) Credit risk exposure per LTV of mortgage loans as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023					
		LTV of mortgage loans					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Others	Total
Loans at amortized cost	₩	20,197,295	15,987,400	15,618,652	4,006,274	2,678,431	58,488,052
Less: allowance		(1,393)	(3,035)	(12,160)	(5,223)	(3,757)	(25,568)
	₩	20,195,902	15,984,365	15,606,492	4,001,051	2,674,674	58,462,484

		December 31, 2022					
		LTV of mortgage loans					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Others	Total
Loans at amortized cost	₩	20,442,384	15,871,664	15,634,149	2,335,250	2,207,516	56,490,963
Less: allowance		(1,031)	(3,266)	(12,224)	(2,702)	(2,484)	(21,707)
	₩	20,441,353	15,868,398	15,621,925	2,332,548	2,205,032	56,469,256

v) Credit qualities are classified based on the internal credit rating as follows:

Type of Borrower	Grade 1	Grade 2
Retail	Pool of retail loans with probability of default of less than 2.25%	Pool of retail loans with probability of default of 2.25% or more
Governments, Public sector, Central bank	OECD sovereign credit rating of 6 or above	OECD sovereign credit rating of below 6
Banks and Corporations	Internal credit rating of BBB+ or above	Internal credit rating of below BBB+

(f) There are no assets acquired through collateral as of June 30, 2023 and December 31, 2022.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(g) Concentration by geographic location

An analysis of concentration by geographic location for financial instruments excluding equity securities as of June 30, 2023 and December 31, 2022 is as follows:

	June 30, 2023								
Division (*)	Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Others	Total
Due from banks:									
Banks	₩ 276,619	1,483,203	16,526	365,754	727,909	294,492	215,949	573,232	3,953,684
Government/Public sector/Central bank/Etc.	20,313,832	402,813	-	1,348,242	34,814	338,102	719,847	904,874	24,062,524
	20,590,451	1,886,016	16,526	1,713,996	762,723	632,594	935,796	1,478,106	28,016,208
Loans at amortized cost:									
Banks	1,484,732	5,960	237,850	245,059	331,646	1,127,996	1,377,090	1,481,051	6,291,384
Retail									
Residential real estate mortgage loan	50,472,651	310,142	5,119	4,285,444	1,638	726,244	1,134,617	1,526,629	58,462,484
Others	101,065,222	104,890	3,116	32,995	1,413	2,262,192	946,288	379,418	104,795,534
Government/Public sector/Central bank/Etc.	907,452	-	-	-	178,239	-	-	149,347	1,235,038
Corporate									
Large enterprises	37,785,181	1,851,905	86,902	539,218	33,912	1,583,564	1,124,002	2,534,514	45,539,198
Small and medium-sized enterprises	102,280,925	1,089,605	134,484	4,196,409	64,046	1,710,755	1,417,159	3,080,326	113,973,709
Special finance	8,083,710	815,880	180,923	746,385	10,572	42,154	-	932,473	10,812,097
Others	80	3	-	-	-	-	-	4	87
Credit cards	10,954	985	96	57	21	266,863	89	1,357	280,422
	302,090,907	4,179,370	648,490	10,045,567	621,487	7,719,768	5,999,245	10,085,119	341,389,953
Loans at FVTPL									
Corporate									
Large enterprises	780,029	-	-	-	-	-	-	-	780,029
	780,029	-	-	-	-	-	-	-	780,029
Securities at FVTPL									
Debt securities	18,220,576	118,617	2,487	2,641	13,935	-	-	341,308	18,699,564
Gold/silver deposits	-	-	100,428	-	-	-	-	-	100,428
	18,220,576	118,617	102,915	2,641	13,935	-	-	341,308	18,799,992
Securities at FVTOCI	41,885,524	2,440,971	199,643	427,464	35,923	77,531	413,801	1,386,058	46,866,915
Securities at amortized cost	27,642,426	140,793	-	238,351	-	701,958	110,668	1,224,973	30,059,169
Off-balance accounts:									
Guarantee contracts	16,740,065	160,123	24,478	45,160	11,108	206,627	722,305	237,936	18,147,802
Loan commitments and other credit related liabilities	106,537,729	878,446	227,826	495,076	61,481	1,962,127	2,674,215	4,726,080	117,562,980
	₩ 534,487,707	9,804,336	1,219,878	12,968,255	1,506,657	11,300,605	10,856,030	19,479,580	601,623,048

(*) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(g) Concentration by geographic location (continued)

An analysis of concentration by geographic location for financial instruments excluding equity securities as of June 30, 2023 and December 31, 2022 is as follows: (continued)

	December 31, 2022								
Division(*)	**Korea**	**U.S.A**	**U.K**	**Japan**	**Germany**	**Vietnam**	**China**	**Others**	**Total**
Due from banks:									
Banks	₩ 915,724	2,105,351	520,636	447,278	434,080	589,131	934,504	740,629	6,687,333
Government/Public sector/Central bank/Etc	9,801,519	915,306	-	1,404,163	21,674	345,142	441,551	693,362	13,622,717
	10,717,243	3,020,657	520,636	1,851,441	455,754	934,273	1,376,055	1,433,991	20,310,050
Loans at amortized cost:									
Banks	1,516,985	4,773	25,270	431,744	241,290	971,869	2,901,828	2,763,943	8,857,702
Retail									
Residential real estate mortgage loan	48,677,828	293,915	4,641	4,326,107	1,663	671,907	1,190,622	1,302,573	56,469,256
Others	105,714,674	108,124	3,488	31,203	2,053	1,966,639	830,547	347,973	109,004,701
Government/Public sector/Central bank/Etc	670,050	-	-	-	405,073	-	-	2,858	1,077,981
Corporate									
Large enterprises	38,787,387	1,599,839	51,119	515,975	26,792	1,342,401	1,258,553	2,273,109	45,855,175
Small and medium-sized enterprises	101,148,206	978,308	95,019	3,799,641	70,005	1,643,809	1,436,034	2,796,756	111,967,778
Special finance	7,990,243	803,632	197,345	830,825	8,408	87,887	-	903,808	10,822,148
Others	75	12	-	-	-	-	-	16	103
Credit cards	10,840	963	91	65	32	230,770	104	1,230	244,095
	304,516,288	3,789,566	376,973	9,935,560	755,316	6,915,282	7,617,688	10,392,266	344,298,939
Loans at FVTPL									
Banks	109,099	-	-	-	-	-	-	-	109,099
Corporate									
Large enterprises	863,454	-	-	-	-	-	-	-	863,454
	972,553	-	-	-	-	-	-	-	972,553
Securities at FVTPL									
Debt securities	20,259,961	129,986	4,817	32,171	21,649	-	2,713	448,781	20,900,078
Gold/silver deposits	-	-	75,969	-	-	-	-	-	75,969
	20,259,961	129,986	80,786	32,171	21,649	-	2,713	448,781	20,976,047
Securities at FVTOCI	42,254,619	2,673,595	157,951	348,241	34,065	92,940	688,085	1,305,456	47,554,952
Securities at amortized cost	26,781,017	106,480	-	214,653	-	726,476	110,884	440,476	28,379,986
Off-balance accounts:									
Guarantee contracts	16,185,620	118,951	23,481	47,806	44,203	303,054	1,015,543	257,040	17,995,698
Loan commitments and other credit related liabilities	100,816,038	732,156	314,626	539,431	41,461	1,834,268	2,455,130	4,377,664	111,110,774
	₩ 522,503,339	10,571,391	1,474,453	12,969,303	1,352,448	10,806,293	13,266,098	18,655,674	591,598,999

(*) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Condensed Consolidated Interim Financial Statements (continued)
June 30, 2023 and 2022 (Unaudited), and December 31, 2022
(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(h) Concentration by industry sector

i) An analysis of concentration by industry sector for financial instruments excluding equity securities as of June 30, 2023 and December 31, 2022 are as follows:

Division(*)		June 30, 2023								
		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:										
Banks	₩	3,953,684	-	-	-	-	-	-	-	3,953,684
Government/Public sector/Central bank/Etc		24,062,524	-	-	-	-	-	-	-	24,062,524
		28,016,208	-	-	-	-	-	-	-	28,016,208
Loans at amortized cost:										
Banks		5,821,995	-	-	-	-	-	469,389	-	6,291,384
Retail										
Residential real estate mortgage loan		-	-	-	-	-	-	-	58,462,484	58,462,484
Others		-	-	-	-	-	-	-	104,795,534	104,795,534
Government/Public sector/Central bank/Etc		1,172,921	-	-	-	-	-	62,117	-	1,235,038
Corporate										
Large enterprises		3,393,164	22,664,279	5,093,008	2,756,093	910,989	532,414	10,189,251	-	45,539,198
Small and medium-sized enterprises		1,287,995	33,807,734	17,058,024	31,288,942	2,171,897	5,335,983	23,023,134	-	113,973,709
Special finance		2,474,199	14,105	-	4,604,672	250,465	97,521	3,371,135	-	10,812,097
Others		-	-	26	-	-	1	60	-	87
Credit cards		-	-	-	-	-	-	-	280,422	280,422
		14,150,274	56,486,118	22,151,058	38,649,707	3,333,351	5,965,919	37,115,086	163,538,440	341,389,953
Loans at FVTPL										
Corporate										
Large enterprises		14,844	544,578	199,610	-	-	-	20,997	-	780,029
		14,844	544,578	199,610	-	-	-	20,997	-	780,029
Securities at FVTPL										
Debt securities		9,164,632	1,646,277	1,220,315	651,738	163,209	41,797	5,811,596	-	18,699,564
Gold/silver deposits		100,428	-	-	-	-	-	-	-	100,428
		9,265,060	1,646,277	1,220,315	651,738	163,209	41,797	5,811,596	-	18,799,992
Securities at FVTOCI		19,707,601	1,803,291	511,079	499,283	677,409	29,244	23,639,008	-	46,866,915
Securities at amortized cost		11,125,660	9,949	-	155,130	209,061	-	18,559,369	-	30,059,169
Off-balance sheet accounts:										
Guarantee contracts		2,241,227	9,083,235	3,482,872	123,390	184,382	58,159	2,623,356	351,181	18,147,802
Loan commitments and other liabilities for credit		19,363,015	30,734,176	9,755,315	3,035,211	1,737,334	278,191	14,332,208	38,327,530	117,562,980
	₩	103,883,889	100,307,624	37,320,249	43,114,459	6,304,746	6,373,310	102,101,620	202,217,151	601,623,048

(*) Industrial breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(h) Concentration by industry sector (continued)

i) An analysis of concentration by industry sector for financial instruments excluding equity securities as of June 30, 2023 and December 31, 2022 are as follows:(continued)

Division(*)		December 31, 2022								
		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:										
Banks	₩	6,687,333	-	-	-	-	-	-	-	6,687,333
Government/Public sector/Central bank/Etc		13,622,717	-	-	-	-	-	-	-	13,622,717
		20,310,050	-	-	-	-	-	-	-	20,310,050
Loans at amortized cost:										
Banks		8,206,048	-	-	-	29,979	-	621,675	-	8,857,702
Retail										
Residential real estate mortgage loan		-	-	-	-	-	-	-	56,469,256	56,469,256
Others		-	-	-	-	-	-	-	109,004,701	109,004,701
Government/Public sector/Central bank/Etc		1,066,103	-	-	-	-	-	11,878	-	1,077,981
Corporate										
Large enterprises		6,721,331	21,426,796	4,502,482	2,566,132	863,862	532,425	9,242,147	-	45,855,175
Small and medium-sized enterprises		1,211,710	34,951,501	17,117,543	29,910,350	2,122,623	5,216,746	21,437,305	-	111,967,778
Special finance		2,347,474	9,299	19,657	4,579,303	354,216	120,974	3,391,225	-	10,822,148
Others		-	-	26	2	-	-	75	-	103
Credit cards		-	-	-	-	-	-	-	244,095	244,095
		19,552,666	56,387,596	21,639,708	37,055,787	3,370,680	5,870,145	34,704,305	165,718,052	344,298,939
Loans at FVTPL										
Banks		-	-	-	69,533	-	-	39,566	-	109,099
Corporate										
Large enterprises		247,197	504,572	89,651	-	-	-	22,034	-	863,454
Securities at FVTPL										
Debt securities		10,861,305	1,652,645	988,310	889,125	187,188	59,459	6,262,046	-	20,900,078
Gold/silver deposits		75,969	-	-	-	-	-	-	-	75,969
Securities at FVTOCI		21,057,528	1,989,003	417,514	547,578	562,659	28,371	22,952,299	-	47,554,952
Securities at amortized cost		10,238,931	9,931	-	158,196	218,861	-	17,754,067	-	28,379,986
Off-balance sheet accounts:										
Guarantee contracts		2,340,397	8,934,828	3,380,682	115,812	224,239	89,300	2,560,434	350,006	17,995,698
Loan commitments and other liabilities for credit		18,194,380	27,582,399	9,883,883	2,799,711	1,801,246	308,030	12,322,373	38,218,752	111,110,774
	₩	102,878,423	97,060,974	36,399,748	41,635,742	6,364,873	6,355,305	96,617,124	204,286,810	591,598,999

(*) Industrial breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(h) Concentration by industry sector (continued)

ii) As of June 30, 2023 and December 31, 2022, the concentration by industry sector for corporate loans that could be affected by the prolonged COVID-19 among the financial instruments is as follows, and the industries that will be affected by the future economic conditions may change significantly:

		June 30, 2023							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	208,489	3,330,580	942,011	216,601	59,126	2,265,005	53,802	7,075,614
Securities at FVTPL		-	-	9,894	-	-	-	-	9,894
Securities at FVTOCI		116,318	18,960	198,290	-	-	21,223	-	354,791
Securities at amortized cost		60,003	-	-	-	-	-	-	60,003
Off-balance accounts		446,821	241,689	3,729,651	10,631	79,027	1,074,598	31,437	5,613,854
	₩	831,631	3,591,229	4,879,846	227,232	138,153	3,360,826	85,239	13,114,156

		December 31, 2022							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	154,076	3,281,340	1,217,228	209,652	76,982	2,160,803	56,719	7,156,800
Securities at FVTOCI		123,875	18,416	211,000	-	-	14,776	-	368,067
Securities at amortized cost		59,997	-	-	-	-	-	-	59,997
Off-balance accounts		435,399	254,076	2,731,899	8,500	76,817	1,162,054	36,784	4,705,529
	₩	773,347	3,553,832	4,160,127	218,152	153,799	3,337,633	93,503	12,290,393

iii) In the case of borrowers classified as normal and impaired among individual loans subject to lifetime expected credit losses as disclosed in Note 3-1. (e), the effect of COVID-19 may be relatively large. The impact is subject to change, depending on the future economic situation.

3. Financial risk management (continued)

3-2. Market risk

Market risk is the risk that changes in market price such as interest rates, equity prices, and foreign exchange rates, etc. will affect the Group's income. The Group manages securities, foreign exchange positions, derivative financial instruments, etc. held for the purpose of obtaining short-term trading gains as trading positions. And the Group manages interest-sensitive assets consisting of loans, deposits, and debt securities excluding short-term trading gains, interest-sensitive debt consisting of receipts, loans, and bonds, and interest-sensitive derivatives used as hedging instruments.

The Group carries out decision-making functions such as policy establishment and setting limits on market risk management by the Risk Policy Committee, and the Risk Engineering Department provides comprehensive market risk management, market risk system management, and Middle Office functions for all operating departments and desks.

The basis of market risk management is limit management to keep the maximum possible loss due to market risk within a certain level. The Risk Policy Committee sets and operates the VaR limit, loss limit, sensitivity limit, investment limit and position limit, and stress loss limit for each operating department and desk. The Risk Engineering department monitors the operation status independently from the operating department. The Group regularly reports to the Risk Policy Committee and Risk Management Committee. In addition, the Fair Value Assurance Council and the Risk Engineering Department conduct a review of the fair value evaluation method and risk assessment before the launch (or transactions) of new products in each business unit. The Risk Review Council for derivatives and structured products supports rational decision-making such as checking risk factors and reviewing investment limits, so that objective analysis and review of risk factors can be conducted in advance.

(a) Market risk management of trading positions

The transaction data of foreign exchange, stocks, securities, and derivatives, which are subject to measurement of market risk in trading positions, are managed by entering transactions into the front system and automatically interface with the Market Risk Management System (MARS) to measure daily risk and limit management. In addition, to supplement risk measurement through statistical methods and to manage the sensitivity and the size of losses in a dynamic economic environment, stress testing is regularly conducted to ensure that losses are managed within a certain range in the event of a Group crisis.

i) Measurement method on market risk arising from trading positions

The Group calculates the market risk arising from the previous trading position using the new market risk standard method based on Basel III. For market risks arising from trading positions, regulatory capital will be broken down into sensitivity-based risks, default risks, and residual risks.

- Sensitivity-based risk represents a change in the value of a product due to a change in the risk factor inherent within the product and refers to a loss that may occur due to that change.
- Default risk refers to losses that can occur due to a default of an issuer, not losses on financial instruments due to credit spread fluctuations or changes in credit ratings.
- Residual risk is the concept of imposing additional regulatory capital risk if there is a specificity of the profit or loss structure or if the underlying asset is special.

The limit for each type of market risk is a limit set in the market risk within the Bank's total risk limit, and the previous regulatory capital is calculated using the new market risk standard method based on Basel III and used as a means of market risk management. The Risk Engineering Department manages the limits set by the Risk Management Committee or the Risk Policy Committee. For the efficient management of foreign exchange, stocks, bonds, and derivatives, the following market risk limits are set by the previous administration, management department, and desk, and compliance with the limits is monitored first on a daily basis. If the set limit is exceeded, the head of the operation department reports the details of the excess, the reason for any excess, and the resolution to the head of the group to reduce it within the next working day.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(a) Market risk management of trading positions (continued)

ii) Risk of trading positions

The Group manages VaR for trading portfolio based on financial statements. The minimum, maximum, average VaR and the VaR for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023			
		Average	Maximum	Minimum	At June 30
Sensitivity risk					
GIRR (*1)	₩	93,165	108,085	74,148	90,536
CSR (non-securitization) (*2)		106,888	120,559	88,895	120,248
CSR (securitization: Non-CTP)		27,899	32,512	23,249	26,854
Equity securities		82,948	101,788	63,061	80,855
Foreign currency		442,891	461,310	415,318	440,519
Commodity		152	349	28	164
		753,459	808,681	715,072	759,176
Default risk					
non-securitization		105,357	128,307	87,827	105,054
securitization (excludes CTP)		56,020	59,814	50,914	58,429
		161,376	184,377	140,046	163,483
Residual risks		2,300	2,487	2,083	2,148
	₩	917,136	990,409	857,897	924,807

(*1) GIRR: General Interest Rate Risk
(*2) CSR: Credit Spread Risk

		December 31, 2022			
		Average	Maximum	Minimum	Year-end
Sensitivity risk					
GIRR (*1)	₩	87,669	121,107	77,052	77,052
CSR (non-securitization) (*2)		129,589	136,546	120,531	120,531
CSR (securitization: Non-CTP)		17,497	21,115	14,527	18,662
Equity securities		103,381	112,016	65,775	100,217
Foreign currency		424,718	431,895	413,118	413,118
Commodity		322	413	211	211
		763,176	786,637	729,791	729,791
Default risk					
non-securitization		119,466	129,764	106,012	106,012
securitization (excludes CTP)		39,089	41,463	36,460	41,367
		158,555	170,783	147,379	147,379
Residual risks		2,121	2,261	2,016	2,016
	₩	923,852	959,405	879,186	879,186

(*1) GIRR: General Interest Rate Risk
(*2) CSR: Credit Spread Risk

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(b) Market risk management of non-trading positions

The most critical market risk that arises from non-trading position is the interest rate risk. Accordingly, the Group measures and manages market risk for non-trading position by considering the effects of interest rate changes on both its net asset value and income.

The Group carries out decision-making functions such as establishing policies and setting detailed limits on interest rate risk management by the Risk Policy Committee, and within these principles and limits, management departments by account, such as overseas branches, subsidiaries, and finance departments, trust headquarters, and general finance departments, primarily recognize and manage interest rate risk. The Risk Management Department and the Risk Engineering Department support the Risk Policy Committee's decision on interest rate risk, monitor whether the interest rate risk limit is exceeded, and evaluate and manage the overall interest rate risk.

The Group measures and manages interest rate risk using various analysis methods such as interest rate gap, duration gap, and scenario based NII (Net Interest Income) simulation through the Asset Liability Management (ALM) system. Interest rate VaR and interest rate EaR (Earnings at Risk) and interest rate gap ratios are set and monitored monthly. In addition, stress testing evaluates the impact on interest rate risk in various crisis situations.

i) Measurement method on market risk arising from non-trading positions

The Group calculates and manages the amount of change in economic value of equity (interest rate VaR) and the maximum expected interest loss (interest rate EaR) over the next year on the application of the IRRBB Standard Method interest rate scenario provided by the Bank for International Settlements (“BIS”). It also manages the risk of interest rate market risk by reflecting the customer behaviour ratio based on IRRBB standard method.

In order to calculate the interest rate risk, the Group uses the six scenarios defined by the Basel Committee, 1) Parallel shock increases, 2) Parallel shock decreases, 3) Shock steepener, 4) Shock flattener, 5) short-term interest rate increases, and 6) short-term interest rate decreases. Based on the six scenarios, the changes in economic value of equity are measured to calculate the maximum loss (VaR: Value at Risk) and the changes in net interest income are measured to calculate the maximum expected changes of profit or loss (EaR: Earning at Risk) based on the two scenarios (parallel shock increases and decreases).

ii) Interest rate VaR and EaR for non-trading positions

Interest rate VaR (maximum expected loss among △EVE) and EaR (maximum expected changes in profit of loss among △ NII) for non-trading positions which were measured by the IRRBB standard methodology provided by BIS as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Interest rate VaR	₩	1,581,118	1,046,136
Interest rate EaR		1,266,687	599,941

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk

The Group manages foreign currency risk based on general positions which includes all spot and future foreign currency positions, etc. The Risk Policy Committee oversees the Group's foreign exchange exposure for both trading and non-trading activities by establishing limits for the net foreign currencies open position. The Group's foreign exchange position is centralized at the S&T Center. Dealers in S&T Center manage the Group's overall position within the set limits through spot trading, forward contracts, currency options, futures and swaps and foreign exchange swaps. The Group sets a limit for net open positions by currency and the limits for currencies other than the U.S. dollars (USD), Japanese yen (JPY), Euros (EUR) and Chinese yuan (CNY) are set in order to minimize exposures from the other foreign exchange trading.

Foreign currency denominated assets and liabilities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	6,362,079	1,941,278	409	978,615	3,195,738	12,478,119
Securities at FVTPL		1,152,983	-	312,095	-	153,234	1,618,312
Derivative assets		598,894	2	6,467	454	18,436	624,253
Loans at amortized cost		24,600,251	10,803,852	2,108,216	4,393,231	11,525,626	53,431,176
Securities at FVTOCI		5,284,049	157,790	3,494	317,205	895,327	6,657,865
Securities at amortized cost		167,470	225,781	-	110,733	1,942,199	2,446,183
Other financial assets		5,898,927	1,574,354	920,040	230,006	966,682	9,590,009
		44,064,653	14,703,057	3,350,721	6,030,244	18,697,242	86,845,917
Liabilities							
Deposits		20,941,867	12,804,913	1,304,493	4,459,044	12,499,545	52,009,862
Financial liabilities at FVTPL		-	-	-	-	404,190	404,190
Derivative liabilities		738,342	-	20,954	292	55,315	814,903
Borrowings		8,121,495	818,910	222,650	234,301	718,174	10,115,530
Debt securities issued		6,592,754	380,927	713,275	108,630	1,198,772	8,994,358
Other financial liabilities		5,536,630	860,905	1,561,135	570,313	1,281,800	9,810,783
		41,931,088	14,865,655	3,822,507	5,372,580	16,157,796	82,149,626
Net assets (liabilities)		2,133,565	(162,598)	(471,786)	657,664	2,539,446	4,696,291
Off-balance sheet items							
Derivative exposures		(28,035)	772,443	(173,381)	(328,964)	(585,031)	(342,968)
Net position	₩	2,105,530	609,845	(645,167)	328,700	1,954,415	4,353,323

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk (continued)

Foreign currency denominated assets and liabilities as of June 30, 2023 and December 31, 2022 are as follows: (continued)

	December 31, 2022					
	USD	**JPY**	**EUR**	**CNY**	**Others**	**Total**
Assets						
Cash and due from banks ₩	5,201,254	1,961,565	96,335	688,837	4,329,609	12,277,600
Securities at FVTPL	1,114,580	-	249,734	-	217,562	1,581,876
Derivative assets	588,838	337	6,632	53	7,437	603,297
Loans at amortized cost	28,607,384	10,608,558	1,704,749	5,021,722	9,842,180	55,784,593
Securities at FVTOCI	5,328,349	180,352	3,236	498,367	980,859	6,991,163
Securities at amortized cost	177,584	203,102	-	110,997	1,162,523	1,654,206
Other financial assets	2,850,535	597,067	556,962	344,126	1,498,527	5,847,217
	43,868,524	13,550,981	2,617,648	6,664,102	18,038,697	84,739,952
Liabilities						
Deposits	24,902,919	11,772,467	1,628,441	5,017,756	11,785,781	55,107,364
Financial liabilities at FVTPL	2,958	-	-	-	422,006	424,964
Derivative liabilities	698,396	-	27,933	155	50,918	777,402
Borrowings	8,672,448	1,347,623	182,926	85,862	820,957	11,109,816
Debt securities issued	6,218,177	352,677	675,600	108,864	1,180,452	8,535,770
Other financial liabilities	3,666,954	259,683	621,756	889,138	1,462,188	6,899,719
	44,161,852	13,732,450	3,136,656	6,101,775	15,722,302	82,855,035
Net assets (liabilities)	(293,328)	(181,469)	(519,008)	562,327	2,316,395	1,884,917
Off-balance sheet items						
Derivative exposures	1,652,732	782,057	199,034	(50,107)	(748,669)	1,835,047
Net position ₩	1,359,404	600,588	(319,974)	512,220	1,567,726	3,719,964

(d) Interest rate risk management

The Group is closely monitoring the output and market of various industrial working groups that manage the transition to new interest rate indicators. It includes announcements made by LIBOR regulators.

Regulators have made it clear that they will not persuade or force banks to submit LIBOR by the end of 2021. In response to this announcement, the Group has established a LIBOR-related response plan consisting of job flows such as risk management, accounting, tax, law, computerization, and customer management. The plan is dedicated to the Chief Financial Officer (CFO) and important matters are reported to the Board of Directors. The purpose of the plan is to identify the impact and risks associated with reforming interest rate indicators within the business and prepare and implement action plans to facilitate the transition to alternative benchmark rates. The Group aims to close its response plan in accordance with the guidelines of the regulators.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

The financial instruments that have not been converted to alternative benchmark rates among the LIBOR interest rates as of June 30, 2023 and December 31, 2022 are as follows:

i) Non-derivative financial assets

Division (*)		June 30, 2023 Book value to be converted to alternative benchmark rates USD LIBOR
Due from banks and loans at amortized cost:		
Loans	₩	28,490
Securities at fair value through other comprehensive income:		
Financial institution bonds		-
Corporate bonds and others		-
		-
Commitments and financial guarantee contracts	₩	270,808

(*) The assets are book value and the loan commitments and guarantee contracts are in nominal amount.

Division (*)		December 31, 2022 Book value to be converted to alternative benchmark rates USD LIBOR
Due from banks and loans at amortized cost:		
Loans	₩	2,453,854
Securities at fair value through other comprehensive income:		
Financial institution bonds		189,047
Corporate bonds and others		229,030
		418,077
Commitments and financial guarantee contracts	₩	217,839

(*) The assets are book value and the loan commitments and guarantee contracts are in nominal amount.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

ii) Non-derivative financial liabilities

Division		June 30, 2023 Book value to be converted to alternative benchmark rates USD LIBOR
Financial liabilities at amortized cost:		
Deposits	₩	-
Borrowings		-
Debt securities issued		-
	₩	-

Division		December 31, 2022 Book value to be converted to alternative benchmark rates USD LIBOR
Financial liabilities at amortized cost:		
Deposits	₩	200,000
Borrowings		50,692
Debt securities issued		1,097,132
	₩	1,347,824

iii) Derivatives

Division		June 30, 2023 Book value to be converted to alternative benchmark rates USD LIBOR(*)
Trading:		
Interest rates related	₩	-
Foreign currency related		-
		-
Hedge:		
Interest rates related	₩	-

Division		December 31, 2022 Book value to be converted to alternative benchmark rates USD LIBOR(*)
Trading:		
Interest rates related	₩	9,978,194
Foreign currency related		11,718,419
		21,696,613
Hedge:		
Interest rates related	₩	4,196,714

3. Financial risk management (continued)

3-3. Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Risk Policy Committee is responsible for establishing policies and setting the limits related to liquidity risk management. The Risk Management Department evaluates and manages the Group's overall liquidity risk and monitors compliance of all operating subsidiaries and foreign branches with limits on a daily basis.

The Group applies the following basic principles for liquidity risk management:

- Raise funding in sufficient amounts at the optimal time and reasonable costs;
- Maintain risk at appropriate levels and preemptively manage them through a prescribed risk limit system and an early warning signal detection system;
- Secure stable sources of revenue and minimize actual losses by implementing an effective asset-liability management system based on diversified sources of funding with varying maturities;
- Monitor and manage daily and intra-daily liquidity positions and risk exposures as to timely payment and settlement due under both normal and crisis situations;
- Conduct periodic contingency analysis in anticipation of any potential liquidity crisis and establish and implement emergency plans in case of a crisis and
- Consider liquidity-related costs, benefits and risks in determining the price of products and services, employee performance evaluations and approval of launching new products and services.

The Group uses various analysis methods such as liquidity gap, liquidity ratio, loan-deposit ratio, and real liquidity gap reflecting the customer behaviour model through the ALM system, while managing its liquidity risks on won and foreign currency through various indices including risk limits, early warning index, and monitoring index. Demand deposits, in analysing the maturity structures of assets and liabilities, can be classified as short-term because they can be withdrawn whenever a customer requests; however, considering customers' behaviours that usually maintain an average balance of a certain percentage, non-core deposits are classified to be short-term.

(In millions of Korean won)

3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial instruments

Contractual maturities for financial assets and financial liabilities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	30,190,182	222,541	60,339	14,174	-	-	30,487,236
Securities at FVTPL		15,974,871	3,251	18,138	63,549	312,343	2,689,885	19,062,037
Derivative assets		3,734,270	10,958	16,209	31,427	225,140	79,427	4,097,431
Loans at amortized cost		23,505,024	36,470,718	43,967,568	96,592,230	113,262,914	84,300,677	398,099,131
Loans at FVTPL		199,107	495,113	64,309	21,500	-	-	780,029
Securities at FVTOCI		41,774,152	60,086	530,000	937,093	4,231,627	487,700	48,020,658
Securities at amortized cost		1,572,045	2,672,473	1,677,890	3,380,107	19,617,939	3,370,493	32,290,947
Other financial assets		15,058,064	-	-	143,724	-	1,189,523	16,391,311
	₩	132,007,715	39,935,140	46,334,453	101,183,804	137,649,963	92,117,705	549,228,780
Liabilities								
Deposits	₩	197,639,889	46,035,955	59,214,180	57,757,179	19,679,677	2,085,587	382,412,467
Financial liabilities at FVTPL		404,190	-	-	-	-	-	404,190
Derivative liabilities		3,578,898	25,628	34,011	62,204	303,888	28,724	4,033,353
Borrowings		6,511,193	3,481,581	3,207,986	4,324,380	4,893,642	1,369,788	23,788,570
Debt securities issued		3,996,030	3,642,480	5,022,619	6,271,591	11,229,546	2,492,053	32,654,319
Financial liabilities designated at FVTPL		-	-	-	13,077	284,064	-	297,141
Other financial liabilities		26,309,333	30,196	42,349	149,481	207,106	47,887	26,786,352
	₩	238,439,533	53,215,840	67,521,145	68,577,912	36,597,923	6,024,039	470,376,392

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows were classified based on the earliest dates for obligated repayment. Financial assets at FVTPL that can be disposed of immediately and financial instruments at FVTOCI except for assets restricted for sale for certain periods were included in 1 month or less.

(In millions of Korean won)

3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial assets (continued)

Contractual maturities for financial assets and financial liabilities as of June 30, 2023 and December 31, 2022 are as follows: (continued)

		December 31, 2022						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	21,335,153	708,790	451,703	122,487	-	-	22,618,133
Securities at FVTPL		18,571,082	3,131	21,263	29,584	411,482	2,165,162	21,201,704
Derivative assets		4,824,149	2,336	3,466	7,204	50,984	24,583	4,912,722
Loans at amortized cost		25,466,474	39,254,939	52,878,562	84,692,694	114,421,259	78,255,311	394,969,239
Loans at FVTPL		139,540	781,525	29,454	-	22,034	-	972,553
Securities at FVTOCI		41,386,166	215,000	496,625	950,714	5,149,929	572,350	48,770,784
Securities at amortized cost		459,842	1,812,362	1,138,319	3,466,130	21,311,738	2,429,089	30,617,480
Other financial assets		12,634,824	-	-	91,777	-	1,190,143	13,916,744
	₩	124,817,230	42,778,083	55,019,392	89,360,590	141,367,426	84,636,638	537,979,359
Liabilities								
Deposits	₩	206,118,736	42,065,346	40,644,536	68,947,374	20,050,918	2,595,957	380,422,867
Financial liabilities at FVTPL		424,964	-	-	-	-	-	424,964
Derivative liabilities		4,896,437	25,005	36,447	62,289	269,131	52,538	5,341,847
Borrowings		6,837,358	3,642,929	3,727,586	4,697,388	4,643,514	1,311,573	24,860,348
Debt securities issued		1,824,687	5,938,290	6,229,650	9,165,966	8,830,476	3,154,340	35,143,409
Financial liabilities designated at FVTPL		-	-	2,090	-	54,180	-	56,270
Other financial liabilities		19,733,853	24,207	32,611	153,613	194,456	52,197	20,190,937
	₩	239,836,035	51,695,777	50,672,920	83,026,630	34,042,675	7,166,605	466,440,642

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows are classified based on the earliest dates for obligated repayment. Financial assets at FVTPL that can be disposed of immediately and financial assets at FVTOCI except for assets restricted for sale for certain periods are included in 1 month or less.

(b) Contractual maturities for off-balance sheet items

Financial guarantees such as guarantee contracts, loan commitments and others provided by the Group are classified based on the earliest date at which the Group should fulfill the obligation under the guarantee when the counterparty requests for the payment.

Off-balance sheet accounts as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Guarantee contracts	₩	18,147,802	17,995,698
Loan commitments and others		117,562,980	111,110,774
	₩	135,710,782	129,106,472

3. Financial risk management (continued)

3-4. Measurement of fair value

The fair values of financial instruments being traded in an active market are determined by the published market prices of each period end. The published market prices of financial instruments being held by the Group are based on the trading agencies' notifications. If the market for a financial instrument is not active, such as OTC (Over The Counter market) derivatives, fair value is determined either by using a valuation technique or independent third-party valuation service.

If the market for financial instruments is not active, such as OTC (Over-the-Counter market) derivatives, fair value is established either by using a valuation technique or an independent third-party valuation agency.

The Group uses its judgment to select a variety of methods and make rational assumptions that are mainly based on market conditions existing at the end of each reporting period. The fair value of financial instruments is determined using valuation techniques such as a method of using recent transactions between independent parties with reasonable judgment and willingness to trade, a method of referring to the current fair value of other financial instruments that are substantially identical or discounted cash flow model and option pricing models. For example, the fair value of an interest rate swap is calculated as the present value of the expected future cash flows, and the fair value of foreign exchange forwarding contract is calculated by applying the public forward exchange rate at the end of the reporting period.

The Group classifies and discloses fair value of the financial instruments into the following three-level hierarchy:

(i) Level 1: Financial instruments measured at quoted prices from active markets are classified as level 1.
(ii) Level 2: Financial instruments measured using valuation techniques where all significant inputs are observable market data are classified as level 2.
(iii) Level 3: Financial instruments measured using valuation techniques where one or more significant inputs are not based on observable market data are classified as level 3.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value

i) The table below analyzes financial instruments measured at the fair value as of June 30, 2023 and December 31, 2022 by the level in the fair value hierarchy into which the fair value measurement is categorized:

		June 30, 2023			
		Level 1	Level 2	Level 3	Total
Financial instruments					
Loans at FVTPL:					
Loans	₩	-	759,032	20,997	780,029
Securities at FVTPL:					
Debt securities		1,103,532	13,526,891	4,069,140	18,699,563
Equity securities		87,191	-	174,852	262,043
Gold/silver deposits		100,429	-	-	100,429
		1,291,152	13,526,891	4,243,992	19,062,035
Derivative assets:					
Trading		1,120	3,725,973	1,459	3,728,552
Hedging		-	84,328	-	84,328
		1,120	3,810,301	1,459	3,812,880
Securities at FVTOCI:					
Debt securities		17,171,267	29,695,647	-	46,866,914
Equity securities		644,196	-	509,548	1,153,744
		17,815,463	29,695,647	509,548	48,020,658
	₩	19,107,735	47,791,871	4,775,996	71,675,602
Financial liabilities					
Financial liabilities designated at FVTPL:					
Debt securities issued	₩	-	243,893	-	243,893
Financial liabilities at FVTPL:					
Gold/silver deposits		404,190	-	-	404,190
Derivative liabilities:					
Trading		897	3,564,020	98	3,565,015
Hedging		-	546,388	294,663	841,051
		897	4,110,408	294,761	4,406,066
	₩	405,087	4,354,301	294,761	5,054,149

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

i) The table below analyzes financial instruments measured at the fair value as of June 30, 2023 and December 31, 2022 by the level in the fair value hierarchy into which the fair value measurement is categorized: (continued)

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial instruments					
Loans at FVTPL:					
Loans	₩	-	950,519	22,034	972,553
Securities at FVTPL:					
Debt securities		721,935	16,390,587	3,787,556	20,900,078
Equity securities		58,951	-	166,706	225,657
Gold/silver deposits		75,969	-	-	75,969
		856,855	16,390,587	3,954,262	21,201,704
Derivative assets:					
Trading		233	4,821,409	1,300	4,822,942
Hedging		-	81,154	-	81,154
		233	4,902,563	1,300	4,904,096
Securities at FVTOCI:					
Debt securities		18,027,749	29,527,203	-	47,554,952
Equity securities		691,227	-	524,605	1,215,832
		18,718,976	29,527,203	524,605	48,770,784
	₩	19,576,064	51,770,872	4,502,201	75,849,137
Financial liabilities					
Financial liabilities designated at FVTPL:					
Debt securities issued	₩	-	47,327	-	47,327
		-	47,327	-	47,327
Financial liabilities at FVTPL:					
Securities sold		2,958	-	-	2,958
Gold/silver deposits		422,006	-	-	422,006
		424,964	-	-	424,964
Derivative liabilities:					
Trading		2	4,883,364	110	4,883,476
Hedging		-	552,392	343,758	896,150
		2	5,435,756	343,868	5,779,626
	₩	424,966	5,483,083	343,868	6,251,917

ii) There were no transfers between level 1 and level 2 financial instruments measured at fair value for the six-month period ended June 30, 2023 and the year ended December 31, 2022.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iii) Changes in level 3 of the fair value hierarchy

Changes in level 3 of the fair value hierarchy for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023					
		Loans at FVTPL	Securities at FVTPL	Securities at FVTOCI	Derivative assets	Derivative liabilities	Total
Beginning balance	₩	22,034	3,954,262	524,605	1,300	(343,868)	4,158,333
Total gain or loss:							
Recognized in profit or loss (*1)		(1,037)	57,779	-	80	49,097	105,919
Recognized in other comprehensive income		-	-	(15,057)	-	-	(15,057)
Purchases/issues		-	419,753	-	-	-	419,753
Settlements		-	(221,893)	-	(71)	10	(221,954)
Transfers into level 3(*2)		-	35,221	-	150	-	35,371
Transfers from level 3(*2)		-	(1,130)	-	-	-	(1,130)
Ending balance	₩	20,997	4,243,992	509,548	1,459	(294,761)	4,481,235

		December 31, 2022					
		Loans at FVTPL	Securities at FVTPL	Securities at FVTOCI	Derivative assets	Derivative liabilities	Total
Beginning balance	₩	106,997	3,231,614	458,229	860	(183,597)	3,614,103
Total gain or loss:							
Recognized in profit or loss (*1)		(12,543)	(83,978)	-	793	(160,439)	(256,167)
Recognized in other comprehensive income		-	-	(8,044)	-	-	(8,044)
Purchases/issues		-	1,102,545	85,330	-	(298)	1,187,577
Settlements		(72,420)	(342,725)	(10,910)	(429)	466	(426,018)
Transfers into level 3(*2)		-	68,083	-	-	-	68,083
Transfers from level 3(*2)		-	(21,277)	-	76	-	(21,201)
Ending balance	₩	22,034	3,954,262	524,605	1,300	(343,868)	4,158,333

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial assets measured at fair value (continued)

(*1) Gains or losses among the changes in level 3 of the fair value hierarchy and gains or losses related to financial instruments that the Group held as of June 30, 2023 and December 31, 2022 are presented in the consolidated statements of comprehensive income as follows:

		June 30, 2023		December 31, 2022	
		Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instruments held at the end of the period	Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instruments held at the end of the year
Net gain on financial Instruments at FVTPL	₩	56,823	50,835	(95,157)	(104,108)
Net other operating expenses		49,096	49,096	(161,010)	(161,010)
	₩	105,919	99,931	(256,167)	(265,118)

(*2) Changes in the availability of observable market data for the financial instruments have resulted in transfers between levels. The Group has recognized changes in levels at the end of the reporting period when events or situations that cause transfers between levels occur.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
	Type of financial instruments		Book value	Valuation techniques	Inputs
Financial instruments					
Loans at FVTPL		₩	759,032	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities		13,526,891	Discounted cash flow, Net asset value	Discount rate, Price of underlying assets; such as securities and bonds
Derivative assets	Trading		3,725,973	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		84,328		
			3,810,301		
Securities at FVTOCI	Debt securities		29,695,647	Discounted cash flow	Discount rate
		₩	47,791,871		
Financial liabilities					
Financial liabilities designated at FVTPL	Debt securities	₩	243,893	Option model	Discount rate, volatility
Derivative liabilities	Trading		3,564,020	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		546,388		
			4,110,408		
		₩	4,354,301		

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of June 30, 2023 and December 31, 2022 are as follows: (continued)

	December 31, 2022				
	Type of financial instruments		Book value	Valuation techniques	Inputs
Financial instruments					
Loans at FVTPL		₩	950,519	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities		16,390,587	Discounted cash flow, Net asset value	Discount rate, Price of underlying assets; such as securities and bonds
Derivative assets	Trading		4,821,409	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		81,154		
			4,902,563		
Securities at FVTOCI	Debt securities		29,527,203	Discounted cash flow	Discount rate
		₩	51,770,872		

	December 31, 2022				
	Type of financial liabilities		Book value	Valuation techniques	Inputs
Financial liabilities					
Financial liabilities designated at FVTPL	Debt securities	₩	47,327	Option model	Discount rate, volatility
Derivative liabilities	Trading		4,883,364	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		552,392		
			5,435,756		
		₩	5,483,083		

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of June 30, 2023 and December 31, 2022, the valuation technique and significant but not observable input variables used to measure the fair value of financial instruments classified as fair value level 3 are as follows:

	June 30, 2023						
Financial instruments	Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Loans at FVTPL	Option model (*1)	Loans	₩ 20,997	Volatility of underlying assets, Discount rate	Volatility of underlying assets	33.91%	The higher the volatility, the higher the volatility of fair value
Securities at FVTPL	Net asset value method, Option model (*1)(*2)	Debt securities	4,069,140	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Discount rate, Correlation coefficient	22.24%~49.75% 7.57%~15.03% 8.34%~60.93%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases, The effects of trading instruments and market conditions increase or decrease fair value with changes in correlation coefficients
	Discounted cash flow, Comparable company analysis	Equity securities	174,852	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	25.79% 4.99%~16.23%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			4,243,992				
Derivative assets	Option model (*2)	Equity and foreign exchange	1,459	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	22.02%~22.19%	The higher the volatility, the higher the volatility of fair value
Securities FVTOCI	Net asset value method, Discounted cash flow, Comparable company analysis, Option model (*1)	Equity securities	509,548	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	24.19% 9.44%~20.02%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			₩ 4,775,996				

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of June 30, 2023 and December 31, 2022, the valuation technique and significant but not observable input variables used to measure the fair value of financial liabilities classified as fair value level 3 are as follows: (continued)

	June 30, 2023							
Financial liabilities	Valuation technique	Type of financial assets		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Derivative liabilities	Option model (*2)	Equity related	₩	98	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	22.19%~32.28%	The higher the volatility, the higher the volatility of fair value
	Option model (*2)	Interest rates related		294,663	Volatility of underlying assets Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation coefficient	0.68%~1.12% 0.0026%~1.9568% 57.03%~90.34%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩	294,761				

(*1) The Group uses Binomial Tree and LSMC option model.
(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments(continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of June 30, 2023 and December 31, 2022, the valuation technique and significant but not observable input variables used to measure the fair value of financial instruments classified as fair value level 3 are as follows: (continued)

	December 31, 2022							
Financial instruments	Valuation technique	Type of financial assets		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Loans at FVTPL	Option model (*1)	Loans	₩	22,034	Volatility of underlying assets, Discount rate	Volatility of underlying assets	41.99%	The higher the volatility, the higher the volatility of fair value
Securities at FVTPL	Net asset value method, Option model (*1)(*2)	Debt securities		3,787,556	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Discount rate, Correlation coefficient	23.97%~35.54% 7.56%~15.15% 7.45%~66.90%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases, The effects of trading instruments and market conditions increase or decrease fair value with changes in correlation coefficients
	Discounted cash flow, Comparable company analysis	Equity securities		166,706	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	25.30% 5.59%~15.18%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
				3,954,262				
Derivative assets	Option model (*2)	Equity and foreign exchange		1,300	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	4.89%~31.73%	The higher the volatility, the higher the volatility of fair value
Securities FVTOCI	Net asset value method, Discounted cash flow, Comparable company analysis, Option model (*1)	Equity securities		524,605	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	28.62% 9.08%~19.14%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			₩	4,502,201				

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of June 30, 2023 and December 31, 2022, the valuation technique and significant but not observable input variables used to measure the fair value of financial liabilities classified as fair value level 3 are as follows: (continued)

	December 31, 2022							
	Valuation technique	Type of financial assets		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities								
Derivative liabilities	Option model (*2)	Equity related	₩	110	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	4.89%~43.22%	The higher the volatility, the higher the volatility of fair value
	Option model (*2)	Interest rates related		343,758	Volatility of underlying assets Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation coefficient	0.64%~1.02% 0.0026%~1.4568% 52.90%~90.34%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩	343,868				

(*1) The Group uses Binomial Tree and LSMC option model.
(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

v) Sensitivity to changes in unobservable inputs.

For level 3 fair value measurement, changing one or more of the unobservable inputs used to reasonably possible alternative assumptions would have the following effect on profit (loss), and other comprehensive income (loss) as of June 30, 2023 and December 31, 2022 are as follows:

Type of financial instruments (*1)			June 30, 2023			
			Profit (loss) for the period		Other comprehensive income (loss) for the period	
			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTP (*2)		₩	102	(92)	-	-
Securities at FVTPL	Debt securities (*2)		3,616	(3,504)	-	-
	Equity securities (*3)		5,976	(4,423)	-	-
Derivative assets (*2)	Equity and foreign exchange related		261	(261)	-	-
Securities at FVTOCI (*3)	Equity securities		-	-	11,953	(9,781)
		₩	9,955	(8,280)	11,953	(9,781)
Derivative liabilities (*2)	Equity and foreign exchange related	₩	13	(14)	-	-
	Interest rates related		4,032	(4,676)	-	-
		₩	4,045	(4,690)	-	-

(*1) ₩ 4,149,522 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.
(*2) Based on 10% of increase or decrease in unobservable volatility of underlying assets or correlation coefficient.
(*3) Based on changes in unobservable growth rate (-1.0%~1.0%) and discount rate (-1%p~1%p).

Type of financial instruments (*1)			December 31, 2022			
			Profit (loss) for the year		Other comprehensive income (loss) for the year	
			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL(*2)		₩	246	(251)	-	-
Securities at FVTPL	Debt securities(*2)		5,145	(4,763)	-	-
	Equity securities(*3)		6,271	(4,613)	-	-
Derivative assets(*2)	Equity and foreign exchange related		243	(242)	-	-
Securities at FVTOCI(*3)	Equity securities		-	-	13,431	(10,682)
		₩	11,905	(9,869)	13,431	(10,682)
Derivative liabilities(*2)	Equity and foreign exchange related	₩	17	(19)	-	-
	Interest rates related		4,960	(6,131)	-	-
		₩	4,977	(6,150)	-	-

(*1) ₩3,893,450 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.
(*2) Based on 10% of increase or decrease in unobservable volatility of underlying assets or correlation coefficient.
(*3) Based on changes in unobservable growth rate (-1.0%p~1.0%p) and discount rate (-1%p~1%p).

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost

i) The method of measuring the fair value of financial instruments measured at amortized cost is as follows:

Type	Measurement methods of fair value
Cash and due from banks	The carrying value and the fair value for cash are identical and most of deposits are floating interest rate deposits or next day deposits of a short-term instrument. Therefore, the carrying value for deposits approximates fair value.
Loans at amortized cost	The fair value of loans at amortized cost is measured by discounting the expected cash flows anticipated to be received at the market interest rate, credit risk of a borrower, etc.
Securities at amortized cost	An external professional evaluation agency is used to calculate the valuation amount using the market information. The agency calculates the fair value based on active market prices, and DCF model is used to calculate the fair value if there is no quoted price.
Deposits and borrowings	The carrying value and the fair value for demand deposits, cash management account deposits, call money and bonds sold under repurchase agreements as short-term instruments are identical. The fair value of others is measured by discounting the contractual cash flows at the market interest rate that takes into account the residual risk.
Debentures	An external professional evaluation agency is used to calculate the valuation amount using the market information, and the fair value is calculated using DCF model.
Other financial assets and other financial liabilities	The book value is used as fair value for short-term and transitional accounts, such as spot exchange, and unpaid/uncollected domestic exchange of payments, and for the remaining financial instruments, the present value of the contractual cash flows at a discount rate which considered residual risk at the market interest rate is calculated as a fair value.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
Cash	₩	2,438,799	-	-	2,438,799	2,438,799
Due from banks		28,030,276	-	(14,068)	28,016,208	28,016,208
Loans at amortized cost:						
Household loans		139,799,936	382,705	(415,293)	139,767,348	138,713,114
Corporate loans		194,356,050	94,132	(1,695,146)	192,755,036	192,538,336
Public and other loans		4,000,615	(2,895)	(24,034)	3,973,686	3,978,900
Loans to bank		4,618,600	-	(5,139)	4,613,461	4,601,111
Credit card receivables		291,797	-	(11,375)	280,422	291,202
Securities at amortized cost:						
Government bonds		18,096,004	-	(2,124)	18,093,880	17,701,358
Financial institutions bonds		6,074,320	-	(6,761)	6,067,559	6,075,207
Corporate bonds and others		5,677,224	-	(2,853)	5,674,371	5,449,706
Others		223,359	-	-	223,359	223,359
Other financial assets		18,286,900	(41,668)	(277,786)	17,967,446	18,207,062
	₩	421,893,880	432,274	(2,454,579)	419,871,575	418,234,362
Liabilities						
Deposits:						
Demand deposits	₩	153,435,208	-	-	153,435,208	153,435,208
Time deposits		197,204,133	-	-	197,204,133	197,331,875
Negotiable certificates of deposits		11,521,982	-	-	11,521,982	11,552,887
Note discount deposits		7,643,222	-	-	7,643,222	7,642,498
CMA		4,756,996	-	-	4,756,996	4,756,996
Others		16,163	-	-	16,163	16,162
Borrowings:						
Call money		2,041,393	-	-	2,041,393	2,041,393
Bill sold		13,424	-	-	13,424	13,363
Bonds sold under repurchase agreements		1,070	-	-	1,070	1,070
Borrowings		21,039,274	(2,383)	-	21,036,891	20,982,558
Debt securities issued:						
Debt securities issued in Korean won		21,659,459	(14,213)	-	21,645,246	21,438,460
Debt securities issued in foreign currencies		8,994,358	(32,329)	-	8,962,029	8,949,626
Other financial liabilities		30,891,743	(50,708)	-	30,841,035	30,785,096
	₩	459,218,425	(99,633)	-	459,118,792	458,947,192

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of June 30, 2023 and December 31, 2022 are as follows: (continued)

		December 31, 2022				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
Cash	₩	2,259,832	-	-	2,259,832	2,259,832
Due from banks		20,327,424	-	(17,374)	20,310,050	20,310,050
Loans at amortized cost:						
Household loans		141,550,553	394,250	(420,977)	141,523,826	139,448,925
Corporate loans		192,795,291	111,255	(1,471,833)	191,434,713	190,897,442
Public and other loans		3,680,407	(1,024)	(21,237)	3,658,146	3,655,430
Loans to bank		7,447,411	-	(9,252)	7,438,159	7,419,082
Credit card receivables		251,850	-	(7,755)	244,095	251,406
Securities at amortized cost:						
Government bonds		17,242,773	-	(1,720)	17,241,053	16,725,311
Financial institutions bonds		5,367,661	-	(3,766)	5,363,895	5,327,714
Corporate bonds and others		5,545,119	-	(4,216)	5,540,903	5,208,079
Others		234,135	-	-	234,135	234,135
Other financial assets		15,773,321	(36,887)	(273,165)	15,463,269	15,697,088
	₩	412,475,777	467,594	(2,231,295)	410,712,076	407,434,494
Liabilities						
Deposits:						
Demand deposits	₩	156,340,586	-	-	156,340,586	156,340,586
Time deposits		190,637,968	-	-	190,637,968	190,285,047
Negotiable certificates of deposits		14,843,073	-	-	14,843,073	14,670,388
Note discount deposits		6,631,858	-	-	6,631,858	6,631,276
CMA		4,634,010	-	-	4,634,010	4,634,010
Others		16,694	-	-	16,694	16,692
Borrowings:						
Call money		1,199,600	-	-	1,199,600	1,199,601
Bill sold		15,057	-	-	15,057	15,006
Bonds sold under repurchase agreements		135,711	-	-	135,711	135,710
Borrowings		22,865,012	(2,588)	-	22,862,424	22,714,236
Debt securities issued:						
Debt securities issued in Korean won		24,692,498	(12,474)	-	24,680,024	24,359,200
Debt securities issued in foreign currencies		8,535,770	(29,614)	-	8,506,156	8,468,816
Other financial liabilities		22,888,291	(19,857)	-	22,868,434	22,595,576
	₩	453,436,128	(64,533)	-	453,371,595	452,066,144

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
		Level 1	Level 2	Level 3	Total
Assets					
Cash and due from banks:					
Cash	₩	2,438,799	-	-	2,438,799
Due from banks		-	28,016,208	-	28,016,208
Loans at amortized cost:					
Household loans		-	-	138,713,114	138,713,114
Corporate loans		-	-	192,538,336	192,538,336
Public and other loans		-	-	3,978,900	3,978,900
Loans to bank		-	3,063,667	1,537,444	4,601,111
Credit card receivables		-	-	291,202	291,202
Securities at amortized cost:					
Government bonds		6,539,595	11,161,763	-	17,701,358
Financial institutions bonds		1,942,089	4,133,118	-	6,075,207
Corporate bonds and others		-	5,449,706	-	5,449,706
Others		-	223,359	-	223,359
Other financial assets		-	14,765,697	3,441,365	18,207,062
	₩	10,920,483	66,813,518	340,500,361	418,234,362
Liabilities					
Deposits:					
Demand deposits	₩	-	153,435,208	-	153,435,208
Time deposits		-	-	197,331,875	197,331,875
Negotiable certificates of deposits		-	-	11,552,887	11,552,887
Note discount deposits		-	-	7,642,498	7,642,498
CMA		-	4,756,996	-	4,756,996
Others		-	-	16,162	16,162
Borrowings:					
Call money		-	2,041,393	-	2,041,393
Bill sold		-	-	13,363	13,363
Bonds sold under repurchase agreements		-	-	1,070	1,070
Borrowings		-	-	20,982,558	20,982,558
Debt securities issued:					
Debt securities issued in Korean won		-	20,229,619	1,208,841	21,438,460
Debt securities issued in foreign currencies		-	8,949,626	-	8,949,626
Other financial liabilities		-	14,434,140	16,350,956	30,785,096
	₩	-	203,846,982	255,100,210	458,947,192

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of June 30, 2023 and December 31, 2022 are as follows: (continued)

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Assets					
Cash and due from banks:					
Cash	₩	2,259,832	-	-	2,259,832
Due from banks		-	20,310,050	-	20,310,050
Loans at amortized cost:					
Household loans		-	-	139,448,925	139,448,925
Corporate loans		-	-	190,897,442	190,897,442
Public and other loans		-	-	3,655,430	3,655,430
Loans to bank		-	5,911,562	1,507,520	7,419,082
Credit card receivables		-	-	251,406	251,406
Securities at amortized cost:					
Government bonds		5,620,012	11,105,299	-	16,725,311
Financial institutions bonds		1,898,457	3,429,257	-	5,327,714
Corporate bonds and others		-	5,208,079	-	5,208,079
Others		-	234,135	-	234,135
Other financial assets		-	11,946,279	3,750,809	15,697,088
	₩	9,778,301	58,144,661	339,511,532	407,434,494
Liabilities					
Deposits:					
Demand deposits	₩	-	156,340,586	-	156,340,586
Time deposits		-	-	190,285,047	190,285,047
Negotiable certificates of deposits		-	-	14,670,388	14,670,388
Note discount deposits		-	-	6,631,276	6,631,276
CMA		-	4,634,010	-	4,634,010
Others		-	-	16,692	16,692
Borrowings:					
Call money		-	1,199,601	-	1,199,601
Bill sold		-	-	15,006	15,006
Bonds sold under repurchase agreements		-	-	135,710	135,710
Borrowings		-	-	22,714,236	22,714,236
Debt securities issued:					
Debt securities issued in Korean won		-	23,387,638	971,562	24,359,200
Debt securities issued in foreign currencies		-	8,468,816	-	8,468,816
Other financial liabilities		-	8,487,115	14,108,461	22,595,576
	₩	-	202,517,766	249,548,378	452,066,144

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 or level 3 as of June 30, 2023 and December 31, 2022 are as follows:

	June 30, 2023				
Level	Type of financial instruments		Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩	20,967,946	Discounted cash flow	Discount rate
Level 3	Loans at amortized cost		337,058,996		Discount rate, Credit spread, Prepayment rate
	Other financial assets		3,441,365		Discount rate
		₩	361,468,307		
Level 2	Debt securities issued	₩	29,179,245	Discounted cash flow	Discount rate
Level 3	Deposits (*)		214,994,126		Discount rate
	Borrowings (*)		14,057,434		Discount rate
	Debt securities issued		1,208,841		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities		16,350,956		Discount rate
		₩	275,790,602		

(*) There is no disclosure for valuation techniques and input variables related to items where the carrying amount is recognized as a reasonable approximation of fair value and the carrying amount is disclosed at fair value.

	December 31, 2022				
Level	Type of financial instruments		Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩	19,976,770	Discounted cash flow	Discount rate
Level 3	Loans at amortized cost		335,760,723		Discount rate, Credit spread, Prepayment rate
	Other financial assets		3,750,809		Discount rate
		₩	359,488,302		
Level 2	Debt securities issued	₩	31,856,454	Discounted cash flow	Discount rate
Level 3	Deposits(*)		209,709,502		Discount rate
	Borrowings(*)		14,779,693		Discount rate
	Debt securities issued		971,562		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities		14,108,461		Discount rate
		₩	271,425,672		

(*) There is no disclosure for valuation techniques and input variables related to items where the carrying amount is recognized as a reasonable approximation of fair value and the carrying amount is disclosed at fair value.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(c) Deferred day one gain or loss for the six-month period ended June 30, 2023 and the year ended December 31, 2022 is as follows:

		June 30, 2023			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Equity options	₩	160	-	(71)	89

		December 31, 2022			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(330)	-	330	-
Equity options		92	261	(193)	160
	₩	(238)	261	137	160

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments

Financial assets and liabilities were measured at fair value or amortized cost. The carrying amounts of each category of financial assets as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023					
		Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets designated at FVTOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	28,016,208	-	28,016,208
Securities at FVTPL		19,062,035	-	-	-	-	19,062,035
Derivative assets		3,728,552	-	-	-	84,328	3,812,880
Loans at FVTPL		780,029	-	-	-	-	780,029
Loans at amortized cost		-	-	-	341,389,953	-	341,389,953
Securities at FVTOCI		-	46,866,915	1,153,743	-	-	48,020,658
Securities at amortized cost		-	-	-	30,059,169	-	30,059,169
Other financial assets		-	-	-	17,967,446	-	17,967,446
	₩	23,570,616	46,866,915	1,153,743	417,432,776	84,328	489,108,378

		Financial instruments at FVTPL				
		Financial liabilities at FVTPL	Financial liabilities designated at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging	Total
Liabilities						
Deposits	₩	-	-	374,577,704	-	374,577,704
Financial liabilities at FVTPL		404,190	-	-	-	404,190
Financial liabilities designated at FVTPL		-	243,893	-	-	243,893
Derivative liabilities		3,565,015	-	-	841,051	4,406,066
Borrowings		-	-	23,092,778	-	23,092,778
Debt securities issued		-	-	30,607,275	-	30,607,275
Other financial liabilities		-	-	30,841,035	-	30,841,035
	₩	3,969,205	243,893	459,118,792	841,051	464,172,941

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments (continued)

Financial assets and liabilities were measured at fair value or amortized cost. The carrying amounts of each category of financial assets as of June 30, 2023 and December 31, 2022 are as follows: (continued)

		December 31, 2022					
		Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets designated at FVTOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	20,310,050	-	20,310,050
Securities at FVTPL		21,201,704	-	-	-	-	21,201,704
Derivative assets		4,822,942	-	-	-	81,154	4,904,096
Loans at FVTPL		972,553	-	-	-	-	972,553
Loans at amortized cost		-	-	-	344,298,939	-	344,298,939
Securities at FVTOCI		-	47,554,951	1,215,833	-	-	48,770,784
Securities at amortized cost		-	-	-	28,379,986	-	28,379,986
Other financial assets		-	-	-	15,463,269	-	15,463,269
	₩	26,997,199	47,554,951	1,215,833	408,452,244	81,154	484,301,381

		Financial instruments at FVTPL				
		Financial liabilities at FVTPL	Financial liabilities designated at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging	Total
Liabilities						
Deposits	₩	-	-	373,104,189	-	373,104,189
Financial liabilities at FVTPL		424,964	-	-	-	424,964
Financial liabilities designated at FVTPL		-	47,327	-	-	47,327
Derivative liabilities		4,883,475	-	-	896,151	5,779,626
Borrowings		-	-	24,212,792	-	24,212,792
Debt securities issued		-	-	33,186,180	-	33,186,180
Other financial liabilities		-	-	22,868,434	-	22,868,434
	₩	5,308,439	47,327	453,371,595	896,151	459,623,512

There are no financial instruments that are reclassified between categories of financial assets as of June 30, 2023 and December 31, 2022.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(e) Financial income and costs by category for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (Provision for) credit loss allowance	Others	Total	Other comprehensive loss
Deposits	₩	167,814	-	3,822	-	171,636	-
Securities at FVTPL		250,520	630	-	325,796	576,946	-
Securities at FVTOCI		558,933	4,436	6,391	52,223	621,983	406,127
Securities at amortized cost		441,711	-	(1,502)	(2)	440,207	-
Loans at FVTPL		13,134	-	-	22,787	35,921	-
Loans at amortized cost		8,338,973	59,000	(438,879)	43,917	8,003,011	-
Other financial assets		47,282	57,731	(4,704)	2,896	103,205	-
Financial liabilities at FVTPL		-	(52)	-	(32,014)	(32,066)	-
Financial liabilities designated at FVTPL		(3,186)	-	-	13,434	10,248	-
Financial liabilities at amortized cost		(5,696,260)	(148)	-	(71,460)	(5,767,868)	(20,722)
Net derivatives held for hedging		-	-	-	67,443	67,443	478
Allowance for off-balance sheet items		-	-	(13,851)	-	(13,851)	-
	₩	4,118,921	121,597	(448,723)	425,020	4,216,815	385,883

		June 30, 2022					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (Provision for) credit loss allowance	Others	Total	Other comprehensive loss
Deposits	₩	28,067	-	2,336	-	30,403	-
Securities at FVTPL		148,662	5,191	-	134,365	288,218	-
Securities at FVTOCI		356,438	4,411	2,558	(38,612)	324,795	(1,198,663)
Securities at amortized cost		240,126	-	628	(55)	240,699	-
Loans at FVTPL		4,769	-	-	(5,179)	(410)	-
Loans at amortized cost		5,081,027	57,564	(297,550)	11,185	4,852,226	-
Other financial assets		24,226	81,869	(4,565)	87	101,617	-
Financial liabilities at FVTPL		-	(124)	-	(39,891)	(40,015)	-
Financial liabilities designated at FVTPL		(257)	-	-	1,406	1,149	-
Financial liabilities at amortized cost		(1,992,897)	(46)	-	631,173	(1,361,770)	(49,154)
Net derivatives held for hedging		-	-	-	(595,382)	(595,382)	(4,305)
Allowance for off-balance sheet items		-	-	(4,844)	-	(4,844)	-
	₩	3,890,161	148,865	(301,437)	99,097	3,836,686	(1,252,122)

3. Financial risk management (continued)

3-5. Capital risk management

In response to the increased risk of financial institutions following financial deregulation in the 1980s, Capital regulations applicable to banks are adopted in 1988, which focused primarily on capital adequacy and asset soundness as a measure of risk. Building upon the initial Basel Capital Accord of 1988, capital regulations are developed to reflect additional risks as well. To improve risk management and increasing capital adequacy of banks, capital adequacy standards based on the new Basel Capital Accord (Basel III) is implemented by the Financial Services Commission regulations beginning on December 1, 2013. Under these regulations, all domestic banks including the Group are required to maintain a certain ratio or higher of the common stock capital ratio, basic capital ratio, and total equity capital ratio step by step from the effective date and report whether the Group meet the capital adequacy ratio to the Financial Services Commission according to ‘Banking-related Legislation’.

The criteria for capital adequacy to be complied with by the Bank are 8.0% or more of the total equity capital ratio, 6.0% or higher of the basic capital ratio, and 4.5% or more of the common stock capital ratio. In addition, the minimum regulatory BIS capital ratio required to be observed by 2019 has been raised to up to 14% as the capital regulation based on the Basel III standard is enforced from 2016. This is based on the addition of capital conservation capital (2.5%p) and domestic system-critical banks (D-SIB) capital (1.0%p) and economic response capital (2.5%p) to the existing lowest common equity capital ratio, the capital conservation capital and D-SIB capital will be raised by 2.5% and 1.0% each year by applying the transitional criteria by 2019, and economic response capital can be charged up to 2.5%p during credit expansion period. As of June 30, 2023, the minimum regulatory BIS capital ratio to be observed is 11.5%, which is the standard for applying capital conservation capital (2.5%p), D-SIB capital (1.0%p), and economic response capital (0%p).

As of June 30, 2023 and December 31, 2022, the Group maintains an appropriate capital ratio according to the above regulations.

(In millions of Korean won)

4. Operating segment

(a) The general descriptions of the Group's operating segments

The Group has four reportable segments which are strategic business units. Each of these segments is providing different services and managed separately.

Description	Area of business
Retail banking	Loans to or deposits from individual customers, wealth management customers, and institutions such as hospitals, airports and schools.
Corporate banking	Loans to or deposits from corporations, including small or medium sized companies and businesses related to investment banking.
International group	Supervision of overseas subsidiaries and branch operations and other international businesses.
Others	Fund management, investment in securities, others and various support businesses.

(b) The following table provides information of financial performance of each reportable segment for the six-month periods ended June 30, 2023 and 2022.

		June 30, 2023					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income (expense)	₩	2,176,986	1,736,926	552,879	(345,382)	(2,488)	4,118,921
Net fees and commission income (expense)		172,999	225,956	64,208	17,440	(4,609)	475,994
Net other income (expense) (*)		(1,221,409)	(338,102)	(61,252)	(627,340)	(57,636)	(2,305,739)
Operating income (expense)		1,128,576	1,624,780	555,835	(955,282)	(64,733)	2,289,176
Net non-operating income (expenses)		(6,603)	(12,573)	989	18,599	(31,124)	(30,712)
Share of profit of associates		-	-	-	-	58	58
Profit (loss) before income tax		1,121,973	1,612,207	556,824	(936,683)	(95,799)	2,258,522
Income tax expense		(291,540)	(418,926)	(127,995)	255,799	4,837	(577,825)
Profit (loss) for the period	₩	830,433	1,193,281	428,829	(680,884)	(90,962)	1,680,697
Attributable to:							
Equity holder of the Bank	₩	830,433	1,193,281	428,829	(680,884)	(91,111)	1,680,548
Non-controlling interests		-	-	-	-	149	149

(*) Profit or loss effect of hedging on net investments in foreign operations was included.

(In millions of Korean won)

4. Operating segment (continued)

(b) The following table provides information of financial performance of each reportable segment for the six-month periods ended June 30, 2023 and 2022 (continued).

		June 30, 2022					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income	₩	1,907,847	1,524,349	491,455	(34,584)	1,094	3,890,161
Net fees and commission income (expense)		175,458	244,700	56,646	30,861	(4,120)	503,545
Net other income (expense)(*)		(1,104,187)	(304,246)	(213,447)	(504,404)	6,546	(2,119,738)
Operating income (expense)		979,118	1,464,803	334,654	(508,127)	3,520	2,273,968
Net non-operating income (expense)		(19,507)	(15,464)	7,102	31,266	(1,146)	2,251
Share of loss of associates		-	-	-	-	171	171
Profit (loss) before income tax		959,611	1,449,339	341,756	(476,861)	2,545	2,276,390
Income tax expense		(253,582)	(382,996)	(81,144)	136,579	(11,815)	(592,958)
Profit (loss) for the period	₩	706,029	1,066,343	260,612	(340,282)	(9,270)	1,683,432
Attributable to:							
Equity holder of the Bank	₩	706,029	1,066,343	260,612	(340,282)	(9,657)	1,683,045
Non-controlling interests		-	-	-	-	387	387

(*) Profit or loss effect of hedging on net investments in foreign operations was included.

(c) The following table provides information of net interest income of each reportable operating segment from external consumers and net interest income (expenses) between operating segments for the six-month periods ended June 30, 2023 and 2022.

		June 30, 2023					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income (expense) from:							
External customers	₩	662,911	2,435,599	596,054	424,357	-	4,118,921
Internal transactions		1,514,075	(698,673)	(43,175)	(769,739)	(2,488)	-
	₩	2,176,986	1,736,926	552,879	(345,382)	(2,488)	4,118,921

		June 30, 2022					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income (expense) from:							
External customers	₩	1,288,754	1,746,728	510,376	344,303	-	3,890,161
Internal transactions		619,093	(222,379)	(18,921)	(378,887)	1,094	-
	₩	1,907,847	1,524,349	491,455	(34,584)	1,094	3,890,161

(In millions of Korean won)

4. Operating segment (continued)

(d) Financial information of geographical area

i) The following table provides information of operating income from external consumers by geographical area for the six-month periods ended June 30, 2023 and 2022.

		Operating revenue		Operating expenses		Operating income	
		June 30, 2023	June 30, 2022	June 30, 2023	June 30, 2022	June 30, 2023	June 30, 2022
Domestic	₩	18,447,729	17,934,106	16,633,530	16,021,316	1,814,199	1,912,790
Overseas		1,681,465	1,070,759	1,206,488	709,581	474,977	361,178
	₩	20,129,194	19,004,865	17,840,018	16,730,897	2,289,176	2,273,968

ii) The following table provides information of non-current assets by geographical area as of June 30, 2023 and December 31, 2022.

Division (*)		June 30, 2023	December 31, 2022
Domestic	₩	3,957,000	3,459,593
Overseas		296,844	319,316
	₩	4,253,844	3,778,909

(*) Non-current assets include property and equipment, intangible assets and investment properties.

(In millions of Korean won)

5. Cash and due from banks

(a) Cash and due from banks as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Cash	₩	2,438,798	2,259,832
Deposits in Korean won:			
Reserve deposits		15,728,066	8,477,472
Others		304,727	53,986
		16,032,793	8,531,458
Deposits in foreign currencies:			
Deposits		9,768,552	8,506,913
Time deposits		1,520,610	2,836,102
Others		708,322	452,951
		11,997,484	11,795,966
Allowance for impairment		(14,068)	(17,374)
	₩	30,455,007	22,569,882

(b) Restricted due from banks as of June 30, 2023 and December 31, 2022 are as follows:

Classification		June 30, 2023	December 31, 2022	The laws of evidence, etc.
Deposits in Korean won:				
Reserve deposits	₩	15,728,066	8,477,472	Article 55 of the Bank of Korea Act
Others		300,254	547	Article 387 of Capital Market Act of Korea Act, etc.
		16,028,320	8,478,019	
Deposits in foreign currencies:				
Deposits		4,673,456	1,675,889	Article 55 of the Bank of Korea Act, etc.
Time deposits		75,486	66,533	New York State, etc. Banking Law
Others		29,049	44,257	Derivative contract
		4,777,991	1,786,679	
	₩	20,806,311	10,264,698	

(In millions of Korean won)

6. Securities at fair value through profit or loss

Securities at FVTPL as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Debt securities:			
Government bonds	₩	969,879	760,724
Financial institution bonds		1,561,073	3,353,917
Corporate bonds		1,778,126	2,357,745
Bills bought		5,695,374	4,110,319
CMA		3,085,106	3,850,613
Beneficiary certificates		3,544,580	4,664,866
Others		2,065,426	1,801,894
		18,699,564	20,900,078
Equity securities:			
Stocks		262,043	225,657
Gold/silver deposits		100,428	75,969
	₩	19,062,035	21,201,704

(In millions of Korean won)

7. Derivatives

(a) The notional amounts of derivatives as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Foreign currency related			
Over the counter:			
Currency forwards	₩	141,623,575	113,580,287
Currency swaps		42,690,139	40,947,512
Currency options		1,537,694	1,327,752
Exchange traded:			
Currency futures		39,384	38,019
		185,890,792	155,893,570
Interest rates related			
Over the counter:			
Interest rate swaps		29,999,698	30,748,577
Interest rate options		185,000	145,424
Exchange traded:			
Interest rate futures		520,604	159,744
Interest rate swaps (*)		40,370,320	38,396,230
		71,075,622	69,449,975
Equity related			
Over the counter:			
Equity options		190,221	217,834
Exchange traded:			
Equity futures		57,214	25,132
Equity options		57,875	-
		305,310	242,966
Commodity related			
Over the counter:			
Commodity swap and forwards		150,125	241,494
Commodity options		8,000	8,000
		158,125	249,494
Hedge			
Fair value hedge:			
Interest rate swaps		14,515,552	13,530,243
Net investment hedge:			
Currency forwards		695,784	253,460
		15,211,336	13,783,703
	₩	272,641,185	239,619,708

(*) The notional amount of derivatives which is settled in the 'Central Counter Party ("CCP")' system.

(In millions of Korean won)

7. **Derivatives (continued)**

(b) Fair values of derivatives as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023		December 31, 2022	
		Assets	**Liabilities**	**Assets**	**Liabilities**
Foreign currency related					
Over the counter:					
Currency forwards	₩	1,504,834	1,109,846	2,667,464	2,445,020
Currency swaps		1,660,669	1,870,257	1,589,098	1,833,258
Currency options		12,821	14,879	14,776	13,603
		3,178,324	2,994,982	4,271,338	4,291,881
Interest rates related					
Over the counter:					
Interest rate swaps		547,728	557,220	536,144	588,793
Interest rate options		68	6,277	3,203	-
Exchange traded:					
Interest rate futures		1,119	705	-	-
		548,915	564,202	539,347	588,793
Equity related					
Over the counter:					
Equity options		1,311	3,155	1,258	1,279
Exchange traded:					
Equity futures		-	122	233	2
Equity options		1	70	-	-
		1,312	3,347	1,491	1,281
Commodity related					
Over the counter:					
Commodity swap and forwards		-	2,470	10,766	4
Commodity options		-	14	-	1,516
		-	2,484	10,766	1,520
Hedge					
Fair value hedge:					
Interest rate swaps		78,844	836,884	77,757	895,005
Net investment hedge:					
Currency forwards		5,485	4,167	3,397	1,146
		84,329	841,051	81,154	896,151
	₩	3,812,880	4,406,066	4,904,096	5,779,626

(In millions of Korean won)

7. **Derivatives (continued)**

(c) Gain or loss on valuation of derivatives for the three-month and six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023			
		Three months		Six months	
		Gain	Loss	Gain	Loss
Foreign currency related					
Over the counter:					
Currency forwards	₩	(168,677)	(18,099)	1,139,702	951,215
Currency swaps		34,690	75,588	527,112	681,564
Currency options		2,400	1,603	6,776	6,220
		(131,587)	59,092	1,673,590	1,638,999
Interest rates related					
Over the counter:					
Interest rate swaps		64,141	30,122	174,133	109,311
Interest rate options		-	1,965	-	2,681
Exchange traded:					
Interest rate futures		791	648	1,119	704
		64,932	32,735	175,252	112,696
Equity related					
Over the counter:					
Equity options		428	355	768	1,829
Exchange traded:					
Equity futures		(219)	(258)	-	122
Equity options		57	(361)	57	14
		266	(264)	825	1,965
Commodity related					
Over the counter:					
Commodity swap and forwards		(4,856)	2,470	-	2,470
Commodity options		917	-	1,503	-
		(3,939)	2,470	1,503	2,470
Hedge					
Fair value hedge:					
Interest rate swaps		(59,367)	30,125	104,798	38,924
Net investment hedge:					
Currency forwards		6,295	9,030	7,891	9,700
		(53,072)	39,155	112,689	48,624
	₩	(123,400)	133,188	1,963,859	1,804,754

(In millions of Korean won)

7. Derivatives (continued)

(c) Gain or loss on valuation of derivatives for the three-month and six-month periods ended June 30, 2023 and 2022 are as follows: (continued)

		June 30, 2022			
		Three months		Six-months	
		Gain	Loss	Gain	Loss
Foreign currency related					
Over the counter:					
Currency forwards	₩	1,468,914	1,166,285	2,333,520	1,949,652
Currency swaps		967,502	1,389,291	1,368,460	1,883,985
Currency options		21,611	15,736	25,942	18,974
		2,458,027	2,571,312	3,727,922	3,852,611
Interest rates related					
Over the counter:					
Interest rate swaps		146,305	187,415	364,006	441,225
Interest rate options		8	-	1,838	-
Exchange traded:					
Interest rate futures		(7,703)	321	110	864
		138,610	187,736	365,954	442,089
Equity related					
Over the counter:					
Equity options		1,287	112	2,713	522
Exchange traded:					
Equity futures		(22)	(1,050)	87	-
Equity options		-	(524)	-	38
		1,265	(1,462)	2,800	560
Commodity related					
Over the counter:					
Commodity swap and forwards		(18,178)	13,632	-	14,055
Commodity options		1,562	-	4,551	-
		(16,616)	13,632	4,551	14,055
Hedge					
Fair value hedge:					
Interest rate swaps		22,041	273,525	53,998	646,360
Net investment hedge:					
Currency forwards		(225)	(240)	-	575
		21,816	273,285	53,998	646,935
	₩	2,603,102	3,044,503	4,155,225	4,956,250

(In millions of Korean won)

7. Derivatives (continued)

(d) Hedge accounting

i) Purpose and strategy of hedge accounting

The Group trades derivative financial instruments to hedge the interest rate risk and foreign exchange risk arising from the group's assets and liabilities. The Group applies fair value risk hedge accounting using interest rate swaps to avoid the risk of changes in fair value due to changes in market interest rates on structured bonds in won, foreign currency issued financial bonds, structured deposits in won and foreign currency investment bonds. In addition, to avoid the risk of foreign currency exchange rate fluctuations at foreign operations, the Group applies net investment risk hedge accounting for foreign operations that utilize currency forwards and non-derivative financial instruments.

ii) Nominal amounts and average hedge ratios for hedging instruments as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	6,426,400	714,500	820,884	792,931	1,752,588	4,008,249	14,515,552
Average price conditions (*1)		0.41%	0.76%	0.96%	0.77%	0.95%	0.63%	0.61%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations (*2)								
Currency forwards		695,784	-	-	-	-	-	695,784
Borrowings in foreign currencies		64,397	-	-	-	-	-	64,397
Debt securities issued in foreign currencies		367,949	195,450	139,062	420,096	295,796	-	1,418,353
	₩	1,128,130	195,450	139,062	420,096	295,796	-	2,178,534
Average hedge ratio		100%	100%	100%	100%	100%	-	100%

(*1) Interest rate swaps consist of 3M CD, USD SOFR, 3M Euribor and 3M AUD Bond.

(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,237.00, EUR/KRW 1,298.11, JPY/KRW 9.46, CAD/KRW 921.27, CNY/KRW 177.98, AUD/KRW 877.18.

		December 31, 2022						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	4,553,650	2,540,240	143,969	1,337,001	586,760	4,368,623	13,530,243
Average price conditions(*1)		0.42%	0.48%	0.73%	0.84%	0.71%	0.60%	0.55%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations(*2)								
Currency forwards		253,460	-	-	-	-	-	253,460
Borrowings in foreign currencies		239,044	-	-	-	-	-	239,044
Debt securities issued in foreign currencies		359,079	64,858	113,450	510,608	-	-	1,047,995
	₩	851,583	64,858	113,450	510,608	-	-	1,540,499
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, USD SOFR, 3M USD Libor, 3M Euribor and 3M AUD Bond.

(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,217.73, EUR/KRW 1,298.11, JPY/KRW 10.13, CAD/KRW 948.79, CNY/KRW 190.96, AUD/KRW 877.18.

(In millions of Korean won)

7. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements

i) Impact on hedging instruments in the consolidated interim statement of financial position, as of June 30, 2023 and December 31, 2022, and consolidated interim statement of comprehensive income and consolidated statement of changes in equity for the six-month period then ended and for the year then ended are as follows:

June 30, 2023

			Notional amounts	Consolidated statement of financial position: Derivative assets	Consolidated statement of financial position: Derivative liabilities	Consolidated statement of financial position: Borrowings	Consolidated statement of financial position: Debt securities issued	Consolidated statement of comprehensive income: Other comprehensive income (loss) for the period	Changes in fair value for the period
Fair value hedges									
Interest rate risk	Interest rate swaps	₩	14,515,552	78,844	836,884	-	-	-	65,874
Hedge of net investments in foreign operations:									
Foreign exchange Risk	Currency forwards		695,784	5,485	4,167	-	-	478	2,592
	Borrowings in foreign currencies		64,397	-	-	64,397	-	(5,427)	(5,427)
	Debt securities issued in foreign currencies		1,418,353	-	-	-	1,413,737	(15,295)	(15,295)
			2,178,534	5,485	4,167	64,397	1,413,737	(20,244)	(18,130)
		₩	16,694,086	84,329	841,051	64,397	1,413,737	(20,244)	47,744

December 31, 2022

			Notional amounts	Consolidated statement of financial position: Derivative assets	Consolidated statement of financial position: Derivative liabilities	Consolidated statement of financial position: Borrowings	Consolidated statement of financial position: Debt securities issued	Consolidated statement of comprehensive income: Other comprehensive income (loss) for the year	Changes in fair value for the period
Fair value hedges									
Interest rate risk	Interest rate swaps	₩	13,530,243	77,757	895,005	-	-	-	(740,189)
Hedge of net investments in foreign operations:									
Foreign exchange Risk	Currency forwards		253,460	3,397	1,146	-	-	3,324	(772)
	Borrowings in foreign currencies		239,044	-	-	239,044	-	14,100	14,100
	Debt securities issued in foreign currencies		1,047,995	-	-	-	1,043,317	(43,216)	(43,216)
			1,540,499	3,397	1,146	239,044	1,043,317	(25,792)	(29,888)
		₩	15,070,742	81,154	896,151	239,044	1,043,317	(25,792)	(770,077)

(In millions of Korean won)

7. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

ii) Impact on hedged items in the consolidated statement of financial position, as of June 30, 2023 and December 31, 2022, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the six-month period then ended and for the year then ended are as follows:

June 30, 2023

			Consolidated statement of financial position			Consolidated statement of comprehensive income			
	Hedging instruments		Securities at FVTOCI	Deposits	Debt securities issued	Other comprehensive income for the period	Fair value hedges Adjusted accumulated amount	Changes in fair value for the period	Reserve of exchange differences on translation
Fair value hedges:									
Interest rate risk	Debt securities issued	₩	-	-	12,986,871	-	(628,676)	(44,925)	-
	Investment bonds		627,228	-	-	-	64,130	(4,148)	-
	Time deposits		-	619,008	-	-	(160,992)	(26,535)	-
			627,228	619,008	12,986,871	-	(725,538)	(75,608)	-
Hedge of net investments in foreign operations:									
Foreign exchange risk	Net investments in foreign operations		-	-	-	20,244	-	20,244	(20,590)
		₩	627,228	619,008	12,986,871	20,244	(725,538)	(55,364)	(20,590)

December 31, 2022

			Consolidated statement of financial position			Consolidated statement of comprehensive income			
	Hedging instruments		Securities at FVTOCI	Deposits	Debt securities issued	Other comprehensive income for the year	Fair value hedges Adjusted accumulated amount	Changes in fair value for the year	Reserve of exchange differences on translation
Fair value hedges:									
Interest rate risk	Debt securities issued	₩	-	-	12,169,122	-	(673,601)	679,835	-
	Investment bonds		505,668	-	-	-	69,687	(65,158)	-
	Time deposits		-	542,473	-	-	(187,527)	93,762	-
			505,668	542,473	12,169,122	-	(791,441)	708,439	-
Hedge of net investments in foreign operations:									
Foreign exchange risk	Net investments in foreign operations		-	-	-	25,792	-	25,792	(40,834)
		₩	505,668	542,473	12,169,122	25,792	(791,441)	734,231	(40,834)

(In millions of Korean won)

7. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

iii) The amounts recognized as gains or losses due to an ineffective portion of hedge for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023			
		Gains or losses on fair value hedges (hedged items)	Gains or losses on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	(75,608)	65,874	(9,734)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		20,244	(18,130)	2,114	-
	₩	(55,364)	47,744	(7,620)	-

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

		June 30, 2022			
		Gains or losses on fair value hedges (hedged items)	Gains or losses on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	577,166	(592,362)	(15,196)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		53,460	(55,309)	(1,849)	-
	₩	630,626	(647,671)	(17,045)	-

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

(f) The effects of quantifying the credit risk of derivatives mitigated by collateral held as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Deposits, securities, and etc	₩	1,062,133	1,486,480

7. Derivatives (continued)

(g) Hedge relationships affected by an interest rate benchmark reform

The revised Standard requires exception to the analysis of future information in relation to the application of hedge accounting, while uncertainty exists due to movements of the interest rate benchmark reform. The exception assumes that when assessing whether the expected cash flows that comply with existing interest rate benchmarks are highly probable, whether there is an economic relationship between the hedged item and the hedging instrument, and whether there is a high hedge effectiveness between the hedged item and the hedging instrument, the interest rate indicators that are based on the hedged item do not change due to the effect of the interest rate index reform.

KRW CD interest rates will be replaced by Korea Overnight Financing Repo Rates(KOFR). The Group has assumed that in this hedging relationship, the spread which has changed based on Korea Overnight Financing Repo Rates would be similar to the spreads of interest rate swap used as the hedging instrument. Besides this, the Group did not make any assumption on further changes of conditions.

(In millions of Korean won)

8. Loans

(a) Details of loans as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023		December 31, 2022	
		Loans at amortized cost	**Loans at FVTPL**	**Loans at amortized cost**	**Loans at FVTPL**
Household loans	₩	139,799,936	-	141,550,553	-
Corporate loans		194,356,050	780,029	192,795,291	863,454
Public and other loans		4,000,615	-	3,680,407	109,099
Loans to banks		4,618,600	-	7,447,411	-
Credit card receivables		291,797	-	251,850	-
		343,066,998	780,029	345,725,512	972,553
Deferred loan origination costs and fees		473,942	-	504,481	-
		343,540,940	780,029	346,229,993	972,553
Less: Allowance for impairment		(2,150,987)	-	(1,931,054)	-
	₩	341,389,953	780,029	344,298,939	972,553

SHINHAN BANK AND SUBSIDIARIES
Notes to the Condensed Consolidated Interim Financial Statements (continued)
June 30, 2023 and 2022 (Unaudited), and December 31, 2022
(In millions of Korean won)

8. Loans (continued)

(b) Changes in allowance for impairment and book value

i) Changes in allowance for impairment of due from banks, loans at amortized cost and other assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

	June 30, 2023																		
	Due from banks			Loans at amortized cost													Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired	
Beginning balance	₩ 17,273	101	-	156,600	119,591	144,786	468,070	734,526	269,237	3,237	1,079	3,440	14,577	9,217	6,694	266,590	4,176	2,399	2,221,593
Transfer to 12 month expected credit losses	-	-	-	22,421	(21,921)	(500)	57,800	(57,751)	(49)	88	(78)	(10)	177	(177)	-	281	(249)	(32)	-
Transfer to lifetime expected credit losses	(7)	7	-	(12,096)	20,515	(8,419)	(49,119)	51,564	(2,445)	(184)	186	(2)	(279)	279	-	(200)	201	(1)	-
Transfer to credit-impaired financial assets	-	-	-	(3,483)	(13,786)	17,269	(2,336)	(22,743)	25,079	(363)	(821)	1,184	(6)	(20)	26	(39)	(332)	371	-
Provision for (reversal of) allowance(*1)	(4,208)	386	-	(8,449)	11,803	98,429	192,177	29,336	110,658	1,198	1,559	3,252	(1,627)	(154)	696	2,556	739	1,409	439,760
Write-offs	-	-	-	-	-	(137,328)	-	-	(105,779)	-	-	(2,401)	-	-	(171)	-	-	(80)	(245,759)
Effect of discounting	-	-	-	-	-	(5,106)	-	-	(8,845)	-	-	-	-	-	-	-	-	-	(13,951)
Disposal of loans	-	-	-	-	(155)	(2,332)	-	(113)	(26,115)	-	-	-	-	(9)	(114)	-	-	(141)	(28,979)
Recoveries	-	-	-	-	-	38,009	-	-	38,702	-	-	212	-	-	249	-	-	93	77,265
Others(*2)	509	7	-	(301)	(65)	(189)	(1,162)	(2,664)	(2,882)	(78)	(30)	(93)	(185)	-	-	45	-	-	(7,088)
Ending balance	₩ 13,567	501	-	154,692	115,982	144,619	665,430	732,155	297,561	3,898	1,895	5,582	12,657	9,136	7,380	269,233	4,535	4,018	2,442,841

(*1) Additional provision for credit loan allowance is recognized for the six-month period ended June 30, 2023, to cope with the suspension of financial support program of COVID-19 and internal and external economic uncertainty. As of June 30, 2023, the Group has set aside an additional provision of ₩266,328 million through the re-estimation of the forecast default rate that reflected the updated forward-looking information considering worst scenario for the six-month period ended June 30, 2023.
(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

8. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

i) Changes in allowance for impairment of due from banks, loans at amortized cost and other assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows: (continued)

	December 31, 2022																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired	
Beginning balance ₩	16,151	179	-	97,560	64,357	128,407	443,168	628,563	282,293	1,935	713	4,081	10,589	9,257	5,494	155,928	2,519	2,529	1,853,723
Transfer to 12 month expected credit losses	-	-	-	15,102	(14,288)	(814)	75,533	(73,892)	(1,641)	166	(117)	(49)	403	(403)	-	234	(194)	(40)	-
Transfer to lifetime expected credit losses	-	-	-	(7,463)	23,835	(16,372)	(43,665)	45,444	(1,779)	(51)	57	(6)	(122)	122	-	(104)	125	(21)	-
Transfer to credit-impaired financial assets	-	-	-	(2,164)	(6,762)	8,926	(1,218)	(14,084)	15,302	(194)	(153)	347	(1)	(5)	6	(18)	(152)	170	-
Provision for (reversal of) allowance(*1)	689	(82)	-	53,591	52,482	161,060	(5,773)	148,433	156,858	1,380	579	3,781	3,706	246	2,387	458	1,878	1,064	582,737
Write-offs	-	-	-	-	-	(206,920)	-	-	(199,806)	-	-	(5,253)	-	-	(1,121)	-	-	(1,364)	(414,464)
Effect of discounting	-	-	-	-	-	(5,568)	-	-	(11,169)	-	-	-	-	-	-	-	-	-	(16,737)
Disposal of loans	-	-	-	-	(28)	(3,340)	-	(5)	(10,676)	-	-	-	-	-	(217)	-	-	(61)	(14,327)
Recoveries	-	-	-	-	-	79,410	-	-	39,898	-	-	536	-	-	145	-	-	122	120,111
Others(*2)	433	4	-	(26)	(5)	(3)	25	67	(43)	1	-	3	2	-	-	110,092	-	-	110,550
Ending balance ₩	17,273	101	-	156,600	119,591	144,786	468,070	734,526	269,237	3,237	1,079	3,440	14,577	9,217	6,694	266,590	4,176	2,399	2,221,593

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2022, to cope with prolonged COVID-19 and internal and external economic uncertainty. As of December 31, 2022, the Group has set aside an additional provision of ₩172,679 million (including provisions for debt securities, provisions for off-balance accounts, etc.) through the re-estimation of the forecast default rate that reflected the updated forward-looking information considering worst scenario for the year ended December 31, 2022 and an additional provision of ₩112,467 million through the additional selection and adjustment of cash flows for loans subject to individual assessment, and additional provision of ₩133,638 million was set aside by reflecting additional expected losses on loans in moratorium of interest payments and moratorium of repayment including mature-extended loans and estimated loss loans and mature-extended loans.
(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

8. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

	June 30, 2023																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	
Beginning balance	₩ 20,326,691	733	-	133,623,495	7,943,389	377,919	163,247,982	28,997,841	660,723	244,414	3,111	4,325	10,447,025	665,678	14,091	15,630,676	101,309	4,449	382,293,851
Transfer to 12 month expected credit losses	1	(1)	-	2,555,394	(2,551,264)	(4,130)	4,796,821	(4,796,415)	(406)	411	(399)	(12)	45,086	(45,086)	-	17,860	(17,740)	(120)	-
Transfer to lifetime expected credit losses	(2,482)	2,482	-	(3,591,167)	3,612,434	(21,267)	(9,398,681)	9,407,795	(9,114)	(3,238)	3,241	(3)	(135,583)	135,583	-	(33,821)	33,825	(4)	-
Transfer to credit-impaired financial assets	-	-	-	(97,735)	(176,204)	273,939	(172,042)	(346,462)	518,504	(3,278)	(1,529)	4,807	(399)	(7,128)	7,527	(1,017)	(2,733)	3,750	-
Origination, recoveries, and others (*)	7,701,972	881	-	(1,045,224)	(523,306)	(12,836)	1,177,778	723,096	(113,472)	41,767	237	345	(2,597,522)	88,621	747	2,509,274	695	(495)	7,952,558
Write-offs	-	-	-	-	-	(137,328)	-	-	(105,779)	-	-	(2,401)	-	-	(171)	-	-	(80)	(245,759)
Disposal of loans	-	-	-	-	(1,281)	(42,188)	-	(2,927)	(135,059)	-	-	-	-	(500)	(1,650)	-	(3)	(593)	(184,201)
Ending balance	₩ 28,026,182	4,095	-	131,444,763	8,303,768	434,109	159,651,858	33,982,928	815,397	280,076	4,661	7,061	7,758,607	837,168	20,544	18,122,972	115,353	6,907	389,816,449

(*) Other changes were due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

8. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows: (continued)

	December 31, 2022																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	
Beginning balance	₩ 18,643,132	691	-	137,475,936	7,900,137	346,257	147,222,368	26,481,650	663,321	178,938	2,304	5,140	6,647,449	668,661	17,752	16,628,947	56,926	4,651	362,944,260
Transfer to 12 month expected credit losses	-	-	-	3,331,001	(3,323,000)	(8,001)	7,263,929	(7,257,084)	(6,845)	413	(350)	(63)	55,767	(55,767)	-	15,483	(15,393)	(90)	-
Transfer to lifetime expected credit losses	-	-	-	(4,107,377)	4,140,904	(33,527)	(9,867,090)	9,877,091	(10,001)	(1,605)	1,612	(7)	(52,028)	52,030	(2)	(19,831)	19,939	(108)	-
Transfer to credit-impaired financial assets	-	-	-	(135,798)	(138,470)	274,268	(164,674)	(297,966)	462,640	(3,184)	(327)	3,511	(18)	(12)	30	(688)	(1,807)	2,495	-
Origination, recoveries, and others(*1)	1,683,559	42	-	(2,940,267)	(635,031)	56,021	18,793,449	195,483	(131,114)	69,852	(128)	997	3,795,855	766	180	(993,235)	41,644	(266)	19,937,807
Write-offs	-	-	-	-	-	(206,920)	-	-	(199,806)	-	-	(5,253)	-	-	(1,121)	-	-	(1,364)	(414,464)
Disposal of loans	-	-	-	-	(1,151)	(50,179)	-	(1,333)	(117,472)	-	-	-	-	-	(2,748)	-	-	(869)	(173,752)
Ending balance	₩ 20,326,691	733	-	133,623,495	7,943,389	377,919	163,247,982	28,997,841	660,723	244,414	3,111	4,325	10,447,025	665,678	14,091	15,630,676	101,309	4,449	382,293,851

(*) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Securities at fair value through other comprehensive income and securities at amortized cost

(a) Details of securities at FVTOCI and securities at amortized cost as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Securities at FVTOCI:			
Debt securities:			
Government bonds	₩	21,149,359	20,705,591
Financial institutions bonds		16,373,759	16,904,523
Corporate bonds		9,343,797	9,895,483
Others		-	49,355
		46,866,915	47,554,952
Equity securities:			
Stocks		1,120,977	1,173,962
Equity investments		1,570	3,075
Others		31,196	38,795
		1,153,743	1,215,832
	₩	48,020,658	48,770,784
Securities at amortized cost:			
Debt securities:			
Government bonds	₩	18,096,004	17,242,773
Financial institutions bonds		6,074,320	5,367,661
Corporate bonds		5,677,224	5,545,119
Others		223,359	234,135
		30,070,907	28,389,688
Allowance for impairment		(11,738)	(9,702)
	₩	30,059,169	28,379,986

(In millions of Korean won)

9. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(a) Details of securities at FVTOCI and securities at amortized cost as of June 30, 2023 and December 31, 2022 are as follows: (continued)

Details of equity instruments designated at FVTOCI as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Marketable securities	₩	644,612	691,629
Non-marketable securities		476,365	482,333
Others		32,766	41,870
	₩	1,153,743	1,215,832

Above equity securities are equity securities designated as FVTOCI, and for the retention required by the policy, the option of measuring FVTOCI is exercised.

Cumulative net gains or losses reclassified in equity upon disposition of equity securities for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are ₩(-)1,713 million and ₩2,943 million and there are no cumulated gains or losses replaced by the reclassification of the account for the six-month period ended June 30, 2023 and the year ended December 31, 2022, respectively.

(b) Gains and losses on sale of securities at FVTOCI for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three-month	Six-month	Three-month	Six-month
Gain on sale of securities at FVOCI	₩	6,654	16,582	1,323	5,487
Loss on sale of securities at FVOCI		(670)	(1,430)	(3,000)	(3,803)
	₩	5,984	15,152	(1,677)	1,684

The Group disposed equity instruments that are measured at FVTOCI for debt-equity swap. At the time of disposal, fair value of equity instruments for the six-month periods ended June 30, 2023 and 2022 are ₩27,965 million and ₩31,951 million, and cumulative net gains or losses for the six-month periods ended June 30, 2023 and 2022 are ₩(-)1,713 million and ₩2,647 million, respectively.

(c) Gains and losses on sale of securities at amortized cost

Gains and losses on sale of securities at amortized cost for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three-month	Six-month	Three-month	Six-month
Gain on disposal of securities at amortized cost	₩	-	-	1	4
Loss on disposal of securities at amortized cost		(1)	(2)	(15)	(59)
	₩	(1)	(2)	(14)	(55)

Securities at amortized cost are sold due to the partial redemption of payables.

(In millions of Korean won)

9. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVTOCI and securities at amortized cost.

i) Changes in allowance for credit loss of securities at FVTOCI and securities at amortized cost for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

	June 30, 2023							
	Securities at FVTOCI				Securities at amortized cost			
		Lifetime expected credit losses				Lifetime expected credit losses		
	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩ 24,634	112	-	24,746	9,545	157	-	9,702
Transfer to 12-month expected credit losses	23	(23)	-	-	-	-	-	-
Transfer to lifetime expected credit losses	(130)	130	-	-	-	-	-	-
Transfer to impaired financial assets	-	-	-	-	-	-	-	-
Provision(reversal)	(7,333)	942	-	(6,391)	1,510	(8)	-	1,502
Disposals and Others(*)	(147)	9	-	(138)	521	13	-	534
Ending balance	₩ 17,047	1,170	-	18,217	11,576	162	-	11,738

(*) Other changes are due to foreign exchange rate changes, etc.

	December 31, 2022							
	Securities at FVTOCI				Securities at amortized cost			
		Lifetime expected credit losses				Lifetime expected credit losses		
	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩ 28,137	602	-	28,739	9,060	463	-	9,523
Transfer to 12-month expected credit losses	166	(166)	-	-	203	(203)	-	-
Transfer to lifetime expected credit losses	(20)	20	-	-	-	-	-	-
Transfer to impaired financial assets	-	-	-	-	-	-	-	-
Provision(reversal)	(3,016)	(355)	-	(3,371)	557	(94)	-	463
Disposals and Others(*)	(633)	11	-	(622)	(275)	(9)	-	(284)
Ending balance	₩ 24,634	112	-	24,746	9,545	157	-	9,702

(*) Other changes are due to foreign exchange rate changes, etc.

(In millions of Korean won)

9. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVTOCI and securities at amortized cost (continued).

ii) Changes in carrying amount of securities at FVTOCI and securities at amortized cost for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023							
		Securities at FVTOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Credit unimpaired financial assets	Impaired financial assets	Total
Beginning balance	₩	47,487,752	67,200	-	47,554,952	28,379,171	10,517	-	28,389,688
Transfer to 12-month expected credit losses		31,255	(31,255)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(74,694)	74,694	-	-	-	-	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase (decrease) in balance		(692,598)	4,561	-	(688,037)	1,683,852	(2,633)	-	1,681,219
Ending balance	₩	46,751,715	115,200	-	46,866,915	30,063,023	7,884	-	30,070,907

		December 31, 2022							
		Securities at FVTOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Credit unimpaired financial assets	Impaired financial assets	Total
Beginning balance	₩	47,431,890	152,786	-	47,584,676	21,298,476	36,290	-	21,334,766
Transfer to 12-month expected credit losses		61,740	(61,740)	-	-	18,544	(18,544)	-	-
Transfer to lifetime expected credit losses		(23,619)	23,619	-	-	-	-	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase (decrease) in balance		17,741	(47,465)	-	(29,724)	7,062,151	(7,229)	-	7,054,922
Ending balance	₩	47,487,752	67,200	-	47,554,952	28,379,171	10,517	-	28,389,688

(In millions of Korean won)

10. Property and equipment

Details of property and equipment as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023		
		Acquisition cost	Accumulated depreciation	Carrying amount
Land	₩	1,281,589	-	1,281,589
Buildings(*)		985,801	(455,651)	530,150
Right-of-use assets		973,837	(535,314)	438,523
Others		1,507,452	(1,231,349)	276,103
	₩	4,748,679	(2,222,314)	2,526,365

(*) ₩35 million of government subsidy is deducted from book value.

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Carrying amount
Land	₩	1,317,048	-	1,317,048
Buildings(*)		905,103	(431,256)	473,847
Right-of-use assets		864,469	(462,887)	401,582
Others		1,576,295	(1,231,290)	345,005
	₩	4,662,915	(2,125,433)	2,537,482

(*) ₩65 million of government subsidy is deducted from book value.

(In millions of Korean won)

11. Leases

(a) Details of lease right-of-use assets by class of underlying asset of the lessee as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023		
		Acquisition cost	Accumulated depreciation	Book value
Real property	₩	882,853	(482,045)	400,808
Vehicle		55,185	(29,902)	25,283
Others		35,799	(23,367)	12,432
	₩	973,837	(535,314)	438,523

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Book value
Real property	₩	787,846	(412,616)	375,230
Vehicle		44,974	(28,814)	16,160
Others		31,649	(21,457)	10,192
	₩	864,469	(462,887)	401,582

(b) Changes in underlying assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023			
		Real property	Vehicle	Others	Total
Beginning balance	₩	375,230	16,160	10,192	401,582
Acquisitions		137,229	15,437	5,716	158,382
Disposals		(13,491)	(1,364)	(1,041)	(15,896)
Depreciation		(102,563)	(4,965)	(2,489)	(110,017)
Effects of foreign currency movements		4,403	15	54	4,472
Ending balance	₩	400,808	25,283	12,432	438,523

		December 31, 2022			
		Real property	Vehicle	Others	Total
Beginning balance	₩	388,658	16,040	11,840	416,538
Acquisitions		242,593	10,511	3,601	256,705
Disposals		(65,506)	(1,375)	(836)	(67,717)
Depreciation		(194,744)	(9,067)	(4,411)	(208,222)
Effects of foreign currency movements		4,229	51	(2)	4,278
Ending balance	₩	375,230	16,160	10,192	401,582

(In millions of Korean won)

11. Leases (continued)

(c) Details of maturity of lease liabilities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023						
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Assets								
Real property	₩	22,718	27,600	38,706	56,056	190,295	54,423	389,798
Vehicle		6,914	1,771	2,587	4,745	17,428	20	33,465
Others		558	830	1,195	2,008	8,057	-	12,648
	₩	30,190	30,201	42,488	62,809	215,780	54,443	435,911

		December 31, 2022						
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Assets								
Real property	₩	19,470	22,290	29,712	49,620	184,247	58,127	363,466
Vehicle		6,463	1,376	1,872	3,372	9,965	-	23,048
Others		439	541	1,079	2,076	6,592	10	10,737
	₩	26,372	24,207	32,663	55,068	200,804	58,137	397,251

The abovementioned amounts shown above are classified by the earliest maturity dates on which the Group's payment obligation arises based on undiscounted cash flows.

(d) For the six-month periods ended June 30, 2023 and 2022, the lease payment for low value assets is ₩1,726 million and ₩1,731 million. Short-term lease payment does not exist.

(In millions of Korean won)

12. Intangible assets

(a) Details of intangible assets as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Goodwill	₩	33,277	32,082
Software		146,250	149,661
Development cost		163,981	144,191
Memberships		46,913	46,897
Others(*)		696,052	263,656
	₩	1,086,473	636,487

(*) Others include intangible assets related to the rights to be the depository bank of municipal and provincial governments, etc.

(b) Changes in intangible assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023					
		Goodwill	Software	Development cost	Membership	Others	Total
Beginning balance	₩	32,082	149,661	144,191	46,897	263,656	636,487
Acquisitions		-	20,369	42,262	-	514,173	576,804
Amortization(*1)		-	(24,443)	(22,472)	-	(82,008)	(128,923)
Effects of foreign currency movements		1,195	663	-	16	231	2,105
Ending balance(*2)	₩	33,277	146,250	163,981	46,913	696,052	1,086,473

(*1) ₩80,765 million among amortization cost of other intangible assets is included in other operating expenses.
(*2) ₩495,799 million of other intangible assets is accounted for as account payables.

		December 31, 2022					
		Goodwill	Software	Development cost	Membership	Others	Total
Beginning balance	₩	28,199	104,475	78,159	48,379	283,914	543,126
Acquisitions		-	84,235	98,249	1,814	95,402	279,700
Disposal		-	-	-	(3,299)	(67)	(3,366)
Amortization(*1)		-	(39,810)	(32,217)	-	(115,811)	(187,838)
Effects of foreign currency movements		3,883	761	-	3	218	4,865
Ending balance(*2)	₩	32,082	149,661	144,191	46,897	263,656	636,487

(*1) ₩111,945 million among amortization cost of other intangible assets is included in other operating expenses.
(*2) ₩44,100 million of other intangible assets is accounted for as account payables.

12. Intangible assets (continued)

(c) Goodwill

i) The carrying amounts of goodwill allocated to each Cash-Generating Unit ("CGU") as of June 30, 2023 and December 31, 2022 are as follows:

CGU		June 30, 2023	December 31, 2022
Shinhan Bank Vietnam Co., Ltd.	₩	33,277	32,082

ii) Impairment test

(In millions of Korean won)

The recoverable amount of all cash-generating units required for impairment testing is based on value in use. The recoverable amounts of CGUs are determined on the basis of value-in-use calculations using discounted cash flow (DCF) model.

① Measurement date and projection period
The recoverable amounts are measured as of June 30, 2022. The projection period used in value-in-use calculations is 5.5 years (July 2022 through December 2027) considering synergy effect of business combinations and the value-in-use after projection period is estimated on the assumption that the future cash flows will increase by perpetual growth rate for every year.

② Significant assumptions
The expected future cash flows from the cash-generating unit are based on the CPI growth rate, market size and the market share of the Group. Major unobservable assumptions applied during the forecast period are as follows:

(Unit: %)

Cash-generating units	Net interest income growth rate	Net commission income growth rate	General administrative expenses growth rate	Profit growth rate
Shinhan Bank Vietnam Co., Ltd.	6.46	2.10	6.68	5.69

The discount rate is applied by calculating the internal rate of return and the cost of equity capital of the shareholders. The cost of equity capital is calculated by taking into account the systematic risk of the entity in the market risk premium paid in return for risk free rate. Permanent growth rate is estimated based on inflation and did not exceed the projected long-term average growth rate of the relevant industry report.

(Unit: %)

Cash-generating units	Discount rate	Permanent growth rate
Shinhan Bank Vietnam Co., Ltd.	14.20	2.00

12. <u>Intangible assets (continued)</u>

(c) Goodwill (continued)

ii) Impairment test (continued)

③ The recoverable amounts and carrying amounts

The recoverable amounts and carrying amounts of the CGUs to which goodwill has been allocated as of valuation date are as follows:

		Shinhan Bank Vietnam Co., Ltd.
Recoverable amount	₩	1,545,793
Carrying amount		1,288,007
Recoverable amount in excess of carrying amount	₩	257,786

The carrying amount of Shinhan Bank Vietnam's cash-generating unit does not exceed the recoverable amount.

13. Investments in associates

(a) Investments in associates as of June 30, 2023 and December 31, 2022 are as follows:

Investees	Location	Reporting date	Industry sector	Ownership (%) June 30, 2023	Ownership (%) December 31, 2022
BNP Paribas Cardif Life Insurance Co., Ltd.(*1)(*2)	Korea	March 31	Insurance	14.99	14.99
KOREA FINANCE SECURITY(*1)(*5)	Korea	March 31	Others	14.91	14.91
DOODOO LOGITECH(*3)(*4)	Korea	December 31	Others	27.96	27.96
One Shinhan Future's Fund 1(*1)	Korea	March 31	Investment	27.78	27.78
KST-SH Laboratory Investment Fund No.1(*1)	Korea	May 31	Investment	20.00	20.00
One Shinhan Future's Fund 2(*1)	Korea	March 31	Investment	29.70	29.70
One Shinhan Future's Fund 3(*1)	Korea	March 31	Investment	29.90	29.90
One-Shinhan Connect New Technology Investment Fund 1	Korea	June 30	Investment	30.00	30.00
One-Shinhan Connect New Technology Investment Fund 2	Korea	June 30	Investment	33.33	33.33
Neoplux Technology Valuation Investment Fund	Korea	June 30	Investment	33.33	33.33
Partners 4th Growth Investment Fund(*1)	Korea	May 31	Investment	25.00	25.00
Newlake Growth Capital Partners2 PEF(*1)	Korea	March 31	Investment	23.01	23.01
MIEL Co., Ltd.(*3)(*4)	Korea	December 31	Others	28.77	28.77
MSTEEL Co., Ltd.(*3)(*4)	Korea	December 31	Others	29.45	29.45
BACK DOO Co., Ltd.(*3)(*4)	Korea	December 31	Retail	25.90	25.90
Chungwon assets(*3)(*4)	Korea	December 31	Manufacturing	22.53	22.53
Jinmyung Plus(*3)(*4)	Korea	December 31	Manufacturing	22.20	22.20
SEOKWANG T&I (*3)(*4)	Korea	December 31	Manufacturing	28.55	28.55
Korea Credit Bureau(*1)(*5)	Korea	March 31	Credit	4.50	4.50
Goduck Gangil1 PFV Co., Ltd.(*1)(*5)	Korea	March 31	Real estate	1.04	1.04
Goduck Gangil10 PFV Co., Ltd.(*1)(*5)	Korea	March 31	Real estate	14.00	14.00

13. Investments in associates (continued)

(a) Investments in associates as of June 30, 2023 and December 31, 2022 are as follows: (continued)

Investees	Location	Reporting date	Industry sector	Ownership (%) June 30, 2023	Ownership (%) December 31, 2022
SBC PFV Co., Ltd.(*1)(*5)(*7)	Korea	March 31	Real estate	12.50	12.50
DDI LVC Master Real Estate Investment Trust Co., Ltd.(*1)(*5)	Korea	March 31	Real estate	15.00	15.00
Logisvalley Shinhan REIT Co., Ltd.(*1)(*5)	Korea	March 31	Real estate	14.95	14.95
ICSF (The Korea's Information Center for Savings & Finance) (*4)	Korea	December 31	Service	32.26	32.26
Shinhan-Albatross Technology Investment Fund(*1)	Korea	May 31	Investment	33.33	33.33
Shinhan-Neoplux Energy Newbiz Fund	Korea	June 30	Investment	23.33	23.33
Stassets-DA Value Healthcare Fund I(*1)	Korea	March 31	Investment	24.10	24.10
Shinhan SKS Corporate Recovery Private Equity Fund	Korea	June 30	Investment	23.89	23.99
BTS 2nd Private Equity Fund(*1)	Korea	May 31	Investment	20.00	20.00
Shinhan global flagship venture fund 1(*1)	Korea	May 31	Investment	45.00	45.00
One Shinhan Mezzanine Fund 1 (*6)	Korea	-	Investment	46.51	-
Shinhan hyper connect venture fundl (*6)	Korea	-	Investment	33.33	-
Korea Digital Asset Custody(*1)(*5)	Korea	March 31	Service	11.56	14.09
Shinhan VC tomorrow venture fund 1	Korea	June 30	Investment	21.74	21.74
TogetherKorea Private Investment Trust No. 6(*5) (*6)	Korea	June 30	Investment	99.98	-
TogetherKorea Private Investment Trust No. 7(*5) (*6)	Korea	June 30	Investment	99.98	-

(*1) Financial statements as of March 31, 2023 and May 31, 2023 are used for the equity method accounting since the financial statements as of June 30, 2023 are not available. Significant trades and events occurred within the period are properly reflected.
(*2) The Group classified investments in associates as the Group has significant influence over the investee through significant operating transactions.
(*3) In the course of the rehabilitation process, the shares were acquired through debt-equity swap. Although voting rights cannot be exercised during the rehabilitation process, normal voting rights are exercised because the rehabilitation process was completed before June 30, 2023. Also, it has been reclassified to the investments in associates.
(*4) The latest financial statements available are used for the equity method accounting since the financial statements as of June 30, 2023 are not available. Significant trades and events occurred within the period are properly reflected.
(*5) Although it holds less than 20% of shares, the equity method is applied for evaluation since it has significant impact on the investee, such as participation in their decision making.
(*6) It is newly acquired or newly incorporated as investments in associates for the six-month period ended June 30, 2023.
(*7) The percentage of voting rights held is 4.65%.

(In millions of Korean won)

13. Investments in associates (continued)

(b) Changes in investments in associates for the six-month period ended June 30, 2023 and for the year ended December 31, 2022 are as follows:

		June 30, 2023								
Associates		Acquisition cost	Beginning balance	Acquisition (redemption)	Gain from disposal	Share of profit (loss) of associates	Share of other comprehensive income (loss) of associates	Dividends received	Others(*1)	Ending balance
BNP Paribas Cardif Life Insurance Co., Ltd.	₩	42,204	30,173	-	-	848	6,856	-	-	37,877
KOREA FINANCE SECURITY		3,448	2,411	-	-	(142)	1,004	-	-	3,273
DOODOO LOGITECH		-	1	-	-	-	-	-	-	1
One-Shinhan Future's New Technology Investment Fund 1		1,594	2,567	(612)	-	(31)	-	-	-	1,924
KST-SH Laboratory Investment Fund No.1		2,000	1,889	-	-	-	-	-	-	1,889
One-Shinhan Future's New Technology Investment Fund 2		2,970	3,263	-	-	(44)	-	-	-	3,219
One-Shinhan Future's New Technology Investment Fund 3		289	565	(309)	-	(30)	-	-	-	226
One-Shinhan Connect New Technology Investment Fund 1		70,729	77,509	(208)	-	(399)	-	-	-	76,902
One-Shinhan Connect New Technology Investment Fund 2		8,870	14,318	(6,130)	-	(336)	-	-	-	7,852
Neoplux Technology Valuation Investment Fund		1,176	10,445	(1,102)	-	2,380	-	(328)	-	11,395
Partners 4th Growth Investment Fund		9,218	13,541	-	-	(1)	-	-	-	13,540
Newlake Growth Capital Partners2 PEF		10,000	9,612	-	-	(166)	-	(42)	-	9,404
MIEL Co., Ltd.(*2)		-	-	-	-	-	-	-	-	-
MSTEEL Co., Ltd.(*2)		-	-	-	-	-	-	-	-	-
BAEK DOO Co., Ltd.		-	117	-	-	-	-	-	-	117
Chungwon assets		-	548	-	-	(36)	-	-	-	512
Jinmyung Plus		-	21	-	-	3	(9)	-	-	15
SEOKWANG T&I		-	-	-	-	(80)	341	-	336	597
Korea Credit Bureau		2,250	2,520	-	-	187	-	(45)	-	2,662
Goduck Gangil1 PFV Co., Ltd.		50	60	-	-	(42)	-	-	-	18
Goduck Gangil10 PFV Co., Ltd.		700	2,277	-	-	370	-	-	-	2,647
SBC PFV Co., Ltd.		16,250	14,231	-	-	(456)	-	-	-	13,775
DDI LVC Master Real Estate Investment Trust Co., Ltd.		7,075	6,405	450	-	(130)	-	-	-	6,725
Logisvalley Shinhan REIT Co., Ltd.		2,925	2,836	-	-	(25)	-	-	-	2,811
ICSF (The Korea’s Information Center for Savings & Finance)		300	175	-	-	5	-	-	-	180
Shinhan-Albatross Technology Investment Fund		900	9,168	(1,000)	-	8	82	-	-	8,258
Shinhan-Neoplux Energy Newbiz Fund		10,651	15,354	-	-	517	-	-	-	15,871
Stassets-DA Value Healthcare Fund I		508	2,379	-	-	(1,726)	-	-	-	653
Shinhan SKS Corporate Recovery Private Equity Fund		13,444	8,974	4,464	-	281	-	-	-	13,719
BTS 2nd Private Equity Fund		5,226	2,901	2,200	-	(97)	-	-	-	5,004
Shinhan global flagship venture fund 1		18,000	17,588	-	-	(463)	-	-	-	17,125
One Shinhan Mezzanine Fund 1		10,000	-	10,000	-	-	-	-	-	10,000
Shinhan hyper connect venture fund Ⅰ		4,500	-	4,500	-	-	-	-	-	4,500
Korea Digital Asset Custody		505	272	-	-	(126)	102	-	-	248
Shinhan VC tomorrow venture fund 1		20,000	14,773	5,000	-	(353)	-	-	-	19,420
TogetherKorea Private Investment Trust No. 6		5,227	-	105	-	71	-	(105)	5,122	5,193
TogetherKorea Private Investment Trust No. 7		5,227	-	105	-	71	-	(105)	5,122	5,193
	₩	276,236	266,893	17,463	-	58	8,376	(625)	10,580	302,745

(*1) No cash flow is involved as acquired from another account as reclassification.
(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

(In millions of Korean won)

13. Investments in associates (continued)

(b) Changes in investments in associates for the six-month period ended June 30, 2023 and for the year ended December 31, 2022 are as follows: (continued)

	December 31, 2022								
Associates	**Acquisition cost**	**Beginning balance**	**Acquisition (redemption)**	**Gain from disposal**	**Share of profit (loss) of associates**	**Share of other comprehensive income (loss) of associates**	**Dividends received**	**Others (*1)**	**Ending balance**
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 42,204	44,028	-	-	(1,776)	(12,079)	-	-	30,173
KOREA FINANCE SECURITY	3,448	2,994	-	-	(583)	-	-	-	2,411
DOODOO LOGITECH	-	1	-	-	-	-	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	2,206	2,845	(794)	-	516	-	-	-	2,567
KST-SH Laboratory Investment Fund No.1	2,000	1,408	500	-	(19)	-	-	-	1,889
One-Shinhan Future's New Technology Investment Fund 2	2,970	2,892	-	-	371	-	-	-	3,263
One-Shinhan Future's New Technology Investment Fund 3	598	-	598	-	(33)	-	-	-	565
One-Shinhan Connect New Technology Investment Fund 1	70,937	70,940	(1,063)	-	7,632	-	-	-	77,509
One-Shinhan Connect New Technology Investment Fund 2	15,000	-	15,000	-	(682)	-	-	-	14,318
Neoplux Technology Valuation Investment Fund	2,278	9,055	-	-	1,988	-	(598)	-	10,445
Partners 4th Growth Investment Fund	9,219	13,033	(582)	-	6,916	(4,694)	(1,132)	-	13,541
KTB Newlake Global Healthcare PEF	-	6,275	(488)	495	-	-	-	(6,282)	-
Newlake Growth Capital Partners2 PEF	10,000	9,939	-	-	(191)	-	(136)	-	9,612
Songrim Partners Co., Ltd.	-	-	-	-	-	-	-	-	-
MIEL Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
MSTEEL Co., Ltd.(*2)	-	1,538	-	-	(1,538)	-	-	-	-
JB AIR	-	22	-	-	(22)	-	-	-	-
BAEK DOO Co., Ltd.	-	152	-	-	(35)	-	-	-	117
Chungwon assets	-	239	-	-	165	144	-	-	548
Jinmyung Plus	-	26	-	-	(5)	-	-	-	21
SEOKWANG T&I	-	-	-	-	-	-	-	-	-
Korea Credit Bureau	2,250	3,847	-	-	(1,327)	-	-	-	2,520
Goduck Gangil1 PFV Co., Ltd.	50	-	-	-	60	-	-	-	60
Goduck Gangil10 PFV Co., Ltd.	700	-	-	-	2,277	-	-	-	2,277
SBC PFV Co., Ltd.	16,250	14,790	-	-	(559)	-	-	-	14,231
DDI LVC Master Real Estate Investment Trust Co., Ltd.	6,625	-	6,625	-	(220)	-	-	-	6,405
Logisvalley Shinhan REIT Co., Ltd.	2,925	-	2,925	-	(44)	(45)	-	-	2,836
ICSF (The Korea's Information Center for Savings & Finance)	300	167	-	-	8	-	-	-	175
Shinhan-Albatross Technology Investment Fund	1,900	7,020	(1,200)	-	3,476	(128)	-	-	9,168
Shinhan-Neoplux Energy Newbiz Fund	10,651	10,598	(288)	-	5,044	-	-	-	15,354
Stassets-DA Value Healthcare Fund I	508	739	(107)	-	1,747	-	-	-	2,379
Shinhan SKS Corporate Recovery Private Equity Fund	8,980	3,928	4,965	-	81	-	-	-	8,974
BTS 2nd Private Equity Fund	3,026	-	3,026	-	(125)	-	-	-	2,901
Shinhan global flagship venture fund 1	18,000	-	18,000	-	(412)	-	-	-	17,588
Korea Digital Asset Custody	505	435	-	-	(179)	16	-	-	272
Shinhan VC tomorrow venture fund 1	15,000	5,000	10,000	-	(227)	-	-	-	14,773
	₩ 248,530	211,911	57,117	495	22,304	(16,786)	(1,866)	(6,282)	266,893

(*1) No cash flow is involved as acquired from another account as reclassification.
(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

(In millions of Korean won)

14. Other assets

Other assets as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Accounts receivable	₩	11,323,655	6,947,041
Domestic exchange settlement receivables		3,778,722	5,693,750
Guarantee deposits		804,290	806,502
Accrued income		1,995,000	1,942,419
Prepaid expense		154,504	123,307
Suspense payments		380,877	376,719
Sundry assets		207,264	221,751
Others		894	7,148
Present value discount		(41,668)	(36,887)
Allowance for impairment		(277,786)	(273,165)
	₩	18,325,752	15,808,585

(In millions of Korean won)

15. Financial liabilities designated at FVTPL

(a) Financial liabilities designated at FVTPL as of June 30, 2023 and December 31, 2022 are as follows:

Classification (*1)		June 30, 2023	December 31, 2022
Debt securities issued(*2)	₩	243,893	47,327

(*1) In accordance with K-IFRS No. 1109 'Financial instruments', the Group has designated debt securities issued that are permitted to designate financial liabilities at FVTPL.
(*2) The carrying amount of financial liabilities designated at FVTPL was calculated based on the option valuation model.

(b) The difference between the carrying amount of financial liabilities designated at FVTPL and the amount required to be paid at contractual maturity as of June 30, 2023 and December 31, 2022.

		June 30, 2023		
		Redemption amount on a contractual maturity	Carrying amounts	Difference
Debt securities issued	₩	260,000	243,893	16,107

		December 31, 2022		
		Redemption amount on a contractual maturity	Carrying amounts	Difference
Debt securities issued	₩	50,000	47,327	2,673

(c) The details of net gain or loss (excluding interest income and interest expenses) related to financial liabilities designated at FVTPL for six-month periods ended June 30, 2023 and 2022.

		June 30, 2023		
		Gain or loss on valuation	Gain or loss on sale	Total
Debt securities issued	₩	13,434	-	13,434

		June 30, 2022		
		Gain or loss on valuation	Gain or loss on sale	Total
Debt securities issued	₩	1,406	-	1,406

(In millions of Korean won)

16. Deposits

Deposits as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Demand deposits:			
Korean won	₩	131,971,731	130,929,126
Foreign currencies		21,463,477	25,411,460
		153,435,208	156,340,586
Time deposits:			
Korean won		170,361,492	165,865,497
Foreign currencies		27,003,633	24,959,998
Gain on fair value hedge		(160,992)	(187,527)
		197,204,133	190,637,968
Negotiable certificates of deposits		11,521,982	14,843,073
Note discount deposits		7,643,222	6,631,858
CMA		4,756,996	4,634,010
Others		16,163	16,694
	₩	374,577,704	373,104,189

(In millions of Korean won)

17. Financial liabilities at fair value through profit or loss

(a) Financial liabilities at FVTPL as of June 30, 2023 and December 31, 2022 are as follows:

	June 30, 2023			December 31, 2022		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Securities sold:						
Equity securities	-	₩	-	-	₩	2,958
Gold/silver deposits	-		404,190	-		422,006
		₩	404,190		₩	424,964

(b) Net gain (loss) on financial liabilities at FVTPL for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three-month	Six-month	Three-month	Six-month
Securities sold:					
Gain on sale	₩	-	589	516	1,132
Loss on sale		-	(51)	(316)	(477)
Gain on valuation		-	-	354	374
Loss on valuation		-	-	485	-
		-	536	1,039	1,029
Gold/silver deposits:					
Gain on sale		651	1,319	602	2,145
Loss on sale		(167)	(290)	(98)	(566)
Gain on valuation		204	204	3,705	3,705
Loss on valuation		9,394	(33,785)	(732)	(46,204)
	₩	10,082	(32,014)	4,516	(39,891)

(In millions of Korean won)

18. Borrowings

Borrowings as of June 30, 2023 and December 31, 2022 are as follows:

	June 30, 2023			December 31, 2022		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Call money:						
Korean won	3.10~3.48	₩	350,000	-	₩	-
Foreign currencies	0.04~5.68		1,691,393	0.05~6.30		1,199,600
			2,041,393			1,199,600
Bill sold	0.00~3.40		13,424	0.00~3.95		15,057
Bonds sold under repurchase agreements:						
Korean won	0.00~3.53		1,070	0.00~3.21		1,264
Foreign currencies	-		-	5.15~6.80		134,447
			1,070			135,711
Borrowings in Korean won:						
Borrowings from Bank of Korea	0.25~2.00		4,197,517	0.25~1.75		4,999,051
Others	0.00~4.50		8,417,621	0.00~3.70		8,090,193
			12,615,138			13,089,244
Borrowings in foreign currencies:						
Overdraft due to banks	0.00~0.30		46,373	0.00~0.30		48,072
Borrowings from banks	0.00~6.48		6,785,776	0.00~5.75		7,575,602
Sub-lease	0.00~2.28		9,688	0.00~2.28		8,719
Others	0.00~21.15		1,582,299	0.00~22.65		2,143,375
			8,424,136			9,775,768
Deferred origination fees			(2,383)			(2,588)
		₩	23,092,778		₩	24,212,792

(In millions of Korean won)

19. Debt securities issued

Debt securities issued as of June 30, 2023 and December 31, 2022 are as follows:

	June 30, 2023			December 31, 2022		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Debt securities issued in Korean won:						
Debt securities issued	0.00~5.63	₩	19,494,451	0.05~4.59	₩	22,581,073
Subordinated debt securities issued	2.20~3.98		2,460,105	2.20~3.98		2,460,125
Loss on fair value hedges			(295,097)			(348,700)
Discount on debt securities issued			(14,213)			(12,474)
			21,645,246			24,680,024
Debt securities issued in foreign currencies:						
Debt securities issued	0.25~6.97		6,157,813	0.25~6.02		5,792,612
Subordinated debt securities issued	3.75~5.00		3,170,124	3.75~5.00		3,068,059
Gain(loss) on fair value hedges			(333,579)			(324,901)
Discount on debt securities issued			(32,329)			(29,614)
			8,962,029			8,506,156
		₩	30,607,275		₩	33,186,180

(In millions of Korean won)

20. Defined benefit liabilities

The Group operates a defined benefit pension system based on employees' length of service. The Group also trusts plan assets in trust companies, fund companies and other similar companies.

(a) Defined benefit plan assets and liabilities

Defined benefit plan assets and liabilities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Present value of defined benefit obligations	₩	1,410,502	1,395,869
Fair value of plan assets		(1,854,711)	(1,919,023)
Net defined benefit assets	₩	444,209	523,154

(b) Changes in the present value of defined benefit obligations for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Beginning balance	₩	1,395,869	1,594,573
Current service cost		56,636	123,323
Interest expense		38,177	52,907
Remeasurements(*1)(*2)		17,943	(295,701)
Effects of foreign currency movements		1,487	(453)
Benefits paid by the plan		(105,282)	(83,570)
Others		5,672	4,790
Ending balance	₩	1,410,502	1,395,869

(*1) Remeasurements for the six-month period ended June 30, 2023 consist of ₩14,433 million of actuarial loss arising from changes in financial assumptions, ₩3,510 million of actuarial loss arising from changes in experience adjustments.
(*2) Remeasurements for the year ended December 31, 2022 consist of ₩328,199 million of actuarial gain arising from changes in financial assumptions, ₩32,691 million of actuarial loss arising from changes in experience adjustments and ₩193 million of actuarial gain arising from changes in demographic assumptions.

(c) Changes in the fair value of plan assets for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Beginning balance	₩	1,919,023	1,703,164
Interest income		52,684	58,657
Remeasurements		(16,979)	(26,111)
Contributions paid into the plan		-	261,000
Benefits paid by the plan		(100,017)	(77,687)
Ending balance	₩	1,854,711	1,919,023

(In millions of Korean won)

21. Provisions

(a) Changes in provision for unused credit commitments and guarantee contracts issued for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023						
		Loan commitments and other liabilities for credit			Guarantee contracts			
			Lifetime expected credit losses			Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩	83,638	22,495	-	41,612	7,650	27	155,422
Transfer to 12-month expected credit losses		5,466	(5,466)	-	4,650	(4,650)	-	-
Transfer to lifetime expected credit losses		(6,834)	6,834	-	(4,660)	4,660	-	-
Transfer to impaired financial asset		(116)	(108)	224	(138)	(37)	175	-
Provision(reversal)		11,750	2,074	(224)	278	(32)	5	13,851
Foreign exchange movements		2,089	281	-	601	227	2	3,200
Others(*)		-	-	-	5,090	777	(180)	5,687
Ending balance	₩	95,993	26,110	-	47,433	8,595	29	178,160

(*) These include the new occurrence of guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

(In millions of Korean won)

21. Provisions (continued)

(a) Changes in provision for unused credit commitments and guarantee contracts issued for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:(continued)

		December 31, 2022						
		Loan commitments and other liabilities for credit			Guarantee contracts			
			Lifetime expected credit losses			Lifetime expected credit losses		Total
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	
Beginning balance	₩	69,281	20,427	-	47,825	6,562	27	144,122
Transfer to 12-month expected credit losses		4,068	(4,068)	-	2,680	(2,680)	-	-
Transfer to lifetime expected credit losses		(2,882)	2,882	-	(3,714)	3,714	-	-
Transfer to impaired financial asset		(45)	(48)	93	-	-	-	-
Provision(reversal)		15,284	3,171	(93)	(552)	648	5	18,463
Foreign exchange movements		(2,068)	131	-	909	118	-	(910)
Others(*)		-	-	-	(5,536)	(712)	(5)	(6,253)
Ending balance	₩	83,638	22,495	-	41,612	7,650	27	155,422

(*) These include the new occurrence of guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

(In millions of Korean won)

21. Provisions (continued)

(b) Changes in other provisions for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

		June 30, 2023				
		Asset retirement	Litigation	Non-guarantee contracts	Others	Total
Beginning balance	₩	54,496	4,247	27,583	127,453	213,779
Provision(reversal)		6,437	(1,347)	4,427	(1,676)	7,841
Provision used		(785)	-	-	(2,183)	(2,968)
Foreign exchange movements		-	-	839	212	1,051
Others(*)		1,493	-	28	-	1,521
Ending balance	₩	61,641	2,900	32,877	123,806	221,224

(*) This is the effect of changing the discount rate.

		December 31, 2022				
		Asset retirement	Litigation	Non-guarantee contracts	Others	Total
Beginning balance	₩	48,862	3,113	26,823	182,121	260,919
Provision(reversal)		5,826	1,134	(410)	(46,637)	(40,087)
Provision used		(6,468)	-	-	(6,993)	(13,461)
Foreign exchange movements		-	-	1,351	353	1,704
Others(*)		6,276	-	(181)	(1,391)	4,704
Ending balance	₩	54,496	4,247	27,583	127,453	213,779

(*) This is the effect of changing the discount rate.

(c) Asset retirement obligation liabilities

Asset retirement obligation liabilities represent the estimated cost to restore the existing leased properties which are discounted to the present value using the appropriate discount rate at the end of the reporting period. Disbursements of such costs are expected to incur at the end of the lease contract. Such costs are reasonably estimated using the average lease period and the average restoration expenses. The average lease period is calculated based on the past ten-year historical data of the expired leases. The average restoration expense is calculated based on the actual costs incurred for the past three years using the three-year average inflation rate.

(In millions of Korean won)

22. Other liabilities

Other liabilities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Account payable	₩	11,960,440	7,077,295
Borrowing from trust account		6,415,724	6,563,116
Accrued expenses		4,578,475	3,333,172
Liability incurred by agency relationship		2,248,800	1,384,311
Domestic exchange settlement payable		3,444,391	2,231,507
Lease liabilities (*)		435,911	397,251
Agency business income		863,242	711,510
Guarantee deposits received		480,365	751,949
Foreign exchange settlement payables		289,397	359,394
Suspense payable		32,068	38,104
Unearned income		108,724	111,382
Withholding value-added tax and other taxes		127,799	194,723
Dividends payable		-	965
Sundry liabilities		122,851	55,040
Present value discount		(50,708)	(19,857)
	₩	31,057,479	23,189,862

(*) For the six-month periods ended June 30, 2023, the Group recognizes lease liabilities as other liabilities. The expenses for the variable lease payments that are not included in the measurement of lease liabilities amount to ₩10,513 million, the cash outflows from lease liabilities amount to ₩102,120 million, and interest expense on lease liabilities amount to ₩5,254 million. Expenses for variable lease payments not included in the measurement of lease liabilities for the six-month period ended June 30, 2022 amount to ₩64 million, cash outflows from lease liabilities amount to ₩108,752 million, and interest expense on lease liability amounts to ₩3,702 million.

(In millions of Korean won)

23. Equity

(a) Equity as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Capital stock:			
Common stock	₩	7,928,078	7,928,078
Other equity instruments:			
Hybrid bonds		2,188,082	2,088,542
Capital surplus:			
Share premium		398,080	398,080
Others		5,084	5,084
		403,164	403,164
Capital adjustments:			
Stock options		798	1,744
Others		1,600	771
		2,398	2,515
Accumulated other comprehensive income (loss):			
Net change in fair value of financial instruments at FVTOCI		(742,729)	(1,029,853)
Share of other comprehensive income of associates		(1,778)	(7,933)
Foreign currency translation differences for foreign operations		(65,125)	(162,244)
Remeasurements of defined benefit plans		(86,271)	(60,799)
Credit risk adjustment of financial liabilities		-	1
		(895,903)	(1,260,828)
Retained earnings:			
Legal reserve(*1)		2,915,736	2,652,548
Voluntary reserve(*2)		15,585,931	14,448,374
Other reserve(*3)		187,488	175,898
Unappropriated retained earnings(*4)		3,784,939	4,720,618
		22,474,094	21,997,438
Non-controlling interests		12,285	8,351
	₩	32,112,198	31,167,260

(*1) According to the Article 40 of the Banking Act, the Group is required to appropriate an amount equal to a minimum of 10% of cash dividends paid for each accounting period as a legal reserve, until such reserve equals 100% of issued capital. The legal reserve is only available to be used to reduce accumulated deficit or transfer to capital stock.
(*2) The amounts include regulatory reserve for loan loss based on separate financial statements of ₩2,418,175 million and ₩2,559,855 million as of June 30, 2023 and December 31, 2022, respectively. The amounts also include asset revaluation surplus of ₩355,898 million as of both June 30, 2023 and December 31, 2022.
(*3) Other reserve was established according to the laws applicable to some oversea branches and it may be used only to reduce their deficit.
(*4) As of June 30, 2023, the difference between the expected reversal of regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩17,163 million, and this includes the expected reversal of regulatory reserve of loan loss based on consolidated statements amounting ₩202,936 million.
As of December 31, 2022, the difference between the expected provision for regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩10,330 million, and this includes the expected provision for regulatory reserve of loan loss based on consolidated statements amounting ₩131,349 million.

(In millions of Korean won, except for per share)

23. Equity (continued)

(b) Capital stock

Capital stock of the Group as of June 30, 2023 and December 31,2022 are as follows:

	June 30, 2023	December 31, 2022
Number of authorized shares	2,000,000,000 shares	2,000,000,000 shares
Par value per share in won	5,000 won	5,000 won
Number of issued shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(c) Hybrid bonds

Hybrid bonds as of June 30, 2023 and December 31,2022 are as follows:

Date of issuance	Date of maturity		Book value June 30, 2023	Book value December 31, 2022	Interest rate (%)
Hybrid bonds issued in Korean won:					
June 7, 2013	June 7, 2043	₩	-	299,568	4.63
June 29, 2017	Perpetual bond		69,844	69,844	3.81
October 15, 2018	Perpetual bond		199,547	199,547	3.70
February 25, 2019	Perpetual bond		299,327	299,327	3.30
February 25, 2020	Perpetual bond		239,459	239,459	2.88
February 25, 2020	Perpetual bond		49,888	49,888	3.08
November 5, 2020	Perpetual bond		299,327	299,327	2.87
May 3, 2022	Perpetual bond		322,277	322,277	4.50
October 17, 2022	Perpetual bond		309,305	309,305	5.70
March 7, 2023	Perpetual bond		399,108	-	4.63
		₩	2,188,082	2,088,542	
Dividends on hybrid bond holders		₩	45,227	64,269	
Weighted average interest rate (%)			4.37	3.57	

The above hybrid bonds are subject to early redemption option after five years or ten years from the date of issuance, and the maturity can be extended under the same condition at the maturity date.

(In millions of Korean won)

23. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023						
		Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss			
		Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans	Total
Beginning balance	₩	(1,029,320)	(7,933)	(162,244)	(532)	-	(60,799)	(1,260,828)
Change due to fair value measurement		373,776	-	-	(55,112)	-	-	318,664
Change due to equity method measurement		-	8,377	-	-	-	-	8,377
Change due to impairment		(6,530)	-	-	-	-	-	(6,530)
Change due to disposal		94,005	-	-	-	-	-	94,005
Effect of hedge accounting		(5,558)	-	(20,244)	-	-	-	(25,802)
Effect of foreign currency movements		-	-	122,860	3,832	-	-	126,692
Remeasurements of defined benefit plans		-	-	-	-	-	(34,922)	(34,922)
Amounts transferred to retained earnings		-	-	-	1,713	-	-	1,713
Effect of tax		(132,416)	(2,222)	(5,497)	13,413	-	9,450	(117,272)
Ending balance	₩	(706,043)	(1,778)	(65,125)	(36,686)	-	(86,271)	(895,903)

(In millions of Korean won)

23. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the six-month periods ended June 30, 2023 and 2022 are as follows: (continued)

		June 30, 2022						
		Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss			
		Net change in fair value of financial assets at FVOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial assets at FVOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans	Total
Beginning balance	₩	(254,466)	2,253	(142,653)	43,850	-	(256,024)	(607,040)
Change due to fair value measurement		(1,273,741)	-	-	24,470	-	-	(1,249,271)
Change due to equity method measurement		-	(10,229)	-	-	-	-	(10,229)
Change due to impairment		(2,885)	-	-	-	-	-	(2,885)
Change due to disposal		4,456	-	-	-	-	-	4,456
Effect of hedge accounting		50,957	-	(53,460)	-	-	-	(2,503)
Effect of foreign currency movements		-	-	164,521	727	-	-	165,248
Remeasurements of defined benefit plans		-	-	-	-	-	202,130	202,130
Amounts transferred to retained earnings		-	-	-	(2,647)	-	-	(2,647)
Effect of tax		329,685	1,165	(2,681)	(6,201)	-	(54,902)	267,066
Ending balance	₩	(1,145,994)	(6,811)	(34,273)	60,199	-	(108,796)	(1,235,675)

(In millions of Korean won, except for per share)

23. Equity (continued)

(e) Dividends

Dividends of common stock for the year ended December 31, 2022 are as follows:

		December 31, 2022
Number of issued shares outstanding		1,585,615,506 shares
Par value per share in won	₩	5,000
Dividend rate per share		14.60%
Dividend per share in won	₩	729.75

(f) Dividends payout ratio

Dividends payout ratio for the year ended December 31, 2022 are as follows:

		December 31, 2022
Dividends	₩	1,157,105
Profit for the year (*)		3,045,012
Dividends payout ratio to profit for the year		38.00%
Profit for the year adjusted for regulatory reserve for loan loss (*)		3,176,361
Dividends payout ratio to profit for the year adjusted for regulatory reserve for loan loss		36.43%

(*) Profit for the year and profit for the year adjusted for regulatory reserve for loan loss are the amount attributable to equity holder of the Group.

24. Regulatory reserve for loan loss

The Group should calculate and disclose regulatory reserve for loan loss, in accordance with *the Article 29-1 and 29-2 of Regulation on Supervision of Banking Business.*

(a) The regulatory reserve for loan loss as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Regulatory reserve for loan loss	₩	2,500,641	2,631,990
Provision for(reversal of) regulatory reserve for loan loss		(202,936)	(131,349)
	₩	2,297,705	2,500,641

(b) Profit for the period adjusted for regulatory reserve for loan loss and adjusted profit after reflecting regulatory reserve for loan loss for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Provision for(reversal of) regulatory reserve for loan loss	₩	(127,659)	(202,936)	(81,918)	(104,420)
Adjusted profit after reflecting regulatory reserve for loan loss(*)		876,723	1,883,633	902,055	1,787,852
Adjusted earnings per share after reflecting regulatory reserve for loan loss in won	₩	537	1,159	560	1,110

(*) The adjusted reserve which reflects abovementioned loan loss is not based on K-IFRS and is calculated by assuming that the provisions of loan loss before income tax effects are reflected in profit for the period.

(In millions of Korean won)

25. Net interest income

(a) Net interest income for the six-month periods ended June 30, 2023 and 2022 is as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Interest income:					
Cash and due from banks	₩	84,342	167,814	19,530	28,067
Securities at FVTPL		131,338	250,519	80,077	148,662
Securities at FVOCI		294,960	558,933	192,381	356,438
Securities at amortized cost		235,055	441,711	125,012	240,126
Loans(*)		4,263,832	8,352,107	2,688,627	5,085,796
Others		25,995	47,283	11,867	24,226
	₩	5,035,522	9,818,367	3,117,494	5,883,315
Interest income from impaired financial assets	₩	7,594	13,951	3,985	7,848

(*) Interest income from loans at FVTPL for the period ended June 30, 2023 and 2022 are ₩ 13,134 million and ₩ 4,769 million, respectively and interest income for the last three months was ₩ 5,738 million and ₩ 2,290 million.

(b) Interest expense for the six-month periods ended June 30, 2023 and 2022 is as follows:

		June 30, 2023		June 30, 2022	
Division (*)		Three months	Six months	Three months	Six months
Financial liabilities at amortized cost					
Deposits	₩	2,311,524	4,527,234	816,811	1,516,283
Borrowings		232,897	446,065	76,475	120,555
Debt securities issued		325,535	627,922	162,934	314,071
Others		46,791	95,039	23,437	42,245
	₩	2,916,747	5,696,260	1,079,657	1,993,154
Financial liabilities designated at FVTPL					
Debt securities issued	₩	2,412	3,186	-	-
		2,412	3,186	-	-
Net interest expense	₩	2,919,159	5,699,446	1,079,657	1,993,154

(*) There is no interest expense on financial liabilities at fair value through profit or loss for the six-month periods ended June 30, 2023 and 2022.

(In millions of Korean won)

26. Net fees and commission income

Net fees and commission income for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Fees and commission income:					
Credit placement fees	₩	20,762	38,295	16,364	32,995
Commission received as electronic charge receipt		37,452	73,354	37,294	74,460
Brokerage fees		13,400	26,401	16,667	34,211
Commission received as agency		65,747	132,834	62,172	125,005
Investment banking fees		16,717	36,391	24,299	63,515
Commission received in foreign exchange activities		57,455	109,176	59,572	109,159
Asset management fees from trust accounts		44,565	89,569	45,741	94,477
Guarantee fees		24,682	48,269	22,929	46,122
Others		38,797	78,519	32,886	73,428
	₩	319,577	632,808	317,924	653,372
Fees and commission expense:					
Credit-related fees	₩	9,708	19,632	8,724	17,762
Brand-related fees		11,462	22,925	12,355	22,925
Service-related fees		12,144	23,421	11,766	23,536
Trading and brokerage fees		2,641	5,013	2,712	4,843
Commission paid in foreign exchange activities		15,512	31,033	14,918	26,862
Others		28,625	54,790	29,604	53,899
	₩	80,092	156,814	80,079	149,827

27. Dividend income

Dividend income for the six-month periods ended June 30, 2023 and 2022 is as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Securities at FVTPL	₩	1,250	1,565	665	774
Securities at FVOCI (*1)		277	40,676	1,422	13,229
	₩	1,527	42,241	2,087	14,003

(*) Dividend income for stocks disposed for the six-month periods ended June 30, 2023 and June 30, 2022 are ₩1,204 million and ₩641 million.

(In millions of Korean won)

28. Gain and loss on financial instruments at fair value through profit or loss

Gain and loss on financial instruments at FVTPL for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Financial instruments at FVTPL					
Debt:					
Gain on valuation of debt securities	₩	64,456	248,350	81,093	183,290
Gain on sale of debt securities		22,429	50,625	19,450	28,662
Loss on valuation of debt securities		(15,338)	(45,234)	(106,479)	(213,875)
Loss on sale of debt securities		(25,416)	(56,719)	(81,709)	(122,187)
Others		40,576	80,477	46,512	90,783
		86,707	277,499	(41,133)	(33,327)
Equity:					
Gain on valuation of equity securities		7,724	13,545	1,444	6,728
Gain on sale of equity securities		1,193	4,343	4,690	5,285
Loss on valuation of equity securities		147	(4,845)	(4,857)	(9,261)
Loss on sale of equity securities		(997)	(2,110)	(4,308)	(7,933)
		8,067	10,933	(3,031)	(5,181)
Gold/silver:					
Gain on valuation of gold/silver deposits		(1,555)	5,072	364	5,002
Gain on sale of gold/silver deposits		651	1,319	602	2,145
Loss on valuation of gold/silver deposits		9,371	(33,808)	(4,428)	(49,899)
Loss on sale of gold/silver deposits		(167)	(290)	(98)	(566)
		8,300	(27,707)	(3,560)	(43,318)
Loans at FVTPL					
Gain on valuation of loans		(130)	713	(260)	1
Gain on sale of loans		12,617	23,117	3,289	6,937
Loss on valuation of loans		(992)	(1,036)	(4,425)	(8,836)
Loss on sale of loans		-	(7)	(3,269)	(3,281)
		11,495	22,787	(4,665)	(5,179)
		114,569	283,512	(52,389)	(87,005)
Derivatives					
Foreign currency related:					
Gain on valuation and transaction		2,119,921	6,308,149	4,965,077	7,201,336
Loss on valuation and transaction		(2,156,738)	(6,357,158)	(4,933,061)	(7,188,276)
		(36,817)	(49,009)	32,016	13,060
Interest rates related:					
Gain on valuation and transaction		228,387	660,766	473,900	1,022,074
Loss on valuation and transaction		(137,648)	(587,113)	(416,986)	(884,065)
		90,739	73,653	56,914	138,009
Equity related:					
Gain on valuation and transaction		2,485	5,153	9,355	22,379
Loss on valuation and transaction		(3,752)	(10,278)	(817)	(7,817)
		(1,267)	(5,125)	8,538	14,562
Commodity related:					
Gain on valuation and transaction		6,741	27,379	114	26,786
Loss on valuation and transaction		(8,503)	(15,594)	(14,692)	(16,891)
		(1,762)	11,785	(14,578)	9,895
		50,893	31,304	82,890	175,526
Net gain on financial assets at FVTPL	₩	165,462	314,816	30,501	88,521

(In millions of Korean won)

29. General and administrative expenses

General and administrative expenses for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Employee benefits:					
Short and long term employee benefits	₩	514,523	1,027,076	473,602	959,570
Post-employee defined benefits		23,909	42,129	29,176	58,282
Post-employee defined contributions		98	417	71	350
Termination benefits		106	203	122	143
		538,636	1,069,825	502,971	1,018,345
Amortization:					
Depreciation		40,339	83,608	36,773	72,239
Amortization of intangible assets		24,427	48,158	18,323	35,473
Depreciation of right-to-use assets		56,397	110,017	55,561	114,141
		121,163	241,783	110,657	221,853
Other general and administrative expenses:					
Rent		16,485	32,280	17,087	31,836
Service contract expenses		88,447	153,959	74,064	127,006
Taxes and dues		54,897	86,037	47,297	68,669
Advertising		35,811	53,540	31,722	47,516
Electronic data processing expenses		17,264	34,850	15,376	31,405
Others		55,518	113,888	49,118	96,395
		268,422	474,554	234,664	402,827
	₩	928,221	1,786,162	848,292	1,643,025

(In millions of Korean won)

30. Net other operating expenses

Net other operating expenses for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three-month	Six-month	Three-month	Six-month
Other operating income					
Gain on sale of assets:					
Loans at amortized cost	₩	14,616	38,144	6,251	11,215
Loans written off		2,991	6,272	164	164
		17,607	44,416	6,415	11,379
Others:					
Gain on hedge activity from hedged items		17,556	25,722	264,446	631,336
Gain on hedge activity from hedging instruments		(48,235)	117,526	23,713	56,157
Reversal of other allowance		(2,195)	-	(511)	662
Others		10,736	16,825	78,370	134,799
		(22,138)	160,073	366,018	822,954
		(4,531)	204,489	372,433	834,333
Other operating expense					
Loss on sale of assets:					
Loans at amortized cost		499	499	149	194
Others:					
Loss on hedge activity from hedged items		(59,580)	100,786	22,889	53,687
Loss on hedge activity from hedging instruments		40,039	50,083	270,361	651,539
Provision for other allowance		2,847	4,427	340	530
Provision for other liabilities		5,565	5,565	-	-
Contribution to fund		110,635	226,289	106,058	211,836
Deposit insurance fee		112,301	225,288	99,815	205,755
Others		86,829	170,764	57,207	115,812
		298,636	783,202	556,670	1,239,159
		299,135	783,701	556,819	1,239,353
Net other operating expenses	₩	(303,666)	(579,212)	(184,386)	(405,020)

(In millions of Korean won)

31. Income tax expense and deferred tax

(a) Details of income tax expense for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three-month	Six-month	Three-month	Six-month
Current income tax expense	₩	354,582	436,373	270,126	473,437
Deferred taxes arising from changes in temporary differences		(107,383)	268,350	(129,375)	(170,244)
Deferred taxes arising from utilization of expired unused tax losses		(4,899)	(9,621)	6,587	21,925
Tax adjustment charged or credited directly to equity		27,327	(117,277)	131,448	267,840
Income tax expense	₩	269,627	577,825	278,786	592,958

(b) The income tax expense calculated by applying statutory tax rates to the Group's taxable income differs from the actual tax expense in the consolidated statements of income for the six-month periods ended June 30, 2023 and 2022 for the following reasons:

		June 30, 2023	June 30, 2022
Profit before income tax	₩	2,258,522	2,276,390
Income tax expense at statutory tax rates		591,069	615,645
Adjustments:			
Non-taxable income		(2,801)	(705)
Non-deductible expense		4,610	3,519
Decrease resulting from consolidated corporate tax system		(29,320)	(20,539)
Income tax paid(refund)		19,396	(464)
Others(impact of tax rate change, etc.)		(5,129)	(4,498)
Income tax expense	₩	577,825	592,958
Effective tax rate		25.58%	26.05%

(In millions of Korean won)

32. Earnings per share

(a) Earnings per share

Earnings per share for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three months	Six months	Three months	Six months
Profit for the period	₩	749,000	1,680,548	819,953	1,683,045
Less: dividends on hybrid bonds		(24,467)	(45,227)	(13,821)	(27,633)
Profit available for common stock	₩	724,533	1,635,321	806,132	1,655,412
Weighted average number of common shares outstanding		1,585,615,506 shares	1,585,615,506 shares	1,585,615,506 shares	1,585,615,506 shares
Basic and diluted earnings per share in won	₩	457	1,031	508	1,044

Considering that the Group had no dilutive potential common shares and that stock options were not included in the calculation of diluted earnings per share because they were anti-dilutive for the reporting periods presented, diluted earnings per share equal to basic earnings per share for the six-month periods ended June 30, 2023 and 2022.

(b) Weighted average number of common shares outstanding

Weighted average number of common shares outstanding as of or for the six-month periods ended June 30, 2023 and 2022 are as follows: (In shares)

	June 30, 2023	June 30, 2022
Number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares
Weight	181/181	181/181
Weighted average number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(In millions of Korean won)

33. Commitments and contingencies

(a) Guarantees, acceptances and credit commitments as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Guarantees:			
Guarantee outstanding	₩	11,704,045	12,041,886
Contingent guarantees		4,998,096	4,565,184
ABS and ABCP purchase commitments		1,437,740	1,378,603
		18,139,881	17,985,673
Commitments to extend credit:			
Loan commitments in Korean won		85,007,972	81,413,452
Loan commitments in foreign currencies		27,782,342	25,145,440
Others		4,772,666	4,551,882
		117,562,980	111,110,774
Endorsed bills:			
Secured endorsed bills		7,921	10,025
Unsecured endorsed bills		9,856,600	7,046,806
		9,864,521	7,056,831
	₩	145,567,382	136,153,278

(b) Provision for acceptances and guarantees

Provision for acceptances and guarantees, as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Guarantees outstanding	₩	11,704,045	12,041,886
Contingent guarantees		4,998,096	4,565,184
ABS and ABCP purchase commitments		1,437,740	1,378,603
Secured endorsed bills		7,921	10,025
	₩	18,147,802	17,995,698
Provision for acceptances and guarantees	₩	88,934	76,872
Ratio (%)		0.49	0.43

(In millions of Korean won)

33. Commitments and contingencies (continued)

(c) Legal contingencies

Pending litigations in which the Group was involved as a defendant as of June 30, 2023 and December 31, 2022 are as follows:

	June 30, 2023			
Case	Number of claim	Claim amount	Description	Status
Deposit return	1	₩ 2,000	When the plaintiff signed a transfer contract to buy a stake in a limited company, the plaintiff set a pledge on the bank's deposit in the name of the transferor, but later requested the execution of the pledge. Hence, filed a lawsuit to claim the payment of a pledge-set deposit.	The first instance is ongoing as of June 30, 2023.
Check return	1	2,000	The plaintiff presented a total of nine checks (₩2 billion in total) to the Group. However, the payment was rejected due to the accident report caused by defraudation from the Group. Therefore, the plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The second instance is ongoing as of June 30, 2023.
Return of unjust earning	1	33,096	The plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first instance is ongoing as of June 30, 2023.
Others	182	90,046	It includes various cases, such as compensation for loss claim.	
	185	₩ 127,142		

(In millions of Korean won)

33. Commitments and contingencies (continued)

(c) Legal contingencies (continued)

Pending litigations in which the Group was involved as a defendant as of June 30, 2023 and December 31, 2022 are as follows: (continued)

December 31, 2022				
Case	Number of claim	Claim amount	Description	Status
Deposit return	1	₩ 4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second instance and the third instance is ongoing as of December 31, 2022.
Cheque return	1	2,000	The plaintiff presented a total of nine checks (₩2 billion in total) to the Group. However, the payment was rejected due to the accident report caused by defraudation from the Group. Therefore, the plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The first instance is ongoing as of December 31, 2022.
Return of unjust earning	1	33,096	The plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first instance is ongoing as of December 31, 2022.
Others	166	75,629	It includes various cases, such as compensation for loss claim.	
	169	₩ 115,331		

As of June 30, 2023 and December 31, 2022, the Group accounted for ₩2,900 million and ₩4,247 million, respectively as litigation provisions for cases in which the defeat was decided in the first trial. Remaining litigation results other than those recorded as provisions are not expected to have a significant impact on consolidated financial statements, but additional losses may occur depending on the outcome of future litigation.

(d) Others

Estimated amount of damages that the Group is highly likely to pay to fulfill its obligations as of June 30, 2023 and December 31, 2022, in accordance with the results of the Financial Supervisory Service Financial Dispute Mediation Committee and the resolution of the board of directors for expected customer losses due to delayed redemption of Lime CI Fund, etc. ₩ 339.4 billion and ₩ 339.9 billion were recognized as provisions, etc. In relation to this, the amount paid in advance to provide liquidity and the amount compensated through fact check are ₩ 327.5 billion and ₩ 326.8 billion as of June 30, 2023 and December 31, 2022, respectively.

(In millions of Korean won)

34. Statements of cash flows

Cash and cash equivalents reported in the accompanying consolidated statements of cash flows as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Cash	₩	2,438,798	2,259,832
Reserve deposits		15,728,066	8,477,472
Other deposits		12,288,143	11,832,578
Cash and due from banks		30,455,007	22,569,882
Less: Restricted due from banks (*)		(582,060)	(293,956)
Less: Due with original maturities of more than three months		(281,924)	(896,004)
	₩	29,591,023	21,379,922

(*) Items which meets the definition of cash in K-IFRS No. 1007 'Statements of Cash Flows' are excluded.

(In millions of Korean won)

35. Related party transactions

(a) Significant balances with the related parties as of June 30, 2023 and December 31, 2022 are as follows:

Related party	Account		June 30, 2023	December 31, 2022
The parent company				
Shinhan Financial Group	Current tax assets	₩	1,815	1,814
	Deposits		112	2,188
	Current tax liabilities		164,374	426,134
	Other liabilities		51,877	55,204
Entities under common control				
Shinhan Card Co., Ltd.	Derivative assets		755	785
	Loans		134,157	494,622
	Allowance for loan loss		(970)	(852)
	Other assets		10,115	9,573
	Deposits		87,771	123,259
	Derivative liabilities		61,024	46,340
	Provisions		601	451
	Other liabilities		30,600	30,462
Shinhan Securities Co., Ltd.	Cash and due from banks		8	-
	Financial assets designated at FVTPL(*2)		4,421	4,142
	Derivative assets		7,357	18,875
	Loans		37,326	23,634
	Allowance for loan loss		(281)	(187)
	Other assets(*1)		916	1,942
	Deposits		694,381	1,121,312
	Derivative liabilities		669	1,153
	Provisions		119	133
	Other liabilities(*3)		41,213	40,172
Shinhan Life Insurance	Derivative assets		27,176	15,465
	Loans		10	33
	Other assets		184,262	49
	Deposits		151,418	71,611
	Derivative liabilities		20,609	31,956
	Provisions		19	31
	Other liabilities(*4)		24,414	15,412
Shinhan Capital Co., Ltd.	Deposits		180,000	-
	Provisions		(24)	-
	Other assets		382	-
	Deposits		945	1,923
	Provisions		9	16
	Other liabilities		13,152	13,152
Jeju Bank	Loans		1,814	1,906
	Allowance for loan loss		(1)	(2)
	Other assets		2,304	2,833
	Deposits		2,139	2,139
Shinhan Asset Management Co., Ltd.	Financial assets designated at FVTPL(*2)		26,330	26,205
	Deposits		9,632	27,476
	Other liabilities		331	480
Shinhan DS	Loans		10	10
	Other assets		23,042	20,350
	Deposits		5,434	9,363
	Other liabilities		8,749	8,295
Shinhan Savings Bank	Other liabilities		8,987	8,987
Shinhan Fund Partners	Deposits		37,192	9,878
	Other liabilities		166	58
Shinhan AI	Other assets		8	28
	Deposits		237	-
	Other liabilities		1,895	1,575

(In millions of Korean won)

35. Related party transactions (continued)

(a) Significant balances with the related parties as of June 30, 2023 and December 31, 2022 are as follows: (continued)

Related party	Account	June 30, 2023	December 31, 2022
Entities under common control (continued)			
Shinhan REITs Management	Deposits	3,355	3,331
	Other liabilities	16	8
Shinhan Asset Trust Co., Ltd.	Loans	3,181	3,982
	Deposits	19,183	310,233
	Other liabilities	-	592
Shinhan Venture Investment Co., Ltd.	Deposits	11,748	11,003
	Other liabilities	7	10
Shinhan EZ General Insurance, Ltd.	Deposits	64	4
One-Shinhan Connect Fund 1	Deposits	3,302	22,009
One-Shinhan Connect Fund 2	Deposits	383	28,983
IMM Long-term Solutions Private Equity Fund	Deposits	1,200	619
	Other liabilities	-	7
Shinhan hyper connect venture fund Ⅰ	Deposits	13,500	-
Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Deposits	243	-
SH Global Private Real Estate Investment Trust No.5	Derivative assets	2,235	-
	Derivative liabilities	-	5,837
SH US Nevada Photovoltaic Private Special Asset Investment Trust	Derivative assets	-	333
Shinhan AIM Fund of Fund 15	Derivative liabilities	-	93
Shinhan AIM Fund of Fund 4	Derivative assets	916	38
	Derivative liabilities	103	511
SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Derivative assets	2,026	-
	Derivative liabilities	71	454
Shinhan AIM Real Estate Fund No.22-A	Derivative assets	749	-
	Derivative liabilities	-	768
SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Derivative assets	394	29
	Derivative liabilities	62	23
Shinhan Dollar Income Private Security Investment Trust No.2	Derivative assets	-	1,579
Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Derivative assets	294	-
	Derivative liabilities	-	173
Investments in associates and associates of entities under common control			
BNP Paribas Cardif Life Insurance Co., Ltd.	Deposits	10,976	18,745
Partners 4th Growth Investment Fund	Deposits	2,283	742
ICSF (The Korea's Information Center for Savings & Finance)	Deposits	11	2
KOREA FINANCE SECURITY	Deposits	127	415
Hermes Private Equity Fund	Deposits	208	218
Korea Credit Bureau	Deposits	2	721
Goduck Gangil1 PFV Co., Ltd.	Loans	2,325	6,825
	Allowance for loan loss	(10)	(20)
	Deposits	-	3
SBC PFV Co., Ltd.	Deposits	11,026	21,163

(In millions of Korean won)

35. Related party transactions (continued)

(a) Significant balances with the related parties as of June 30, 2023 and December 31, 2022 are as follows: (continued)

Related party	Account	June 30, 2023	December 31, 2022
Sprott Global Renewable Private Equity Fund I	Deposits	50	100
Goduck Gangil10 PFV Co., Ltd.	Loans	1,900	3,100
	Allowance for loan loss	(8)	(9)
	Deposits	12,567	26,880
Shinhan Global Healthcare Fund II	Deposits	1	1
IMM Special Situation Private Equity Fund(the number two of one)	Deposits	84	151
NV Station Private Equity Fund	Deposits	8	21
Korea Digital Asset Custody	Deposits	83	153
SW-S Fund	Deposits	7	112
WaveTechnology Co., Ltd.	Deposits	220	41
iPIXEL Co., Ltd.	Deposits	131	225
CJL No.1 Private Equity Fund	Deposits	348	603
Nova New Technology Investment Fund No.1	Deposits	237	215
DS Power Semicon Private Equity Fund	Deposits	64	100
Genesis No.1 Private Equity Fund	Deposits	-	19
DDI LVC Master Real Estate Investment Trust Co., Ltd.	Deposits	986	59
Newlake Growth Capital Partners2 PEF	Deposits	481	353
Logisvalley Shinhan REIT Co., Ltd.	Loans	33,000	43,000
	Allowance for loan loss	(33)	(28)
	Deposits	1,586	1,421
Shinhan-Albatross Tech Investment Fund	Deposits	553	3,402
Shinhan Global Active REIT Co., Ltd.	Deposits	1,072	393
SEOKWANG T&I	Deposits	1	1
Shinhan Time 1st Investment fund	Deposits	151	238
DeepBlue No.1 Private Equity Fund	Deposits	400	400
IMM GLOBAL PRIVATE EQUITY FUND	Deposits	45	4
NH-J&-IBKC Label Technology Fund	Deposits	340	-
Key management personnel			
	Loans	5,615	6,563
	Allowance for loan loss	(3)	(2)
	Provisions	1	-

(*1) Includes right-of-use assets.
(*2) It includes the amount related to investments in structured entities.
(*3) As of June 30, 2023 and December 31, 2022, the amount of non-controlling interests classified as liabilities for structured entities included in the consolidation is ₩1,536 million and ₩1,529 million, respectively.
(*4) As of June 30, 2023 and December 31, 2022, the amount of non-controlling interests classified as liabilities for structured entities included in the consolidation is ₩2,324 million and ₩2,086 million, respectively.

(In millions of Korean won)

35. Related party transactions (continued)

(b) Significant transactions with the related parties for the six-month periods ended June 30, 2023 and 2022 are as follows:

Related party	Account		June 30, 2023	June 30, 2022
The parent company				
Shinhan Financial Group	Fees and commission income	₩	2	1
	Other operating income		777	673
	Interest expense		(253)	(111)
	Fees and commission expense		(20,841)	(20,841)
	Other operating expense		(342)	(347)
Entities under common control				
Shinhan Card Co., Ltd.	Interest income		8,718	2,329
	Fees and commission income		90,294	81,845
	Gain related to derivatives		4,760	4,658
	Other operating income		3,157	2,597
	Interest expense		(384)	(193)
	Fees and commission expense		(4,156)	(4,065)
	Loss related to derivatives		(21,393)	(53,242)
	Reversal of (provision for) allowance		(118)	(197)
	Other operating expense		(150)	(95)
Shinhan Securities Co., Ltd.	Interest income		1,179	1,096
	Fees and commission income		2,072	2,837
	Financial assets measured at FVTPL(*1)		619	240
	Gain related to derivatives		24,889	18,208
	Other operating income		3,978	3,437
	Interest expense(*2)		(7,476)	(1,549)
	Fees and commission expense		-	(22)
	Loss related to derivatives		(18,253)	(35,048)
	Reversal of (provision for) allowance		(94)	126
	Other operating expense		(206)	(994)
Shinhan Life Insurance Co., Ltd.	Fees and commission income		1,898	2,632
	Gain related to derivatives		31,734	51,646
	Other operating income		2,001	1,560
	Interest expense(*3)		(1,903)	(898)
	Fees and commission expense		(285)	(283)
	Loss related to derivatives		(6,915)	(22,670)
Shinhan Capital Co., Ltd.	Interest income		1,173	-
	Fees and commission income		12	14
	Other operating income		566	447
	Interest expense		(238)	(109)
	Reversal of (provision for) allowance		(24)	-
Jeju Bank	Interest income		1	1
	Other operating income		318	266
	Interest expense		(33)	(18)
	Reversal of (provision for) allowance		1	-

(In millions of Korean won)

35. Related party transactions (continued)

(b) Significant transactions with the related parties for the six-month periods ended June 30, 2023 and 2022 are as follows: (continued)

Related party	Account		June 30, 2023	June 30, 2022
Entities under common control				
Shinhan Asset Management Co., Ltd.	Financial assets measured at FVTPL(*1)	₩	125	12,000
	Fees and commission income		2	43
	Other operating income		71	63
	Interest expense		(105)	(481)
	Fees and commission expense		(643)	(738)
Shinhan DS	Other operating income		507	382
	Interest expense		(190)	(70)
	Other operating expense		(40,641)	(37,737)
Shinhan Savings Bank	Fees and commission income		634	705
	Other operating income		441	330
	Interest expense		(144)	(42)
Shinhan Fund Partners	Fees and commission income		44	24
	Other operating income		84	71
	Interest expense		(195)	(70)
Shinhan REITs Management	Interest expense		(55)	(7)
Shinhan AI	Other operating income		53	42
	Fees and commission expense		(3,471)	(3,668)
	Interest expense		(2,262)	(981)
Asia Trust Co., Ltd.	Interest income		9	6
	Fees and commission income		(730)	(727)
	Interest expense		(25)	(216)
	Fees and commission expense		1	-
Shinhan Venture Investment Co., Ltd.	Interest expense		(159)	(45)
Shinhan EZ General Insurance, Ltd(*4).	Fees and commission income		2	-
One-Shinhan Connect Fund 1	Fees and commission income		13	-
	Interest expense		(8)	(29)
One-Shinhan Connect Fund 2	Fees and commission income		4	-
IMM Long-term Solutions Private Equity Fund	Interest expense		(11)	-
IMM Long-term Solutions Private Equity Fund	Interest expense		(2)	-
SH Global Private Real Estate Investment Trust No.5	Gain related to derivatives		8,066	-
	Loss related to derivatives		(34)	-
SH US Nevada Photovoltaic Private Special Asset Investment Trust	Gain related to derivatives		2,311	-
Shinhan AIM Real Estate Fund No.15	Loss related to derivatives		(6)	-
Shinhan AIM Fund of Fund 4	Gain related to derivatives		1,427	-
	Loss related to derivatives		(141)	-
SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Gain related to derivatives		2,026	-
	Loss related to derivatives		(145)	-
Shinhan AIM Real Estate Fund No.22-A	Gain related to derivatives		1,595	-
SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Gain related to derivatives		771	-
	Loss related to derivatives		(147)	-
Shinhan Dollar Income Private Security Investment Trust No.2	Loss related to derivatives		(1,876)	-
Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Gain related to derivatives		638	-

(In millions of Korean won)

35. Related party transactions (continued)

(b) Significant transactions with the related parties for the six-month periods ended June 30, 2023 and 2022 are as follows:(continued)

Related party	Account		June 30, 2023	June 30, 2022
Investments in associates and associates of entities under common control				
BNP Paribas Cardif Life Insurance Co., Ltd.	Fees and commission income	₩	994	717
	Interest expense		(49)	(15)
BNP Paribas Cardif General Insurance(*4)	Fees and commission income		-	1
	Interest expense		-	(1)
Partners 4th Growth Investment Fund	Interest expense		(2)	(12)
KOREA FINANCE SECURITY	Fees and commission income		2	3
Korea Credit Bureau	Fees and commission income		8	7
Goduck Gangil1 PFV Co., Ltd	Interest income		108	213
	Reversal of (provision for) allowance		11	24
SBC PFV Co., Ltd	Interest expense		(8)	(13)
Goduck Gangil10 PFV Co., Ltd	Interest income		43	101
	Interest expense		(349)	(317)
	Reversal of (provision for) allowance		1	8
CJL No.1 Private Equity Fund	Interest expense		(5)	(2)
iPIXEL Co., Ltd.	Interest income		-	1
DDI LVC Master Real Estate Investment Trust Co., Ltd.	Interest expense		-	(1)
Logisvalley Shinhan REIT Co., Ltd.	Interest income		983	16
	Interest expense		(1)	-
	Reversal of (provision for) allowance		(4)	(29)
Shinhan-Albatross Tech Investment Fund	Interest expense		(2)	(3)
Shinhan Global Active REIT Co., Ltd.	Interest expense		(1)	-
DeepBlue No.1 Private Equity Fund	Interest expense		(8)	-
NH-J&-IBKC Label Technology Fund	Interest expense		(7)	-
Key management personnel				
	Interest income	₩	134	87

(*1) The amount of investment related to structured entities is included.
(*2) The amount includes ₩481 million of gain or loss on non-controlling interests of structured entities that are subject to the consolidation.
(*3) The amount includes ₩504 million of gain or loss on non-controlling interests of structured entities that are subject to the consolidation.
(*4) For the year ended December 31, 2022, it has changed from investment in associates and associates of entities under common control to entities under common control.

(In millions of Korean won)

35. Related party transactions (continued)

(c) Details of transactions with key management for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023		June 30, 2022	
		Three-month	Six-month	Three-month	Six-month
Short and long-term employee benefits	₩	4,225	5,942	1,721	3,847
Post-employment benefits		90	182	100	198
Share-based payment transactions		768	1,975	502	2,783
	₩	5,083	8,099	2,323	6,828

(d) Payment guarantees of related parties

The guarantees provided between the related parties as of June 30, 2023 and December 31, 2022 are as follows:

		Amount of guarantees		
Guaranteed parties		June 30, 2023	December 31, 2022	Account
Shinhan Securities Co., Ltd.	₩	19,000	19,000	Purchase note agreement
		392,554	382,713	Unused credit
Shinhan Card Co., Ltd.		514,125	342,356	Unused credit
		38,202	36,878	Financial guarantee (Letter of credit method)
Shinhan Life Insurance Co., Ltd.		100,097	400,070	Unused credit
Shinhan Capital Co., Ltd.		40,000	40,000	Unused credit
BNP Paribas Cardif Life Insurance Co., Ltd.		10,000	10,000	Unused credit
Shinhan DS		40	17	Unused credit
Structured entities		682,384	649,432	Securities acquisition agreement(*)
Key management personnel		3,259	2,143	Unused credit limit
	₩	1,799,661	1,882,609	

(*) The amount is for subsidiaries and associates, which are structured entities, under common control.

(In millions of Korean won)

35. Related party transactions (continued)

(e) Collaterals provided to the related parties

i) Details of collaterals provided to the related parties as of June 30, 2023 and December 31, 2022 are as follows:

	Related party	Pledged assets		June 30, 2023 Carrying amounts	June 30, 2023 Amounts collateralized	December 31, 2022 Carrying amounts	December 31, 2022 Amounts collateralized
Entities under common control	Shinhan Life Insurance Co., Ltd.	Securities	₩	10,032	10,032	10,055	10,055

ii) Details of collaterals provided by the related parties as of June 30, 2023 and December 31, 2022 are as follows:

	Related party	**Pledged assets**		**June 30, 2023**	**December 31, 2022**
Entities under common control	Shinhan Securities Co., Ltd.	Deposits	₩	309,922	266,600
	Jeju Bank	Government bonds		40,000	40,000
	Shinhan Life Insurance Co., Ltd.	Government bonds		38,000	378,000
	Shinhan Card Co., Ltd	Deposits		180	180
		Bonds		205,400	520,000
	Shinhan Capital Co., Ltd.	Government bonds		234,000	-
Investments in associates and associates of entities under common control	BNP Paribas Cardif Life Insurance Co., Ltd.	Government bonds		12,400	12,400
	iPIXEL Co., Ltd.	Electronic credit guarantee		-	190
	Logisvalley Shinhan REIT Co., Ltd.	Mortgage trust		39,600	51,600
Key management personnel		Real estate		9,540	9,540
		Deposits		1,198	1,198
		guarantee		2,479	2,479
			₩	892,719	1,281,441

(In millions of Korean won)

35. Related party transactions (continued)

(f) Transactions with related parties

(i) Loan transactions with related parties for the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

			June 30, 2023			
	Related party		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩	10	13	(13)	10
	Shinhan Card Co., Ltd.		494,622	129,240	(489,705)	134,157
	Jeju Bank		1,906	1,871	(1,963)	1,814
	Shinhan Securities Co., Ltd.		23,634	61,749	(48,057)	37,326
	Shinhan Life Insurance Co., Ltd.		33	7	(30)	10
	Shinhan Capital Co., Lt(		-	180,000	-	180,000
Investments in associates and associates of entities under common control	Goduck Gangil1 PFV Co., Ltd.		6,825	-	(4,500)	2,325
	Goduck Gangil10 PFV Co., Ltd.		3,100	-	(1,200)	1,900
	Logisvalley Shinhan REIT Co., Ltd.		43,000	33,000	(43,000)	33,000
Key management personnel			6,563	2,646	(3,594)	5,615
		₩	579,693	408,526	(592,062)	396,157

(*1) The amount is before deducting allowance.
(*2) Some of the limit loans are shown in net amount.

			December 31, 2022			
	Related party		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩	7	16	(13)	10
	Shinhan Card Co., Ltd.		96,164	535,117	(136,659)	494,622
	Jeju Bank		2,060	3,893	(4,047)	1,906
	Shinhan Securities Co., Ltd.		192,413	72,765	(241,544)	23,634
	Shinhan Life Insurance Co., Ltd.		13	37	(17)	33
Investments in associates and associates of entities under common control	Goduck Gangil1 PFV Co., Ltd.		12,000	-	(5,175)	6,825
	IMM Investment Co., Ltd.		800	-	-	800
	Goduck Gangil10 PFV Co., Ltd.		7,600	-	(4,500)	3,100
	iPIXEL Co., Ltd.		55	-	(55)	-
	Logisvalley Shinhan REIT Co., Ltd.		-	43,000	-	43,000
Key management personnel			6,150	4,590	(4,177)	6,563
		₩	317,262	659,418	(396,187)	580,493

(*1) The amount is before deducting allowance.
(*2) Some of the limit loans are shown in net amount.

(In millions of Korean won)

35. Related party transactions (continued)

(f) Transactions with related parties (continued)

(ii) Borrowing transactions with related parties for the six-month period ended June 30, 2023 and for the year ended December 31, 2022 are as follows:

				June 30, 2023			
	Related party	Account		Beginning	Loans	Collections	Ending
Entities under common control	Shinhan Securities Co., Ltd.	Deposit(*)	₩	502,280	-	(320,917)	181,363
	Shinhan Card Co., Ltd.	Deposit(*)		1,794	7,164	(8,031)	927
	Shinhan Asset Management Co., Ltd.	Deposit(*)		10,341	-	(10,341)	-
	Shinhan Fund Partners	Deposit(*)		5,000	29,000	-	34,000
	Shinhan DS	Deposit(*)		6,786	-	(3,456)	3,330
	Shinhan Asset Trust Co., Ltd.	Deposit(*)		100,000	-	(100,000)	-
	Shinhan Life Insurance Co., Ltd.	Deposit(*)		31,098	9,019	-	40,117
	Shinhan REITs Management	Deposit(*)		3,000	-	-	3,000
	Shinhan Venture Investment Co., Ltd.	Deposit(*)		10,500	4,000	(4,500)	10,000
	IMM Long-term Solutions Private Equity Fund	Deposit(*)		609	-	(609)	-
Associate of entity under joint control.	CJL No.1 Private Equity Fund	Deposit(*)		603	-	(255)	348
	DeepBlue No.1 Private Equity Fund	Deposit(*)		400	-	-	400
	NH-J&-IBKC Label Technology Fund	Deposit(*)		-	335	-	335
			₩	672,411	49,518	(448,109)	273,820

(*) The details of settlements among related parties' depository liabilities that can be deposited and withdrawn on demand, are excluded.

				December 31, 2022			
	Related party	Account		Beginning	Loans	Collections	Ending
Entities under common control	Shinhan Securities Co., Ltd.(*2)	Bond		19,100	1,389,588	(1,408,688)	-
	Shinhan Securities Co., Ltd.	Deposit(*1)		143,563	358,717	-	502,280
	Shinhan Card Co., Ltd.	Deposit(*1)		3,212	1,019	(2,437)	1,794
	Shinhan Asset Management Co., Ltd.	Deposit(*1)		78,911	9,968	(78,538)	10,341
	Shinhan Aitas	Deposit(*1)		12,000	10,000	(17,000)	5,000
	Shinhan DS	Deposit(*1)		825	5,961	-	6,786
	Shinhan Asset Trust Co., Ltd.	Deposit(*1)		180,000	50,000	(130,000)	100,000
	Shinhan Life Insurance Co., Ltd.	Deposit(*1)		20,903	12,445	(2,250)	31,098
	Shinhan REITs Management	Deposit(*1)		-	3,000	-	3,000
	Shinhan Venture Investment Co., Ltd.	Deposit(*1)		-	12,000	(1,500)	10,500
	IMM Long-term Solutions Private Equity Fund	Deposit(*1)		-	609	-	609
Associate of entity under joint control.	IMM Investment Co., Ltd.	Deposit(*1)		-	10,000	-	10,000
	CJL No.1 Private Equity Fund	Deposit(*1)		-	603	-	603
	DeepBlue No.1 Private Equity Fund	Deposit(*1)		-	400	-	400
			₩	458,514	1,864,310	(1,640,413)	672,411

(*1) The details of settlements among related parties' depository liabilities that can be deposited and withdrawn on demand, are excluded.
(*2) It includes private equity bonds of general investors sold through Shinhan Securities Co., Ltd.

(In millions of Korean won)

35. Related party transactions (continued)

(g) Major commitments related to derivatives

As of June 30, 2023 and December 31, 2022, the significant commitments related to derivative assets and liabilities with related parties are as follows:

	Related party	Classification of commitments		June 30, 2023	December 31, 2022
Entities under common control	Shinhan Life Insurance Co., Ltd.	Derivatives	₩	1,148,579	1,001,557
	Shinhan Card Co., Ltd.	Derivatives		922,456	1,037,409
	Shinhan Securities Co., Ltd.	Derivatives		685,237	581,315
	SH US Nevada Photovoltaic Private Special Asset Investment Trust	Derivatives		-	47,524
	SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Derivatives		86,656	27,609
	Shinhan Dollar Income Private Security Investment Trust No.2	Derivatives		-	37,639
	Shinhan AIM Fund of Fund 4	Derivatives		36,395	30,904
	Shinhan AIM Real Estate Fund No.22-A	Derivatives		30,378	24,575
	SH Global Private Real Estate Investment Trust No.5	Derivatives		198,495	194,657
	SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Derivatives		12,359	11,706
	Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Derivatives		8,641	8,390
	Shinhan AIM Real Estate Fund No.15	Derivatives		-	2,128
			₩	3,129,196	3,005,413

(In millions of Korean won)

35. Related party transactions (continued)

(h) Major investment and collection transactions

Major investments and collection transactions with related parties or the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows:

	June 30, 2023			
	Related party		Investment	Collection
Investments in associates	Shinhan-Albatross Technology Investment Fund	₩	-	1,000
	Korea Credit Bureau		-	45
	Newlake Growth Capital Partners2 PEF		-	42
	Neoplux Technology Valuation Investment Fund		-	1,431
	TogetherKorea Private Investment Trust No. 6		105	105
	TogetherKorea Private Investment Trust No. 7		105	105
	One-Shinhan Connect New Technology Investment Fund 1		-	208
	One-Shinhan Connect New Technology Investment Fund 2		-	6,130
	Shinhan SKS Corporate Recovery Private Equity Fund		4,762	298
	Shinhan VC tomorrow venture fund 1		5,000	-
	One Shinhan Future's Fund 1		-	612
	One Shinhan Future's Fund 3		-	309
	DDI LVC Master Real Estate Investment Trust Co., Ltd.		450	-
	BTS 2nd Private Equity Fund		2,200	-
	Aone Mezzanine Opportunity Private Investment Trust		10,000	-
	Shinhan hyper connect venture fund Ⅰ		4,500	-
Entities under common control and investments in associates under common control	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	886
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		-	4,403
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1		-	1,198
	SHINHAN NPS RENEWABLE FUND NO.1		35	53
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2		-	1,562
	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1		1,128	41
	Shinhan AIM FoF Fund 6		4,376	313
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3		3,500	-
	SHBNPP Startup Venture Alpha Professional Investment Type Private Equity Mixed Asset Trust No.1		525	-
	Shinhan AIM Social Enterprise Professional Investment Type Private Investment Trust No.3		750	-
	SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3		12,071	-
	SH Startup Venture Alpha Private Equity Mixed Asset Trust No.2		1,575	-
	SH Digital New Deal BTL General Type Private Mixed Asset Investment Trust		6,381	-
	Shinhan Subway Line No.9 Private Mixed Asset		-	3,314
	Shinhan AIM FoF Fund 9-C		3,350	-
	Shinhan Venture General Private Investment Trust No.5		7,000	-
	Shinhan Greenway Corporate Investment FUND NO.1		9,500	-
	SH BGT Private Special Asset Investment Trust No.2		3,713	-
	Shinhan-KT Logistics General Private Real Estate Investment Trust No.1		20	-
	Shinhan Infrastructure Development Private Mixed Asset		6,203	-
	SH Venture Private Investment Trust No.6		7,000	-
	SH-LS Global Green Way Private Special Asset Investment Trust		11,003	-
	Shinhan One Flagship Real Estate Development Fund 1		6,255	-
	Shinhan KKR Global Program Private Investment Trust(USD)		4,466	-
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Trust No.3		-	6,993
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.3		-	156
	SHBNPP BNCT Professional Investment Type Private Special Asset Investment Trust		-	9,359

(In millions of Korean won)

35. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties or the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows: (continued)

	June 30, 2023		
	Related party	Investment	Collection
Entities under control and investments in associates under common control	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No.2	-	2,690
	SIMONE Mezzanine Fund No.3	-	351
	SH Estate Loan Private Investment No.2	3,718	1,500
	SH Jigae Namsan BTO General Investment Type Private Special Asset Investment Trust	1,396	-
	Shinhan Digital Healthcare New Technology Investment Fund 1	-	292
	SHINHAN-NEO Market-Frontier 2nd Fund	1,500	-
	T&F2019 SS Private Equity Fund Specializing in Start-up and Venture Business	-	210
	SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2	-	7,124
	J& Moorim Jade Investment Fund	-	79
	NH Kyobo AI Solution New Technology Investment Fund	-	1,200
	SKS-YOZMA No.1 Fund	-	2,070
	Forward-NBH New Technology Fund 1	2,000	-
	Kiwoom Materials, Parts and Equipment 3 New Technology	2,000	-
	VL Ziegler Ⅱ Private Equity Fund	9,000	-
		₩ 135,587	54,079

(In millions of Korean won)

35. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties or the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows: (continued)

	December 31, 2022			
	Related party		Investment	Collection
Investments in associates	Shinhan-Albatross Technology Investment Fund	₩	-	1,200
	Shinhan-Neoplux Energy Newbiz Fund		-	288
	Korea Digital Asset Custody		-	-
	Newlake Growth Capital Partners2 PEF		-	136
	Neoplux Technology Valuation Investment Fund		-	598
	Stassets-DA Value Healthcare Fund I		-	107
	KST-SH Laboratory Investment Fund No.1		500	-
	Partners 4th Growth Investment Fund		-	1,714
	One Shinhan Connect Fund 1		11,100	12,163
	One Shinhan Connect Fund 2		15,000	-
	Shinhan SKS Corporate Recovery Private Equity Fund		4,965	-
	Shinhan VC Tomorrow Venture Fund 1		10,000	-
	One Shinhan Futures Fund 1		-	794
	One Shinhan Futures Fund 3		598	-
	DDI LVC Master Real Estate Investment Trust Co., Ltd.		6,625	-
	Logisvalley Shinhan REIT Co., Ltd.(*)		9,800	-
	BTS 2nd Private Equity Fund		3,026	-
	Shinhan Global Flagship Venture Fund1		18,000	-
Entities under common control and investments in associates under common control	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	1,519
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		-	720
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1		-	4,223
	Shinhan AIM Social Enterprise Investment Fund I		-	659
	SHINHAN NPS RENEWABLE FUND NO.1		8,927	34
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2		3,500	3,457
	Shinhan AIM Social Enterprise Investment Fund II		324	-
	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1		1,151	-
	Shinhan AIM FoF Fund 6		12,673	-
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3		10,500	-
	SHBNPP Ongoing Peace TDF 2040 Security Investment Trust(H)[Equity Balanced-FoF]		-	1,247
	SH BNPP Startup Venture Alpha Specialized Investment Private Equity Mixed Asset Trust No.1		525	-
	Shinhan AIM Investment Finance Specialized Investment Trust No. 1		5,396	-
	Shinhan ESG Bond Specialized Investment Trust No. 1		-	70,678
	Shinhan AIM Social Enterprise Investment Fund III		1,775	-
	SH Venture Professional Investment Type Private Investment Trust No.4		21,000	-
	SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3		8,234	-
	SH Startup Venture Alpha Private Equity Mixed Asset Trust No.2		1,575	-
	Shinhan Digital New Deal Private Mixed Asset		4,007	-
	Shinhan Subway Line No.9 Private Mixed Asset		115,457	5,112
	Shinhan AIM FoF Fund 9-C		9,560	-
	SH Venture Private Investment Trust No.5		21,000	-
	Shinhan Greenway Corporate Investment FUND NO.1		7,300	-

(In millions of Korean won)

35. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties or the six-month period ended June 30, 2023 and the year ended December 31, 2022 are as follows: (continued)

	December 31, 2022			
	Related party		Investment	Collection
Entities under common control and investments in associates under common control	Shinhan Dollar Income Private No.2 Fund	₩	38,019	-
	Shinhan Corporate Investment Type Private No.15 Fund		50,000	-
	SH BGT Private Special Asset Investment Trust No.2		3,995	-
	SH-KT Logistics Investment Type Private Real Estate Investment Trust No.1[FoFs]		11,600	-
	Aone Mezzanine Opportunity Private Mixed Investment		-	2,600
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Tru No.3		9,200	669
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investme Trust No.3		-	201
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investmeı Trust No.2		-	3,474
	SHBNPP Sangju YC Expressway Professional Investment Type Private Special Ass Investment Trust		5	-
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No.2		-	4,361
	Mastern Opportunity Seeking Real Estate Fund II		-	2,366
	SHBNPP BNCT Professional Investment Type Private Mixed Asset		-	16,452
	SH Estate Loan Private Investment No.2		29,458	1,531
	SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust		247	-
	Pacific Private Investment Trust No.49-1		10,000	-
	Shinhan Digital Healthcare New Technology Investment Fund 1		-	587
	Truston Global Professional Investment Type Private Special Asset Investment Trust No.3		-	409
	IMM Long-term Solutions Private Equity Fund		19,434	-
	Synergy-Turnaround 18th New Technology Fund		1,000	-
	Genesis No.1 Private Equity Fund		238	-
	T&F 2020 SS Private Equity Fund Specializing in Start-up and Venture Business		-	842
	SHINHAN-NEO Core Industrial Technology Fund		1,160	-
	SHINHAN-NEO Market-Frontier 2nd Fund		3,000	-
	Synergy-Turnaround 13th New Technology Fund		-	1,374
	J& Moorim Jade Investment Fund		-	131
	Gyeonggi-Neoplux Superman Fund		-	248
	SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2		4,732	418
	Genesis Eco No.1 PEF		97	-
	Daishin Newgen New Technology Investment Fund 1st		-	854
	KTB Newlake Global Healthcare PEF		6,283	10,187
	NH-Brain EV Fund		10,000	-
	IGEN2022 No.1 Private Equity Fund		4,000	237
	IP-LD 2022 No.1 Fund		1,000	-
	NH-J&-IBKC Label Technology Fund		5,000	-
	History 2022 Fintech Fund		1,100	-
	NH-Daishin-Kyobo Healthcare No.1 Fund		3,000	-
	IBKC-BEHIGH Fund 1st		1,500	-
	ON No.1 Private Equity Fund		2,000	-
		₩	528,586	151,590

(*) It includes investments without voting rights.

35. Related party transactions (continued)

(i) The main types of transactions between the Group and related parties include deposit transactions, loan transactions, credit offering transactions by local subsidiaries due to the acquisition of L/C opened by the Bank, overdraft transactions related to credit card funds settlement and CLS payment service agreement transactions.

(j) For the six-month periods ended June 30, 2023 and 2022, the Group purchased bonds through Shinhan Securities Co., Ltd. at ₩1,960,862 million and ₩2,346,009 million, respectively, while the amount sold is ₩915,471 million and ₩1,647,416 million, respectively.

(k) As of June 30, 2023 and December 31, 2022, the plan assets deposited in the DB type retirement pension operated and managed by Shinhan Life Insurance are ₩162,586 million and ₩99,992 million, respectively. The plan assets deposited in the DB type retirement pension operated by Shinhan Securities Co., Ltd. and managed by Shinhan Life Insurance are ₩21,634 million and ₩21,221 million, respectively.

(l) As of June 30, 2023 and December 31, 2022, the limitation contract amount provided by Shinhan Card, a related party, is ₩67,201 million and ₩66,900 million, respectively.

(In millions of Korean won)

36. Investments in subsidiaries

(a) Condensed statements of financial positions for the Bank (separate) and its subsidiaries as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			December 31, 2022		
		Total assets	Total liabilities	Total equity	Total assets	Total liabilities	Total equity
Shinhan Bank	₩	459,919,623	430,142,704	29,776,919	454,842,498	425,703,758	29,138,740
Shinhan Bank America		2,413,915	2,140,632	273,283	2,414,659	2,152,709	261,950
Shinhan Bank Canada		995,796	900,737	95,059	850,852	763,728	87,124
Shinhan Bank Europe GmbH		1,103,789	1,000,457	103,332	1,188,733	1,095,161	93,572
Shinhan Bank China Limited		5,571,136	4,961,736	609,400	6,198,889	5,619,181	579,708
Shinhan Kazakhstan Bank Limited		1,389,754	1,308,984	80,770	346,739	291,682	55,057
Shinhan Bank Cambodia		1,134,534	788,311	346,223	1,071,860	869,359	202,501
Shinhan Bank Japan		12,465,383	11,543,522	921,861	12,313,754	11,456,039	857,715
Shinhan Bank Vietnam Ltd.(*)		9,036,165	7,511,467	1,524,698	9,926,850	8,586,360	1,340,490
Shinhan Bank Mexico		365,268	240,763	124,505	326,518	224,579	101,939
Shinhan Bank Indonesia(*)		2,039,963	1,628,064	411,899	1,844,950	1,467,028	377,922
Structured entities		9,300,433	9,354,402	(53,969)	8,791,239	8,884,512	(93,273)

(*) Fair value adjustments at the time of business combination have reflected.

(In millions of Korean won)

36. Investments in subsidiaries (continued)

(b) Condensed statements of comprehensive income for the Bank (separate) and its subsidiaries for the six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023			June 30, 2022		
		Operating income	Profit for the period	Total comprehensive income (loss) for the period	Operating income	Profit for the period	Total Comprehensive income for the period
Shinhan Bank	₩	19,052,125	1,461,686	1,741,387	18,169,740	1,450,440	762,382
Shinhan Bank America		57,514	1,676	11,333	40,274	1,670	15,737
Shinhan Bank Canada		28,233	2,696	7,935	12,480	503	6,949
Shinhan Bank Europe GmbH		23,775	4,459	9,760	7,882	2,610	3,123
Shinhan Bank China Limited		171,047	30,249	29,692	122,830	26,854	46,873
Shinhan Kazakhstan Bank Limited		72,945	22,625	25,713	14,428	2,990	3,841
Shinhan Bank Cambodia		41,198	5,103	13,952	31,258	13,091	28,936
Shinhan Bank Japan		145,142	61,229	15,684	133,479	51,799	(19,266)
Shinhan Bank Vietnam Ltd.(*)		396,760	126,014	184,209	273,012	86,232	158,337
Shinhan Bank Mexico		15,244	4,007	22,567	6,553	1,173	10,358
Shinhan Bank Indonesia(*)		67,592	1,962	33,828	37,724	5,883	23,114
Structured entities		291,570	47,740	47,740	264,926	39,980	38,324

(*) Fair value adjustments at the time of business combination are applied.

37. Interests in unconsolidated structured entities

(a) The nature and extent of interests in unconsolidated structured entities

The Group is involved in structured entities through investments in asset-backed securities, structured finance, and investment funds. The main characteristics of the structured entities are as follows:

	Description
Assets-backed securitization	Securitization vehicles are established to buy assets from originators and issue asset-backed securities in order to facilitate the originators' funding activities and enhance their financial soundness. The Group is involved in the securitization vehicles by purchasing (or committing to purchase) the asset-backed securities issued and/or providing other forms of credit enhancement. The Group does not consolidate a securitization vehicle if (i) the Group is unable to make or approve decisions as to the modification of the terms and conditions of the securities issued by such vehicle or disposal of such vehicles' assets, (ii) (even if the Group is able to do so) if the Group does not have the exclusive or primary power to do so, or (iii) if the Group does not have exposure, or right, to a significant amount of variable returns from such entity due to the purchase (or commitment to purchase) of asset-backed securities issued or subordinated obligations or by providing other forms of credit support.
Structured financing	Structured entities for project financing are established to raise funds and invest in a specific project such as M&A (Mergers and Acquisitions), BTL (Build-Transfer-Lease), shipping finance, etc. The Group is involved in the structured entities by originating loans, investing in equity, or providing credit enhancement.
Investment fund	Investment fund is a type of financial assets where investment funds raise funds from the general public to invest in a group of assets such as stocks or bonds and distribute their income and capital gains to their investors. The Group manages assets by investing in shares of investment fund or playing a role of an operator or a GP (general partner) of investment fund, on behalf of other investors.

(In millions of Korean won)

37. Interests in unconsolidated structured entities (continued)

(a) The nature and extent of interests in unconsolidated structured entities (continued)

The size of unconsolidated structured entities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	110,674,939	224,447,979	222,600,583	557,723,501

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	109,297,670	223,632,461	222,486,034	555,416,165

(b) Nature of risk associated with interests in unconsolidated structured entities

i) The carrying amounts of the assets and liabilities recognized relating to its interests in unconsolidated structured entities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	531,839	7,537,103	100,736	8,169,678
Securities at FVTPL		3,118,421	51,704	4,870,005	8,040,130
Derivative assets		567	-	-	567
Securities at FVTOCI		596,548	173,691	-	770,239
Securities at amortized cost		4,268,525	-	3,958	4,272,483
	₩	8,515,900	7,762,498	4,974,699	21,253,097
Liabilities:					
Derivative liabilities	₩	18,587	597	-	19,184

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	382,894	7,023,732	85,772	7,492,398
Loans at FVTPL		-	46,626	-	46,626
Securities at FVTPL		2,023,694	54,789	6,022,521	8,101,004
Derivative assets		4,432	-	-	4,432
Securities at FVTOCI		1,106,404	175,366	-	1,281,770
Securities at amortized cost		4,082,846	-	-	4,082,846
	₩	7,600,270	7,300,513	6,108,293	21,009,076
Liabilities:					
Derivative liabilities	₩	24,902	91	-	24,993

(In millions of Korean won)

37. Interests in unconsolidated structured entities (continued)

(b) Nature of risk associated with interests in unconsolidated structured entities (continued)

ii) Exposure to risk relating to interests in unconsolidated structured entities as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets owned	₩	8,515,900	7,762,498	4,974,699	21,253,097
Purchase commitments		978,386	25,447	501,329	1,505,162
Providing unused credit		378,871	199,529	42,000	620,400
	₩	9,873,157	7,987,474	5,518,028	23,378,659

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets owned	₩	7,600,270	7,300,513	6,108,293	21,009,076
Purchase commitments		891,860	91,858	472,954	1,456,672
Providing unused credit		407,839	251,909	-	659,748
	₩	8,899,969	7,644,280	6,581,247	23,125,496

(In millions of Korean won)

38. Information of trust business

(a) Total assets with trust business as of June 30, 2023 and December 31, 2022 and operating revenue for the six-month periods ended June 30, 2023 and 2022 are as follows:

		Total assets		Operating revenue	
		June 30, 2023	December 31, 2022	June 30, 2023	June 30, 2022
Consolidated	₩	3,688,003	3,764,132	145,953	149,205
Unconsolidated		117,703,137	91,944,641	1,265,958	556,389
	₩	121,391,140	95,708,773	1,411,911	705,594

(b) Significant balances with trust business as of June 30, 2023 and December 31, 2022 are as follows:

		June 30, 2023	December 31, 2022
Borrowings from trust accounts	₩	6,415,725	6,563,116
Deposits		13,326	30,094
Accrued revenues from asset management fee from trust accounts		47,096	22,809
Accrued interest expenses		5,991	7,977

(c) Significant transactions with trust business for the three-month and six-month periods ended June 30, 2023 and 2022 are as follows:

		June 30, 2023	
		Three-month	Six-month
Asset management fee from trust accounts	₩	44,565	89,569
Termination fee		406	759
Interest expense for deposits		154	356
Interest on borrowings from trust accounts		36,104	72,982

		June 30, 2022	
		Three-month	Six-month
Asset management fee from trust accounts	₩	45,741	94,477
Termination fee		235	662
Interest expense for deposits		127	216
Interest on borrowings from trust accounts		19,485	33,984

(In millions of Korean won)

39. The impact of change in accounting policy

The Group begins to apply change in accounting policy on accounting periods beginning on 1 January 2022.

The Group did not classify deposits with restrictions under relevant regulations, such as reserve deposits, as cash and cash equivalents. However, in accordance with the IFRS Interpretation Committee's agenda decision in April 2022 'Demand Deposits with Restrictions on Use arising from a Contract with a Third Party' and the response to K-IFRS inquiry December 31, 2022, stating 'whether the reserve deposit should be classified as cash and cash equivalents', the Group reclassified the reserve deposits corresponding to demand deposits as cash and cash equivalents retroactively.

The consolidated statement of cash flows presented for comparison has been restated due to change in accounting policy, the impact of this change in accounting policy is as follows:

(a) Impact on separate statements of cash flows

		June 30, 2023
Cash flows from operating activities	₩	1,506,202
Effect of exchange rate changes on cash and cash equivalents denominated in foreign currencies		4,253
Cash and cash equivalents at the beginning of the period		10,791,001
Cash and cash equivalents at the end of the period	₩	12,301,456

(b) Impact on notes to separate statements of cash flows

		June 30, 2023
Decrease in Restricted due from banks	₩	12,301,456

Independent Auditor's Report

To the Shareholders and Board of Directors of Shinhan Bank
(A wholly owned subsidiary of Shinhan Financial Group Inc.)

Opinion
We have audited the accompanying consolidated financial statements of Shinhan Bank and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2022 and 2021, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (K-IFRS).

Basis for Opinion
We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements
Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance K-IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements

As part of an audit in accordance with Korean Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management’s use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group’s ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor’s report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor’s report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

/s/ Samil PricewaterhouseCoopers

March 6, 2023
Seoul, Korea

This report is effective as of March 6, 2023, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Financial Position
As of December 31, 2022 and 2021

(In millions of Korean won)	**Notes**		**2022**	**2021**
Assets				
Cash and due from banks	3,6,9,40,41	₩	22,569,882	22,780,127
Securities at fair value through profit or loss	3,7,41,43		21,201,704	24,173,996
Derivative assets	3,8,41,43		4,904,096	3,001,440
Loans at amortized cost	3,9,18,41,43		344,298,939	325,933,496
Loans at fair value through profit or loss	3,9		972,553	894,160
Securities at fair value through other comprehensive income	3,10,18,43		48,770,784	48,300,820
Securities at amortized cost	3,10,18,43		28,379,986	21,325,243
Property and equipment	5,11,12,17,18		2,537,482	2,487,385
Intangible assets	5,13		636,487	543,126
Investments in subsidiaries and associates	14		266,893	211,914
Investment properties	5,15		604,940	606,277
Defined benefit assets	24		530,174	108,591
Current tax assets	37		31,780	27,018
Deferred tax assets	37		437,896	252,983
Other assets	3,9,16,41		15,808,585	16,757,931
Non-current assets held for sale	17		29,211	30,706
Total assets		₩	491,981,392	467,435,213
Liabilities				
Financial liabilities designated at fair value through profit or loss	19	₩	47,327	-
Deposits	3,20,41		373,104,189	354,937,624
Financial liabilities at fair value through profit or loss	3,21		424,964	583,662
Derivative liabilities	3,8,41,43		5,779,626	2,852,513
Borrowings	3,22,40,41		24,212,792	20,962,239
Debt securities issued	3,23,40		33,186,180	37,625,739
Net defined benefit obligations	24		7,020	-
Provisions	25,39,41		369,201	405,041
Current tax liabilities	37		478,724	311,544
Deferred tax liabilities	37		14,247	18,217
Other liabilities	3,12,26,41,44		23,189,862	20,502,996
Total liabilities		₩	460,814,132	438,199,575
Equity				
Capital stock	27	₩	7,928,078	7,928,078
Hybrid bonds	27		2,088,542	1,586,662
Capital surplus	27		403,164	403,164
Capital adjustments	27,37		2,515	2,742
Accumulated other comprehensive loss	27,37		(1,260,828)	(607,040)
Retained earnings	27,28		21,997,438	19,914,560
(Reserve for loan loss)			(2,631,990)	(2,342,070)
(Required amount of loan loss (gain))			((131,349))	(289,920)
(Expected amount of loan loss (gain))		₩	((131,349))	(289,920)
Total equity attributable to equity holder of Shinhan Bank			31,158,909	29,228,166
Non-controlling interests	27		8,351	7,472
Total equity			31,167,260	29,235,638
Total liabilities and equity		₩	491,981,392	467,435,213

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income
For the years ended December 31, 2022 and 2021

(In millions of Korean won, except earnings per share data)	Notes		2022	2021
Interest income				
Financial instruments at fair value through profit or loss		₩	401,732	217,825
Financial instruments at fair value through other comprehensive income and amortized cost			13,684,084	9,227,646
Interest expense			5,880,614	2,833,713
Net interest income	3,5,29,41,43		8,205,202	6,611,758
Fees and commission income			1,280,575	1,273,750
Fees and commission expense			325,265	295,945
Net fees and commission income	3,5,30,41,43		955,310	977,805
Dividend income	31,43		20,832	18,571
Net gain on financial instruments at fair value through profit or loss	32		11,427	334,492
Net foreign currencies transaction gain			393,955	201,022
Net gain on financial instruments designated at fair value through profit or loss	19		2,673	-
Net gain (loss) on disposal of securities at fair value through other comprehensive income	10		(1,209)	67,065
Net loss on disposal of securities at amortized cost	10		(60)	(310)
Provision for credit loss allowance	3,9,41		598,289	352,746
General and administrative expenses	33,41		3,702,292	3,361,033
Net other operating expenses	5,35,41		(1,124,799)	(909,907)
Operating income			4,162,750	3,586,717
Net non-operating expense	5,36		(77,425)	(264,221)
Share of profit of associates	5,14		22,301	25,400
Profit before income taxes	5		4,107,626	3,347,896
Income tax expense	5,37		1,061,894	853,002
Profit for the year	5,28		3,045,732	2,494,894

(Adjusted profit after reflection of reserve for loan loss
For the year ended December 31, 2022:
3,177,081 million won
For the year ended December 31, 2021:
2,204,974 million won

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Comprehensive Income (Continued)

For the years ended December 31, 2022 and 2021

(In millions of Korean won, except earnings per share data)	Notes		2022	2021
Other comprehensive income for the year, net of income tax				
Items that may be reclassified subsequently to profit or loss:				
Foreign currency translation differences for foreign operations		₩	(19,417)	208,223
Unrealized net change in fair value of financial assets at fair value through other comprehensive income			(788,642)	(354,697)
Shares in other comprehensive loss of Associates		₩	(10,186)	(2,866)
			(818,245)	(149,340)
Items that will not be reclassified to profit or loss:				
Remeasurements of defined benefit plans			195,247	33,997
Unrealized net change in fair value of financial assets at fair value through other comprehensive income			(28,496)	17,277
			166,751	51,274
Other comprehensive income (loss) for the year, net of income tax	3,27,37	₩	(651,494)	(98,066)
Total comprehensive income for the year		₩	2,394,238	2,396,828
Profit attributable to:				
Equity holders of Shinhan Bank		₩	3,045,012	2,494,375
Non-controlling interests			720	519
Profit for the year	5	₩	3,045,732	2,494,894
Total comprehensive income attributable to:				
Equity holders of Shinhan Bank		₩	2,393,359	2,395,745
Non-controlling interests			879	1,083
Total comprehensive income for the year		₩	2,394,238	2,396,828
Earnings per share:				
Basic and diluted earnings per share in won	38	₩	1,880	1,538

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Changes in Equity

For the year ended December 31, 2021

(In millions of Korean won)	Attributable to equity holder of Shinhan Bank							
	Capital stock	Hybrid bonds	Capital surplus	Capital adjustments	Accumulated other comprehensive income (loss)	Retained earnings	Non-controlling interests	Total
Balance at January 1, 2021	₩ 7,928,078	1,586,662	403,164	4,198	(541,411)	18,278,434	6,389	27,665,514
Total comprehensive income (loss), net of income tax:								
Profit for the year	-	-	-	-	-	2,494,375	519	2,494,894
Other comprehensive income (loss) for the year								
Foreign currency translation differences for foreign operations	-	-	-	-	207,655	-	568	208,223
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income	-	-	-	-	(304,415)	(33,001)	(4)	(337,420)
Share of other comprehensive loss of associates	-	-	-	-	(2,866)	-	-	(2,866)
Remeasurements of defined benefit plans	-	-	-	-	33,997	-	-	33,997
Total comprehensive income (loss) for the year	-	-	-	-	(65,629)	2,461,374	1,083	2,396,828
Transactions with owners in their capacity as owner								
Annual dividends to equity holder	-	-	-	-	-	(770,000)	-	(770,000)
Dividends to hybrid bond holders	-	-	-	-	-	(55,248)	-	(55,248)
Share-based payment transactions	-	-	-	(1,456)	-	-	-	(1,456)
Total transactions with owners in their capacity as owners	-	-	-	(1,456)	-	(825,248)	-	(826,704)
Balance at December 31, 2021	₩ 7,928,078	1,586,662	403,164	2,742	(607,040)	19,914,560	7,472	29,235,638

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Changes in Equity (Continued)

For the year ended December 31, 2022

(In millions of Korean won)

	Attributable to equity holder of Shinhan Bank							
	Capital stock	Hybrid bonds	Capital surplus	Capital adjustments	Accumulated other comprehensive income (loss)	Retained earnings	Non-controlling interests	Total
Balance at January 1, 2022	₩ 7,928,078	1,586,662	403,164	2,742	(607,040)	19,914,560	7,472	29,235,638
Total comprehensive income (loss), net of income tax								
Profit for the year	-	-	-	-	-	3,045,012	720	3,045,732
Other comprehensive income (loss) for the year								
Foreign currency translation differences for foreign operations	-	-	-	-	(19,590)	-	173	(19,417)
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income	-	-	-	-	(819,236)	2,135	(37)	(817,138)
Share of other comprehensive loss of associates	-	-	-	-	(10,186)	-	-	(10,186)
Remeasurements of defined benefit plans	-	-	-	-	195,224	-	23	195,247
Total comprehensive income (loss) for the year	-	-	-	-	(653,788)	3,047,147	879	2,394,238
Transactions with owners in their capacity as owner								
Annual dividends to equity holder	-	-	-	-	-	(900,000)	-	(900,000)
Dividends to hybrid bond holders	-	-	-	-	-	(64,269)	-	(64,269)
Issuance of hybrid bonds	-	631,581	-	-	-	-	-	631,581
Repayment of hybrid bonds	-	(129,701)	-	(299)	-	-	-	(130,000)
Share-based payment transactions	-	-	-	72	-	-	-	72
Total transactions with owners in their capacity as owners	-	501,880	-	(227)	-	(964,269)	-	(462,616)
Balance at December 31, 2022	₩ 7,928,078	2,088,542	403,164	2,515	(1,260,828)	21,997,438	8,351	31,167,260

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Cash Flows
For the years ended December 31, 2022 and 2021

(In millions of Korean won)		**2022**	**2021**
Cash flows from operating activities			
Profit before income tax	₩	4,107,626	3,347,896
Adjustments for:			
Interest income		(14,085,816)	(9,445,471)
Interest expense		5,880,614	2,833,713
Dividend income		(20,832)	(18,571)
		(8,226,034)	(6,630,329)
Income and expense items without cash in/outflow:			
Net (gain) loss on financial instruments at fair value through profit or loss		277,946	(18,307)
Net non-cash foreign currencies transaction (gain) loss		(154,165)	102,851
Net (gain) loss on financial instruments designated at fair value through profit or loss		(2,673)	-
Net (gain) loss on disposal of financial assets at fair value through other comprehensive income		1,209	(67,065)
Net loss on disposal of securities at amortized cost		60	310
Provision for credit loss allowance		598,289	352,746
Non-cash employee benefits		129,036	140,136
Depreciation and amortization		436,776	412,217
Net non-cash other operating expenses		145,306	113,247
Share of profit of associates		(22,301)	(25,400)
Non-operating (income) expense		36,237	204,468
		1,445,720	1,215,203
Changes in assets and liabilities:			
Deposits at amortized cost		373,687	2,143,460
Securities at fair value through profit or loss		3,033,522	(1,732,229)
Derivative assets		2,367,751	4,850,344
Loans at amortized cost		(19,254,073)	(26,590,607)
Loans at fair value through profit or loss		(87,247)	(40,704)
Other assets		1,206,994	(5,367,414)
Deposits due to customers		18,432,707	35,993,806
Financial liabilities at fair value through profit or loss		(198,102)	19,672
Derivative liabilities		(2,252,062)	(4,919,338)
Defined benefit liabilities		(262,188)	(181,115)
Provisions		(15,735)	(21,631)
Other liabilities		1,791,472	(1,532,249)
		5,136,726	2,621,995
Income tax paid		(845,674)	(698,820)
Interest received		13,735,865	9,590,406
Interest paid		(4,973,751)	(2,898,122)
Dividends received		22,693	33,524
Net cash inflow from operating activities	₩	10,403,171	6,581,753

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Cash Flows (Continued)
For the years ended December 31, 2022 and 2021

(In millions of Korean won)		**2022**	**2021**
Cash flows from investing activities			
Net cash flow of derivative financial instruments for hedges	₩	4,022	(1,206)
Proceeds from decrease of securities at fair value through profit or loss		1,839,509	1,866,642
Acquisition of securities at fair value through profit or loss		(1,944,891)	(2,419,739)
Proceeds from decrease of securities at fair value through other comprehensive income		17,109,221	23,388,064
Acquisition of securities at fair value through other comprehensive income		(18,398,922)	(32,571,172)
Proceeds from decrease of securities at amortized cost		5,097,731	4,765,154
Acquisition of securities at amortized cost		(12,077,239)	(5,824,562)
Proceeds from disposal of property and equipment		960	682
Acquisition of property and equipment		(229,149)	(188,051)
Proceeds from disposal of intangible assets		3,547	17
Acquisition of intangible assets		(397,443)	(336,653)
Proceeds from disposal of investments in associates		15,616	20,842
Acquisition of investments in associates		(72,739)	(100,840)
Proceeds from disposal of investment properties		-	276
Acquisition of investment properties		(6,883)	(8,292)
Proceeds from sale of non-current assets held for sale		9,991	47,792
Decrease in other assets		645,080	627,525
Increase in other assets		(534,297)	(566,510)
Net cash outflow from investing activities		(8,935,886)	(11,300,031)
Cash flows from financing activities			
Net cash flow of derivative financial instruments for hedges		56	1,652
Increase in financial liabilities designated at fair value through profit or loss		49,993	-
Net increase (decrease) in borrowings		2,872,249	(169,958)
Proceeds from issuance of debt securities		23,488,790	16,782,492
Repayment of debt securities		(27,078,364)	(13,919,757)
Dividends paid		(963,305)	(825,248)
Issuance of hybrid bonds		631,581	-
Repayment of hybrid bonds		(130,000)	-
Increase in other liabilities		101,315	122,556
Decrease in other liabilities		(287,678)	(345,894)
Net cash inflow (outflow) from financing activities		(1,315,363)	1,645,843
Effect of exchange rate fluctuations on cash and cash equivalents held		(10,317)	26,160
Net increase (decrease) in cash and cash equivalents		141,605	(3,046,275)
Cash and cash equivalents at the beginning of the year (Note 40)		21,238,317	24,284,592
Cash and cash equivalents at the end of the year (Note 40)	₩	21,379,922	21,238,317

See accompanying notes to the consolidated financial statements.

1. Reporting entity

(a) Overview

Shinhan Bank Co., Ltd., the controlling company (hereinafter referred to as the "Bank") has its headquarters at 20 Sejong-daero 9-gil, Jung-gu, Seoul. The consolidated financial statements for the reporting period ended on December 31, 2022 consist of shares in the Bank and its subsidiaries (hereinafter collectively referred to as the "Group"), and its associates and joint ventures.

The Bank is established with a new merger (October 1, 1943, bank named Choheung Bank Co., Ltd.) of Hansung Bank established on February 19, 1897 and Dongil Bank established on August 8, 1906.

The Bank acquired Chungbuk Bank and Kangwon Bank in 1999 and the former Shinhan Bank on April 1, 2006, and subsequently changed its name to Shinhan Bank. As of December 31, 2022, the Bank has 1,585,615,506 outstanding common shares with par value of ₩7,928,078 million which is 100% owned by Shinhan Financial Group Co., Ltd. ("Shinhan Financial Group"). As of December 31, 2022, the Bank operates through 603 domestic branches, 118 depository offices, 27 premises and 14 overseas branches.

(b) Subsidiaries included in consolidation (structured entities excluded)

Details of ownerships in subsidiaries as of December 31, 2022 and 2021 are as follows:

Controlling company	Name of subsidiary	Location	Closing month	Sectors	Ownership (%) December 31, 2022	Ownership (%) December 31, 2021
Shinhan Bank	Shinhan America	U.S.A	December 31	Bank	100.00	100.00
	Shinhan Europe	Germany	December 31	Bank	100.00	100.00
	Shinhan Cambodia	Cambodia	December 31	Bank	97.50	97.50
	Shinhan Kazakhstan	Kazakhstan	December 31	Bank	100.00	100.00
	Shinhan Canada	Canada	December 31	Bank	100.00	100.00
	Shinhan China	China	December 31	Bank	100.00	100.00
	Shinhan Japan	Japan	March 31	Bank	100.00	100.00
	Shinhan Vietnam	Vietnam	December 31	Bank	100.00	100.00
	Shinhan Mexico	Mexico	December 31	Bank	99.99	99.99
	Shinhan Indonesia	Indonesia	December 31	Bank	99.00	99.00
Shinhan Bank Japan	SBJ DNX	Japan	March 31	Computer Service	100.00	100.00

i) Shinhan Bank America

Shinhan Bank America ("Shinhan America") is established through the merger of Chohung Bank of New York and California Chohung Bank. Shinhan America's capital stock amounted to USD 173 million as of December 31, 2022.

ii) Shinhan Bank Europe GmbH

Shinhan Bank Europe GmbH ("Shinhan Europe") is established in 1994 for obtaining the authorization of banking business. As of December 31, 2022, Shinhan Europe's capital stock amounted to EUR 63 million.

iii) Shinhan Bank Cambodia

Shinhan Bank Cambodia ("Shinhan Cambodia") is established on October 15, 2007 for obtaining the authorization of banking business. Shinhan Cambodia was renamed from Shinhan Khmer Bank PLC during the year ended December 31, 2018. Shinhan Cambodia's capital stock amounted to USD 75 million as of December 31, 2022.

1. <u>Reporting entity (continued)</u>

(b) Subsidiaries included in consolidation (structured entities excluded) (continued)

iv) Shinhan Bank Kazakhstan Limited

Shinhan Bank Kazakhstan Limited ("Shinhan Kazakhstan") is established on December 16, 2008 for the purpose of engaging banking business, etc. As of December 31, 2022, Shinhan Kazakhstan's capital stock amounted to KZT 10,029 million.

v) Shinhan Bank Canada

Shinhan Bank Canada ("Shinhan Canada") is established on March 9, 2009 for the purpose of engaging banking business, etc. As of December 31, 2022, Shinhan Canada's capital stock amounted to CAD 80 million.

vi) Shinhan Bank China Limited

The local branch of the Group has been incorporated as the entity on May 12, 2008 for the purpose of engaging banking business, etc. As of December 31, 2022, Shinhan China's capital stock amounted to CNY 2,000 million.

vii) Shinhan Bank Japan

The local branch of the Group has been converted its organization type to an entity on September 14, 2009. Shinhan Japan's capital stock amounted to JPY 17,500 million as of December 31, 2022.

viii) Shinhan Bank Vietnam Ltd.

The local branch of the Group has been converted its organization type to an entity on November 16, 2009 for the purpose of engaging banking business, etc. and merged with Shinhan Vina Bank on November 28, 2011. On December 17, 2017, Shinhan Vietnam acquired the retail business of ANZ Vietnam. As of December 31, 2022, Shinhan Vietnam's capital stock amounted to VND 5,709,900 million.

ix) Banco Shinhan de Mexico

Banco Shinhan de Mexico ("Shinhan Mexico") is established on October 12, 2015 for obtaining the authorization of banking business. As of December 31, 2022, Shinhan Mexico's capital stock amounted to MXN 1,583 million.

x) PT Bank Shinhan Indonesia

On November 30, 2015, the Bank obtained the control of PT Bank Metro Express, which is established on September 8, 1967 for obtaining the authorization of banking business and is engaged in the banking business. PT Bank Metro Express is renamed as PT Bank Shinhan Indonesia ("Shinhan Indonesia") in 2016 and merged PT Centratama Nasional Bank, a former subsidiary of the Bank, on December 6, 2016. As of December 31, 2022, Shinhan Indonesia's s capital stock amounted to IDR 944,278 million.

xi) SBJ DNX

It is established on April 1, 2020 for the purpose of operating the computer service business, and as of December 31, 2022, and SBJ DNX's capital stock amounted to JPY 50 million.

1. Reporting entity (continued)

(c) Structured entities included in consolidation

Structured entities included in consolidation as of December 31, 2022 are as follows:

Structured entities	Location	Closing month	Sectors
MPC Yulchon Green 1st	Korea	3/6/9/12	Other financial business
MPC Yulchon 2nd	Korea	3/6/9/12	Other financial business
MPC Yulchon 1st	Korea	3/6/9/12	Other financial business
Shinhan-S-Russell Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan-Daesung Contents Fund	Korea	12	Others
Tiger Eyes 3rd Co., Ltd.	Korea	12	Other financial business
Sunny Smart 4th Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB portfolio a 3rd Co., Ltd.	Korea	1/4/7/10	Other financial business
S-redefine 3rd Co., Ltd.	Korea	7	Other financial business
Maestro ER Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB DM Co., Ltd.	Korea	3/6/9/12	Other financial business
Rich gate 14th Corp.	Korea	3/6/9/12	Other financial business
MAESTROST Co., Ltd.	Korea	12	Other financial business
S-redefine 10th Co., Ltd.	Korea	1/4/7/10	Other financial business
Maestrogongdeok Co., Ltd.	Korea	3/6/9/12	Other financial business
GIBDAEMYUNG 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
GIBLAB 2nd Co., Ltd.	Korea	9	Other financial business
Shinhan Display 3rd Co., Ltd.	Korea	1/4/7/11	Other financial business
MAESTRO H Co., Ltd.	Korea	1/4/7/10	Other financial business
MaestroDcube Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Porter 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO Byeolnae Co., Ltd.	Korea	1/4/7/10	Other financial business
SH ROAD No.1 Co., Ltd.	Korea	1/4/7/10	Other financial business
MAESTRO Landmark Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO DS Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB ST Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO H No.2 Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Caps Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger 10th Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB JDT Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mobility 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB YB Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Force 2nd Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO Aero Co., Ltd.	Korea	3/6/9/12	Other financial business

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities	Location	Closing month	Sectors
MAESTRO YS Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Bright 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Games Co., Ltd.	Korea	3/6/9/12	Other financial business
Maestro Iksan Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger LIP Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Chemical Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Loex Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Haan Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB HwangGeum Co., Ltd.	Korea	3/6/9/12	Other financial business
S-bright Hongdae	Korea	3/6/9/12	Other financial business
BRIGHT WOONJEONG Co., Ltd.	Korea	2/5/8/11	Other financial business
S BRIGHT CHEONHO Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB County 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mokpo Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Tech Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB SungSan Co., Ltd.	Korea	3/6/9/12	Other financial business
S BRIGHT PANGYO Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger K Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Energy Co., Ltd.	Korea	1/4/7/10	Other financial business
Shinhan-GIB-SKL Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate YONGSAN Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate Shinseol Corp.	Korea	3/6/9/12	Other financial business
S BRIGHT ENERGY Co., Ltd.	Korea	2/5/8/11	Other financial business
S BRIGHT IKSAN Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Jeju Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Magok Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Sahwa Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB HC 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Munjung Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan GIB Rozen Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger First Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB RB 1st Co., Ltd.	Korea	7	Other financial business
Rich gate Box Corp.	Korea	2/5/8/11	Other financial business
GIB EMT Co., Ltd.	Korea	1/4/7/10	Other financial business
S BRIGHT LDC Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Chowol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Gyeongju Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Duwol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 2nd Co., Ltd.	Korea	11	Other financial business
GIB ST 2nd Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Haeundae Co., Ltd.	Korea	12	Other financial business
Rich gate Alpha Corp.	Korea	1/4/7/10	Other financial business
GIB AL 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Sinchon Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate Baegot Corp.	Korea	2/5/8/11	Other financial business
Rich gate Jaseok Corp.	Korea	2/5/8/11	Other financial business

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities	Location	Closing month	Sectors
Shinhan GIB Mirae Co., Ltd.	Korea	2/5/8/11	Other financial business
S First 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Dujeong Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Pungmu Co., Ltd.	Korea	2/5/8/11	Other financial business
Shinhan GIB Hwaseong Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate N Corp.	Korea	3/6/9/12	Other financial business
S-Tiger Jinro Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Doan Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Yucheon Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Yongmun Co., Ltd.	Korea	1/4/7/10	Other financial business
OSHC Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Sinsa Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Segyo Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Gildong Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB JD Co., Ltd.	Korea	6	Other financial business
GIB Sahwa Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Oil Co., Ltd.	Korea	3/6/9/12	Other financial business
S-First L Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mighty 3rd Co., Ltd.	Korea	3/6/9/12	Other financial business
Gangnam Landmark 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
RICHGATE GANGNAM Co., Ltd.	Korea	4/7/10/1	Other financial business
S-Tiger SP Co., Ltd.	Korea	4/7/10/1	Other financial business
GIB SOOPYO Co., Ltd.	Korea	5/8/11/2	Other financial business
GIB SINJEONG Co., Ltd.	Korea	4/7/10/1	Other financial business
GIBMAJANG Co., Ltd.	Korea	5/8/11/2	Other financial business
GIB HOMEPLUS. Co., Ltd.	Korea	1/4/7/11	Other financial business
GIB YD Co., Ltd.	Korea	1/4/7/11	Other financial business
S TIGER BIZON Co., Ltd.	Korea	2/5/8/11	Other financial business
S TIGER SI Co., Ltd.	Korea	2/5/8/11	Other financial business
RICH GATE GANGSEO Co., Ltd.	Korea	2/5/8/11	Other financial business
S TIGER HD Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB GYEONGAN Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB NAMSA Co., Ltd.	Korea	3/6/9/12	Other financial business
S TIGER LEC Co., Ltd.	Korea	2/5/8/11	Other financial business
Hana Micron 2nd Co.,Ltd.	Korea	1/4/7/10	Other financial business
RICH GATE H	Korea	3/6/9/12	Other financial business
S TIGER MOBILE INC.	Korea	5/8/11/2	Other financial business
Development Trust	Korea	12	Trust
Non-specified Money Trust	Korea	12	Trust
Old-age Living Pension Trust	Korea	12	Trust
New-Personal Pension Trust	Korea	12	Trust
Personal Pension Trust	Korea	12	Trust
Retirement Trust	Korea	12	Trust
New Old-age Living Pension Trust	Korea	12	Trust
Pension Trust	Korea	12	Trust
Household Money Trust (Shinhan)	Korea	12	Trust
Corporation Money Trust (Shinhan)	Korea	12	Trust
Shinhan SG Rail Professional Investment Type Private Special Asset Investment Trust No. 2	Korea	1/4/7/11	Beneficiary certificate
Shinhan AIM Private Real Estate Investment Trust No.31	Korea	6/12	Beneficiary certificate

1. **Reporting entity (continued)**

(c) Structured entities included in consolidation (continued)

The Group consolidates a structured entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to most significantly affect those returns through its power over the structured entity based on the terms in the agreement relating to the establishment of the structured entity. There is no non-controlling interest in the structured entities since the ownership interest in the structured entities is presented as a liability of the Group.

As of December 31, 2022 and 2021, the Group provides credit guarantees (ABCP purchase agreement, etc.) amounting to ₩4,573,327 million and ₩4,199,413 to the structured entities described above.

(d) Changes in subsidiaries

Subsidiaries newly included or excluded for the year ended December 31, 2022 are as follows:

	Subsidiaries
Newly included subsidiaries for the year ended December 31, 2022	Rich gate Alpha Corp.
	GIB AL 1st Co., Ltd.
	GIB Shinchon Co., Ltd.
	Rich gate Baegot Corp.
	Rich gate Jaseok Corp.
	Shinhan GIB Mirae Co., Ltd.
	S-First 1st Co., Ltd.
	GIB Dujeong Co., Ltd.
	GIB Pungmu Co., Ltd.
	Shinhan GIB Hwaseong Co., Ltd.
	Rich gate N Corp.
	S-tiger Jinro Co., Ltd.
	GIB Doan Co., Ltd.
	GIB Yucheon Co., Ltd.
	Green Bio No.2 Co., Ltd.
	GIB Yongmun Co., Ltd.
	OSHC Co., Ltd.
	GIB Sinsa Co., Ltd.
	GIB Segyo Co., Ltd.
	GIB Gildong Co., Ltd.
	GIB JD Co., Ltd.
	GIB Sahwa Co., Ltd.
	S-Tiger Oil Co., Ltd.
	S-First L Co., Ltd.
	GIB Mighty 3rd Co., Ltd.
	Gangnam Landmark 1st Co., Ltd.
	RICHGATE GANGNAM Co., Ltd.
	S-Tiger SP Co., Ltd.
	GIB SOOPYO Co., Ltd.
	GIB SINJEONG Co., Ltd.
	GIBMAJANG Co., Ltd.
	GIB HOMEPLUS. Co., Ltd.
	GIB YD Co., Ltd.
	S TIGER BIZON Co., Ltd.
	S TIGER SI Co., Ltd.
	RICH GATE GANGSEO Co., Ltd.
	S TIGER HD Co., Ltd.
	GIB GYEONGAN Co., Ltd.
	GIB NAMSA Co., Ltd.
	S TIGER LEC Co., Ltd.
	Hana Micron 3rd Co., Ltd.
	RICH GATE H
	S TIGER MOBILE INC.

1. Reporting entity (continued)

(d) Changes in subsidiaries (continued)

Subsidiaries newly included or excluded for the year ended December 31, 2022 are as follows:(continued)

	Subsidiaries
Excluded subsidiaries for the year ended December 31, 2022	GIB Chungju Co., Ltd.
	Shinhan S-Force Co., Ltd.
	Rich gate 9th Corp.
	Rich gate 11th Corp.
	Sunny Finance 10th Co., Ltd.
	Rich gate 8th Corp.
	Rich gate 12th Corp.
	GIB Sol 1st Co., Ltd
	AR Plus 1st Co., Ltd
	Shinhan GIB Mommy Co., Ltd.
	S-Tiger 5th Co., Ltd.
	Rich gate Songpa Corp.
	GIB time 1st
	MAESTROST Co., Ltd.
	MaestroLEC Co., Ltd.
	MAESTRO BIZON Co., Ltd.
	MAESTRO S.I Co., Ltd.
	Tiger Eyes 1st Co., Ltd.
	Shinhan BNPP Private Corporate 25th
	S-Tiger 8th Co., Ltd.
	MAESTRO S.A Co., Ltd.
	Hana Micron 2nd Co.LTD.
	Rich gate 3rd corp.
	S-Force 1st Co., Ltd.
	S-Tiger seomyun
	GIB Hakjam Co., Ltd.
	GIB Konkuk Co., Ltd.
	Green Bio No.2 Co., Ltd.

2. Significant accounting policies

The significant accounting policies applied by the Group are as follows:

(a) Basis of preparation

The accompanying consolidated financial statements have been prepared in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("K-IFRS"), as prescribed in *the Article 5(1)1 Act on External Audits of Corporations in the Republic of Korea.*

The financial statements for the current and comparative periods (December 31, 2022 and 2021) were prepared in accordance with the accounting policies described below.

(b) Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis except for the following material items in the consolidated statements of financial position:

- derivative financial instruments are measured at fair value
- financial instruments at fair value through profit or loss ("FVTPL") are measured at fair value
- financial instruments at fair value through other comprehensive income ("FVTOCI") are measured at fair value
- share-based payment arrangements are initially measured at fair value on grant date
- changes in fair value attributable to the risk being hedged for financial instruments designated as hedged items in qualifying fair value hedge relationships are recognized in profit or loss
- liabilities for defined benefit plans are recognized as net of the total present value of defined benefit obligations less the fair value of plan assets

(c) Functional and presentation currency

The respective financial statements of the Group entities are prepared in the functional currency of the respective operation. These consolidated financial statements are presented in Korean won, which is the Bank's functional currency and the currency of the primary economic environment in which the Bank operates. Subsidiaries whose functional currency is not Korean won are as follows:

Functional currency	Subsidiaries
USD	Shinhan America, Shinhan Cambodia
EUR	Shinhan Europe
KZT	Shinhan Kazakhstan
CAD	Shinhan Canada
CNY	Shinhan China
JPY	Shinhan Japan, SBJ DNX
VND	Shinhan Vietnam
MXN	Shinhan Mexico
IDR	Shinhan Indonesia

2. Significant accounting policies (continued)

(d) Use of estimates and judgements

In preparation of the financial statements according to K-IFRS, the use of estimates and assumptions is required for the application of accounting policies or matters affecting the reporting amounts of assets, liabilities and revenues and expenses as of December 31, 2022. When estimates and assumptions based on management's judgment as of December 31, 2022 differ from the actual, actual results may differ from these estimates.

Estimates and underlying assumptions are continually reviewed, and changes in accounting estimates are recognized during the period in which the estimate is changed and the future period in which it will be affected. Information about significant areas of estimation uncertainty and critical judgements in applying accounting policies that have the significant effect on the amount recognized in the consolidated financial statements is described in Note 4.

The Group recognizes credit loss allowance for expected credit losses on debt instruments, loans and receivables that are measured at amortized cost or at FVTOCI, loan commitments and financial guarantee contracts upon adoption of K-IFRS No.1109, 'Financial Instruments'. The measurement of such allowance is determined by techniques, assumptions and input variables used by the Group to measure expected future cash flows of individual financial instruments and to measure expected credit losses in a collective manner. The details of techniques, assumptions and input variables used to measure the credit loss allowance for expected credit losses as of December 31, 2022 are described in Note 3.

The prolonged COVID-19 is negatively affecting the global economy. The Group uses forward-looking information to estimate expected credit losses in accordance with K-IFRS No.1109 'Financial instruments'. Due to the prolonged COVID-19, there have been significant changes in forward-looking information and the internal and external economic uncertainty such as inflation and rising market interest rates. As of December 31, 2022, the forecast default rate is re-estimated using changed forward-looking information on the GDP growth rate, consumer price index growth rate, unemployment rate, etc. which are major variables for calculating the default rate. The Group will continue to monitor the impact of the internal and external economic uncertainty and the COVID-19 on the economy.

(e) New and amended standards and interpretations adopted by the Group

From the accounting period beginning on January 1, 2022, the Group has newly applied the following standards and interpretations.

i) K-IFRS No. 1103 'Business combination' amended – Reference to the Conceptual Framework

The amendments update a reference of definition of assets and liabilities to be recognized in a business combination in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of K-IFRS 1037 '*Provisions, Contingent Liabilities and Contingent Assets'*, and K-IFRS 2121 '*Levies'*. The amendments also clarify that contingent assets should not be recognized at the acquisition date. The amendments do not have a significant impact on the consolidated financial statements.

ii) K-IFRS No. 1037, 'Provisions, Contingent Liabilities and Contingent Assets' amended - Onerous Contracts: Cost of Fulfilling a Contract

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments do not have a significant impact on the consolidated financial statements.

(In millions of Korean won)

2. Significant accounting policies (continued)

(e) New and amended standards and interpretations adopted by the Group (continued)

iii) Annual Improvements to K-IFRSs 2018-2020 Cycle

For Annual Improvements to K-IFRSs 2018-2020 Cycle, the amendments will take effect for annual periods beginning after January 1, 2022 and are permitted for early application. The amendments do not have a significant impact on the consolidated financial statements.

- K-IFRS No.1101, 'First-time Adoption of K-IFRS'- Subsidiary as a First-time Adopter
- K-IFRS No.1109, 'Financial instruments' - Fees related to 10 percent test for derecognition of financial liabilities
- K-IFRS No.1041, 'Agriculture' - Fair value measurement

iv) K-IFRS No. 1007 ' Statements of Cash Flows' - Cash and cash equivalents

The Group did not classify deposits with restrictions under related regulations, such as reserve deposits, as cash and cash equivalents. However, in accordance with the agenda decision on 'Demand deposit with restrictions of use arising from a contract with a third party' by the IFRS Interpretation Committee and K-IFRS agenda decision on 'Reserve deposit in Bank of Korea' by Korea Accounting Standards Board, reserve deposits, etc. corresponding to demand deposits were classified as cash and cash equivalents and it was also applied retroactively.

The impact of this change in accounting policy is as follows:

ⓐ Impact on the statements of cash flows

		2022	2021
Net cash outflow from operating activities	₩	(819,983)	(6,861,278)
Effect of exchange rate fluctuations on cash and cash equivalents denominated in foreign currency		(1,575)	3,301
Net increase of cash and cash equivalents at the beginning of the year		10,791,001	17,648,978
Net increase of cash and cash equivalents at the end of the year		9,969,443	10,791,001

ⓑ Impact on the notes to the financial statements

		2022	2021
Net decrease of restricted deposits	₩	9,969,443	10,791,001

2. Significant accounting policies (continued)

(e) New standards and interpretations not yet adopted by the Group (continued)

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2022, reporting periods and have not been early adopted by the Group.

i) K-IFRS No. 1001 'Presentation of Financial Statements' - Classification of Liabilities as Current or Non-current

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

ii) K-IFRS No. 1001 'Presentation of Financial Statements' - Disclosure of Accounting Policies

The amendments require an entity to define and to disclose its material information about accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

iii) K-IFRS No. 1008 'Accounting Policies, Changes in Accounting Estimates and Errors' - Definition of Accounting Estimates

The amendments clarify the definition of accounting estimates and how distinguish it from a change in accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

iv) K-IFRS No. 1012 'Income Taxes' - Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction

Under the amendments, an entity does not apply the initial recognition exemption for transactions which involve the recognition of both an asset and liability – which in turn leads to equal taxable and deductible temporary differences. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

v) K-IFRS No. 1001 'Presentation of Financial Statements' – Classification of Debt with Covenants as Current or Non-current

The amendments require disclosure of the carrying amount of the financial liability and its related gains or losses if, all or part of a financial instrument subject to adjustment of the exercise price according to changes in the issuer's stock price. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

2. Significant accounting policies (continued)

(f) Approval date of the financial statements

The consolidated financial statements of the Group were authorized for issue by the Board of Directors on February 7, 2023, and the consolidated financial statements were submitted for approval to the stockholder's meeting held on March 22, 2023.

(g) Basis of consolidation

i) Subsidiaries

Subsidiaries are investees controlled by the Group. The Group controls an investee when it is exposed to, or has rights to, variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

If a member of the Group uses accounting policies other than those adopted in the consolidated financial statements for the same transactions and events in similar circumstances, appropriate adjustments are made to its financial statements in preparing the consolidated financial statements.

There is no non-controlling interest in structured entities because the ownership interests in structured entities are shown as liabilities of the Group.

ii) Intra-group transactions eliminated on consolidation

Intra-group balances, transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Intra-group losses are recognized as expense if intra-group losses indicate an impairment that requires recognition in the consolidated financial statements.

iii) Non-controlling interests

Non-controlling interests in a subsidiary are accounted for separately from the parent's ownership interests in a subsidiary. Each component of net profit or loss and other comprehensive income is attributed to the owners of the parent and non-controlling interest holders, even when the allocation reduces the non-controlling interests balance below zero.

2. Significant accounting policies (continued)

(h) Business combinations

i) Business combinations

A business combination is accounted for by applying the acquisition method, unless it is a combination involving entities or businesses under common control.

Each identifiable asset and liability is measured at its acquisition-date fair value except for below:

- Leases and insurance contracts are required to be classified on the basis of the contractual terms and other factors
- Only those contingent liabilities assumed in a business combination that are a present obligation and can be measured reliably are recognized
- Deferred tax assets or liabilities are recognized and measured in accordance with K-IFRS No.1012, '*Income Taxes*'
- Employee benefit arrangements are recognized and measured in accordance with K-IFRS No.1019, '*Employee Benefits*'
- Indemnification assets are recognized and measured on the same basis as the indemnified liability or asset
- Reacquired rights are measured in accordance with special provisions
- Liabilities or equity instruments related to share-based payment transactions are measured in accordance with the method in K-IFRS No.1102, '*Share-based Payment*'
- Non-current assets held for sale are measured at fair value less costs to sell in accordance with K-IFRS No.1105, '*Non-current Assets Held for Sale and Discontinued Operations*'

As of the acquisition date, non-controlling interests in the acquiree are measured as the non-controlling interests' proportionate share of the acquiree's identifiable net assets.

The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the acquirer, the liabilities incurred by the acquirer to former owners of the acquiree and the equity interests issued by the acquirer. However, any portion of the acquirer's share-based payment awards exchanged for awards held by the acquiree's employee that is included in consideration transferred in the business combination shall be measured in accordance with the method described above rather than at fair value.

Acquisition-related costs are costs the acquirer incurs to effect a business combination. Those costs include finder's fees; advisory, legal, accounting, valuation and other professional or consulting fees; general administrative costs, including the costs of maintaining an internal acquisitions department; and costs of registering and issuing debt and equity securities. Acquisition-related costs, other than those associated with the issue of debt or equity securities, which are recognized in accordance with K-IFRS No.1032, *'Financial Instruments: Presentation'* and K-IFRS No.1109, *'Financial Instruments'*, are expensed in the periods in which the costs are incurred and the services are received.

2. Significant accounting policies (continued)

(h) Business combinations (continued)

ii) Goodwill

The Group measures goodwill at the acquisition date as:
the fair value of the consideration transferred; plus
the recognized amount of any non-controlling interests in the acquiree; plus
if the business combination is achieved in stages, the fair value of the pre-existing equity interest in the acquiree; less
the net recognized amount (generally fair value) of the identifiable assets acquired and liabilities assumed.

When the excess is negative, a bargain purchase gain is recognized immediately in profit or loss.

When the Group additionally acquires non-controlling interest, the Group does not recognize goodwill since the transaction is regarded as equity transaction.

As part of its transition to K-IFRS, the Group elected to restate only those business combinations which occurred on or after January 1, 2010 in accordance with K-IFRS. In respect of acquisitions prior to January 1, 2010, goodwill is included on the basis of its deemed cost, which represents the amount recorded under previous Generally Accepted Accounting Principles ("GAAP").

(i) Associates and joint ventures

An associate is an entity in which the Group has significant influence, but not control, over the entity's financial and operating policies. Significant influence is presumed to exist when the Group holds between 20 to 50 percent of the voting power of another entity.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

The investment in an associate and a joint venture is initially recognized at cost, and the carrying amount is increased or decreased to recognize the Group's share of the profit or loss and changes in equity of the associate and the joint venture after the date of acquisition. Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Intra-group losses are recognized as expense if intra-group losses indicate an impairment that requires recognition in the consolidated financial statements.

If an associate or a joint venture uses accounting policies different from those of the Group for like transactions and events in similar circumstances, appropriate adjustments are made to its financial statements in applying the equity method.

When the Group's share of losses exceeds its interest in an equity accounted investee, the carrying amount of that interest, including any long-term investments, is reduced to nil and the recognition of further losses is discontinued except to the extent that the Group has an obligation or has to make payments on behalf of the investee for further losses.

2. Significant accounting policies (continued)

(j) Operating segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components, whose operating results are reviewed regularly by the chief operating decision maker to make decisions about resources allocated to each segment and assess its performance, and for which discrete financial information is available.

The segment reporting to a chief executive officer includes items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items comprise mainly general expenses and income tax assets and liabilities. The Group considers the Chief Executive Officer ("CEO") of the Bank as the chief operating decision maker.

(k) Foreign currency translation

i) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of the Group at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the end of the reporting period are retranslated to the functional currency using the exchange rate at the end of the reporting period. The foreign currency gain or loss on monetary items is the difference between amortized cost in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the amortized cost in foreign currency translated at the exchange rate at the end of the reporting period. Translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

Foreign currency differences arising on retranslation are recognized in profit or loss, except for differences arising on the retranslation of available-for-sale equity instruments, a financial liability designated as a hedging instrument of the net investment in a foreign operation or a qualifying cash flow hedge, which are recognized in other comprehensive income Translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

ii) Foreign operations

If the presentation currency of the Group is different from a foreign operation's functional currency, the financial statements of the foreign operation are translated into the presentation currency using the following methods:

The assets and liabilities of foreign operations, whose functional currency is not the currency of a hyperinflationary economy, are translated to presentation currency at exchange rates at the end of the reporting period. The income and expenses of foreign operations are translated to functional currency at exchange rates at the dates of the transactions. Foreign currency differences are recognized in other comprehensive income.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation are treated as assets and liabilities of the foreign operation and are translated using the exchange rate at the end of the reporting period.

2. Significant accounting policies (continued)

(k) Foreign currency translation (continued)

When a foreign operation is disposed of, the relevant amount in the translation is transferred to profit or loss as part of the profit or loss on disposal. On the partial disposal of a subsidiary that includes a foreign operation, the relevant proportion of such cumulative amount is reattributed to non-controlling interest. In any other partial disposal of a foreign operation, the relevant proportion is reclassified to profit or loss.

iii) Net investment in a foreign operation

If the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, then foreign currency differences arising on the item form part of the net investment in the foreign operation and are recognized in other comprehensive income and reclassified from equity to profit or loss on disposal of the net investment.

(l) Cash and cash equivalents

The Group classifies cash balances, call deposits and highly liquid investment assets with original maturities of three months or less from the acquisition date that are easily converted into a fixed amount of cash and are subject to an insignificant risk of changes in their fair value as cash and cash equivalents. Equity instruments are excluded from cash equivalents unless they are, in substance, cash equivalents, like in the case of preferred shares acquired within a short period of their maturity and with a specified redemption date. However, the Group's account overdraft is included in borrowings.

(m) Non-derivative financial assets

Financial assets are recognized when the Group becomes a party to the contractual provisions of the instrument. In addition, a regular way purchase or sale (a purchase or sale of a financial asset under a contract whose terms require delivery of the asset within the time frame established generally by regulation or convention in the market concerned) is recognized on the trade date.

A financial asset is measured initially at its fair value plus, for an item not at FVTPL, transaction costs that are directly attributable to its acquisition of the financial asset. Transaction costs on the financial assets at FVTPL that are directly attributable to the acquisition are recognized in profit or loss as incurred.

i) Financial assets designated at FVTPL

Financial assets can be irrevocably designated as measured at FVTPL despite of classification standards stated below, if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains or losses on them on different bases. However, once the financial assets are designated at FVTPL, it is irrevocable.

2. Significant accounting policies (continued)

(m) Non-derivative financial assets (continued)

ii) Equity instruments

For the equity instruments that are not held for trading, at initial recognition, the Group may make an irrevocable election to present subsequent changes in fair value in other comprehensive income. Equity instruments that are not classified as financial assets at FVTOCI are classified as financial assets at FVTPL.

The Group subsequently measures all equity investments at fair value. Valuation gains or losses of the equity instruments that are classified as financial assets at FVTOCI previously recognized as other comprehensive income is not reclassified as profit or loss on derecognition. The Group recognizes dividends in profit or loss when the Group's right to receive payments of the dividend is established.

Valuation gains or losses due to changes in fair value of the financial assets at FVTPL are recognized as gains or losses on financial assets at FVTPL. Impairment loss (reversal) on equity instruments at FVTOCI is not recognized separately.

iii) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model in which the asset is managed and the contractual cash flow characteristics of the asset. Debt instruments are classified as financial assets at amortized cost, at FVTOCI, or at FVTPL. Debt instruments are reclassified only when the Group's business model changes.

ⓐ Financial assets at amortized cost

Assets that are held within a business model whose objective is to hold assets to collect contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. Impairment losses, and gains or losses on derecognition of the financial assets at amortized cost are recognized in profit or loss. Interest income on the effective interest method is included in the 'Interest income' in the consolidated statement of comprehensive income.

ⓑ Financial assets at FVTOCI

Assets that are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVTOCI. Other than impairment losses, interest income amortized using effective interest method and foreign exchange differences, gains or losses of the financial assets at FVTOCI are recognized as other comprehensive income in equity. On derecognition, gains or losses accumulated in other comprehensive income are reclassified to profit or loss. The interest income on the effective interest method is included in the 'Interest income' in the consolidated statement of comprehensive income. Foreign exchange differences and impairment losses are included in the 'Net foreign currency transaction gain' and 'Provision for credit loss allowance' in the consolidated statement of comprehensive income, respectively.

ⓒ Financial assets at FVTPL

Debt securities other than financial assets at amortized costs or FVTOCI are classified at FVTPL. Unless hedge accounting is applied, gains or losses from financial assets at FVTPL are recognized as profit or loss and are included in 'Net gain on financial assets at fair value through profit or loss' in the consolidated statement of comprehensive income.

2. Significant accounting policies (continued)

(m) Non-derivative financial assets (continued)

iv) Embedded derivatives

Financial assets with embedded derivatives are classified regarding the entire hybrid contract, and the embedded derivatives are not separately recognized. The entire hybrid contract is considered when it is determined whether the contractual cash flows represent solely payments of principal and interest.

v) Derecognition of financial assets

The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. If the Group does not have or transfer most of the risks and rewards of ownership of the financial asset, the entity shall remove the financial asset if it does not control the financial asset. If the Group continues to control the financial asset, it continues to recognize the transferred asset to the extent that it is continuously involved and recognizes the related liability together.

If the Group transfers the right to cash flows of a financial asset but holds most of the risks and rewards of ownership of the financial asset, the entity shall continue to recognize the asset. Also, the amount of disposal received is recognized as a liability.

vi) Offsetting

Financial assets and financial liabilities are offset and the net amount is presented in the consolidated statement of financial position only when the Group currently has a legally enforceable right to set off the recognized amounts, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

2. Significant accounting policies (continued)

(n) Expected credit loss on financial assets

As for financial assets at amortized cost and financial assets at FVTOCI, the expected credit loss is evaluated at the end of each period and recognized as loss allowances.

Since initial recognition, a loss allowance shall be measured by the three stages in the table below depending on the extent of significant increase in credit risk.

Stage	Category	Description
Stage 1	Credit risk has not increased significantly since initial recognition	12 month expected credit losses: Expected credit loss resulting from potential default of financial instruments occurring over 12 months from the end of reporting period
Stage 2	Credit risk has increased significantly since initial recognition	Lifetime expected credit losses: Expected credit loss resulting from all potential default of financial instruments occurring over the expected life
Stage 3	Credit-impaired financial assets	

However, as for the financial assets whose credit is impaired at the initial recognition, only the cumulative change in the lifetime expected credit loss is recognized as the loss allowance.

The 'lifetime' refers to the expected life to the contractual maturity of the financial asset.

i) Forward looking information

The Group determines a material increase on credit risk and estimates the expected credit loss on a forward looking basis.

The measuring factors of the expected credit loss are assumed to have certain relationship with the economic cycle. Through relationship analysis between the macroeconomic variables and the credit risk measuring factors, the forward looking information is reflected in the expected credit loss estimation.

ii) Financial assets at amortized cost

The expected credit loss on the financial assets at amortized cost is recognized as the difference between the present value of the contractual cash flow and the present value of the expected cash flow. The expected cash flow is estimated separately for the individually material financial assets.

For the financial assets which are not individually material, they are included in a group of assets with a similar credit risk and expected credit loss is estimated collectively.

The expected credit losses of financial assets measured as amortized cost are presented net of loss allowance, and the allowance is derecognized together with the asset when it is determined to be unrecoverable. When the loan previously written-off is subsequently collected, it is recognized as an increase in loss allowance. At the end of the reporting period, the Group recognizes in profit or loss the amount of the change in loss allownace.

iii) Financial assets at FVTOCI

The expected credit loss on the financial assets at FVTOCI is calculated using the same method as that on the financial assets at amortized cost, however the changes in loss allowance are recognized as other comprehensive income. As for disposal and repayment, the loss allowance is reclassified from other comprehensive income to profit or loss.

2. Significant accounting policies (continued)

(o) Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequently, after the initial recognition, derivatives are measured at fair value at the end of every reporting period, and changes therein are accounted for as described below.

i) Hedge accounting

The Group holds forward exchange contracts, interest rate swaps, currency swaps and other derivative contracts to manage interest rate risk and foreign exchange risk. The Group designated derivatives as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge), and foreign currency risk of net investment in foreign operation (net investment hedges).

On initial designation of the hedge, the Group formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction, together with the methods that will be used to assess the effectiveness of the hedging relationship.

① *Fair value hedges*

Changes in the fair value of a derivative hedging instrument designated as a fair value hedge are recognized in profit or loss. The gain or loss from remeasuring the hedging instrument at fair value and the gain or loss on the hedged item attributable to the hedged risk are recognized in profit or loss in the same line item of the consolidated statement of comprehensive income.

The Group discontinues fair value hedge accounting if risk management strategy or purpose will be changed, the hedging instrument expires or is sold, terminated or exercised, or if the hedge no longer meets the criteria for hedge accounting. Any adjustment arising from gain or loss on the hedged item attributable to the hedged risk is amortized to profit or loss from the date the hedge accounting is discontinued.

2. Significant accounting policies (continued)

(o) Derivative financial instruments (continued)

② *Cash flow hedges*

When a derivative is designated as the hedging instrument in a hedge of the variability in cash flows attributable to a particular risk associated with a recognized asset or liability or a highly probable forecasted transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income and presented in the hedging reserve in equity. The amount recognized in other comprehensive income is removed and included in profit or loss in the same period as the hedged cash flows affect profit or loss under the same line item in the consolidated statements of comprehensive income as the hedged item. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss.

Once hedge accounting is discontinued, any cumulative gain or loss existing in equity at that time and is recognized over the period the forecast transaction occurs as profit or loss. However, when a forecast transaction is no longer expected to occur, the cumulative gain or loss recognized in equity is immediately recognized in the profit or loss.

If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss previously recognized in other comprehensive income and presented in the hedging reserve in equity remains there until the forecasted transaction affects profit or loss. When the hedged item is a non-financial asset, the amount recognized in other comprehensive income is transferred to the carrying amount of the asset when the asset is recognized. If the forecasted transaction is no longer expected to occur, then the balance in other comprehensive income is recognized immediately in profit or loss. In other cases the amount recognized in other comprehensive income is transferred to profit or loss in the same period that the hedged item affects profit or loss.

③ *Hedge of net investment*

The portion of the change in fair value of a financial instrument designated as a hedging instrument that meets the requirements for hedge accounting for a net investment in a foreign operation is recognized in other comprehensive income and the ineffective portion of the hedge is recognized in profit or loss. The portion recognized as other comprehensive income that is effective as a hedge is recognized in the statement of comprehensive income as a result of reclassification adjustments in accordance with K-IFRS No. 1021, "*Effect of Changes in Foreign Exchange Rates*" at the time of disposing of its overseas operations or disposing of a portion of its overseas operations to profit or loss.

ii) Embedded derivatives

If a hybrid contract contains a host that is not an financial asset, embedded derivatives are separated from the host contract and accounted for separately only if the economic characteristics and risks of the host contract and the embedded derivative are not closely related; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the combined instrument is not designated at FVTPL. Changes in the fair value of separable embedded derivatives are recognized immediately in profit or loss.

iii) Derivative financial instruments held for trading

Changes in the fair value of derivative financial instruments not designated as a hedging instrument are recognized immediately in profit or loss.

2. Significant accounting policies (continued)

(o) Derivative financial instruments (continued)

iv) Day one profit or loss

If the Group uses a valuation technique that incorporates data not obtained from observable markets for the fair value at initial recognition of financial instruments, there may be a difference between the transaction price and the amount determined using that valuation technique. As for these circumstances, the difference between the fair value at the initial recognition and the transaction price is not recognized as profit or loss but deferred. The deferred difference is amortized by using straight line method over the life of the financial instruments.

(p) Property and equipment

Property and equipment are initially measured at cost and after initial recognition. The cost of property and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Property and equipment are carried at cost less accumulated depreciation and accumulated impairment losses. Certain land and buildings are measured at fair value at the date of transition to K-IFRS, which is deemed cost, in accordance with K-IFRS No.1101, *'First-time Adoption of K-IFRS'*. Dividend from relevant revaluation surplus is prohibited in accordance with the resolution of the board of directors.

The Group recognizes in the carrying amount of an item of property and equipment the cost of replacing part of property and equipment when that cost is incurred if it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of those parts that are replaced is derecognized. The costs of the day-to-day servicing of property and equipment are recognized in profit or loss as incurred.

Among property and equipments, land is not depreciated. Other property and equipments are depreciated on a straight-line basis over the estimated useful lives, which most closely reflect the expected pattern of consumption of the future economic benefits embedded in the asset:

Descriptions	Useful lives
Buildings	40 years
Other properties	4~5 years

The gain or loss arising from the derecognition of an item of property and equipment, which is included in profit or loss, is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

At the end of each reporting period, the Group reviews the residual value, useful life, and depreciation method of the asset and treats it as a change in accounting estimate if it is appropriate to change it.

2. Significant accounting policies (continued)

(q) Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets as below from the date that they are available for use. The residual value of intangible assets is zero. Related amortization costs are recognized as general administrative expenses.

Descriptions	Useful lives
Software and capitalized development cost	5 years
Capitalized development cost	5 years
Other intangible assets	5 years or contract periods

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

Expenditures on research activities, undertaken with the prospect of gaining new technical knowledge and understanding, are recognized in profit or loss as incurred. Development costs are capitalized only if it can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

(r) Investment properties

Investment property is property held either to earn rental income or for capital appreciation or both. An investment property is initially recognized at cost including any directly attributable expenditure. Subsequently, after the initial recognition, the asset is measured at cost less accumulated depreciation and accumulated impairment losses, if any.

The depreciation method and the estimated useful lives for the current and comparative periods are as follows:

Descriptions	Depreciation method	Useful lives
Buildings	Straight-line	40 years

Subsequent costs are recognized in the carrying amount of investment property at cost or, if appropriate, as separate items if it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing are recognized in profit or loss as incurred.

The depreciation methods, useful lives and residual values of investment properties are to be reviewed at the end of each reporting period and adjusted, if appropriate. The change is accounted for as changes in accounting estimates.

2. Significant accounting policies (continued)

(s) Leases

The Group leases various tangible assets, such as real estate and vehicles, and the terms of the lease are negotiated individually and include a variety of terms and conditions. There are no other restrictions imposed by the lease contracts, except that the lease assets cannot be provided as collaterals for borrowings.

At the commencement date of the lease, the Group recognizes a right-of-use asset and a lease liability. The payment of each lease is allocated to the repayment of the liability and finance cost. The Group recognizes in profit or loss the amount calculated to produce a constant periodic rate of interest on the lease liability balance for each period as finance costs.

Right-of-use assets are depreciated using a straight-line method from the inception of the lease over the lease term of the right-of-use assets.

Lease liabilities are measured at present value of the lease payments that are not paid at the commencement date of the lease agreement, and included in other liabilities. Lease payments included in the measurement of the lease liabilities consist of the following:

- Fixed lease payments (including in-substance fixed payments, less any lease incentives receivable)
- Variable lease payments depending on an index or a rate
- Amounts expected to be paid by the lessee under a residual value guarantee
- The exercise price under a purchase option that the lessee is reasonably certain to exercise
- Payments of penalties for early terminating a lease unless the lessee is reasonably certain not to terminate early

If the implicit interest rate in the lease can be readily determined, the lease payments shall be discounted using that rate, and if that rate cannot be readily determined, the lessee shall use the lessee's incremental borrowing rate.

The right-of-use asset is initially at cost, which comprises:

- The amount of the initial measurement of the lease liability
- Any lease payments made at or before the commencement date, less any lease incentives received
- Any initial direct costs incurred by the lessee
- An estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease

The Group includes right-of-use assets within the same line item as that within which the corresponding underlying assets would be presented if they are owned. Any right-of-use asset that meets the definition of investment property is presented as investment property. Lease payments associated with short-term leases or leases of low-value assets are recognized as an expense on a straight line basis over the lease term.

Additional considerations for the Group's accounting as a lessee include:

- Extension options and termination options are generally included in multiple real estate lease contracts.
- When estimating the lease term, the Group considers all relevant facts and circumstances that create an economic incentive to exercise the option to extend the lease, or not to exercise the option to terminate the lease.
- Period covered by an extension option (or period covered by termination option) is included in lease term only if the lessee is reasonably certain to exercise (or not to exercise) the option.
- If the lessee and the lessor have the right to terminate without the consent of the other parties, the termination period shall be determined in consideration of the economic disadvantages incurred in terminating the contract.
- When significant events occur or there are significant changes in circumstances that have affected the lessee's control and the lease term before, the parties reassess whether they are quite certain to exercise the option of extension (or not).

2. Significant accounting policies (continued)

(t) Non-current assets held for sale

Assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. In order to be classified as held for sale, the asset (or disposal group) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal group that are classified as assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

The Group recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal group) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized.

If an asset is classified as held for sale or is part of a disposal group classified as held for sale, it is no longer depreciated or amortized.

(u) Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets, other than assets arising from employee benefits, deferred tax assets and non-current assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

The Group estimates the recoverable amount of an individual asset, if it is impossible to measure the individual recoverable amount of an asset, then the Group estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or group of assets. The recoverable amount of an asset or a CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or the CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or the CGU.

An impairment loss is recognized if the carrying amount of an asset or a CGU exceeds its recoverable amount. Impairment losses are recognized in profit or loss.

Goodwill acquired in a business combination is allocated to each CGU that is expected to benefit from the synergies arising from the goodwill acquired. Any impairment identified at the CGU level will first reduce the carrying value of goodwill and then be used to reduce the carrying amount of the other assets in the CGU on a pro rata basis. Except for impairment losses in respect of goodwill which are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

2. Significant accounting policies (continued)

(v) Non-derivative financial liabilities

The Group recognizes financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the financial liability in accordance with the substance of the contractual arrangement and the definitions of financial liabilities.

Transaction costs on the financial liabilities at FVTPL are recognized in profit or loss as incurred.

i) Financial liabilities designated at FVTPL

Financial liabilities can be irrevocably designated as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases, or a group of financial instruments is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy. However, once the financial assets are designated at FVTPL, it is irrevocable. The amount of change in the fair value of the financial liabilities designated at FVTPL that is attributable to changes in the credit risk of that liabilities shall be presented in other comprehensive income.

ii) Financial liabilities at FVTPL

Since initial recognition, financial liabilities at FVTPL is measured at fair value, and changes in the fair value are recognized as profit or loss.

iii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities, and other financial liabilities include deposits, borrowings, debentures etc. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequently, after the initial recognition, other financial liabilities are measured at amortized cost using the effective interest method. The Group derecognizes a financial liability from the consolidated statement of financial position when it is extinguished (i.e., when the obligation specified in the contract is discharged, cancelled, or expires).

(w) Paid-in capital

i) Equity instruments

Capital stock is classified as equity. Incremental costs directly attributable to the transaction of stock are deducted from equity, net of any tax effects.

ii) Hybrid bonds

The Group classifies an issued financial instrument, or its component parts, as a financial liability or an equity instrument depending on the substance of the contractual arrangement of such financial instrument. Hybrid bonds where the Group has an unconditional right to avoid delivering cash or another financial asset to settle a contractual obligation are classified as an equity instrument and presented in equity.

iii) Non-controlling interests

Non-controlling interests, which represent the equity in a subsidiary not attributable, directly or indirectly, to a parent's ownership interests, consist of the amount of those non-controlling interests at the date of the original combination calculated in accordance with K-IFRS No.1103, '*Business Combinations'* and the non-controlling interests share of changes in equity since the date of the combination.

2. Significant accounting policies (continued)

(x) Employee benefits

i) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service.

ii) Other long-term employee benefits

The Group's net obligation in respect of other long-term employee benefits that are not expected to be settled wholly before 12 months after the end of the annual reporting period in which the employees render the related service, is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognized in profit or loss in the period in which they arise.

iii) Retirement benefits: defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method.

The discount rate is the yield at the end of the reporting period on high-quality corporate bonds that have maturity dates approximating the terms of the Group's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Group recognizes service cost and net interest on the net defined benefit liability (asset) in profit or loss and remeasurements of the net defined benefit liability (asset) in other comprehensive income.

iv) Retirement benefits: defined contribution plans

The Group recognizes the contribution expense as an account of severance payments in profit or loss in the period according to the defined contribution plans.

v) Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognizes costs for a restructuring. If benefits are not expected to be wholly settled within 12 months of the end of the reporting period, then they are discounted.

2. Significant accounting policies (continued)

(y) Share-based payment transactions

The grant date fair value of share-based payment awards granted to employees is recognized as an employee expense, with a corresponding increase in equity, over the period that the employees unconditionally become entitled to the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

The fair value of the amount payable to employees in respect of share appreciation rights, which are settled in cash, is recognized as an expense with a corresponding increase in liabilities, over the period that the employees unconditionally become entitled to payment. The liability is remeasured at the end of each reporting period and at settlement date. Any changes in the fair value of the liability are recognized as personnel expense in profit or loss.

The Group has granted share-based payment based on Shinhan Financial Group's share to the employees. In accordance with a repayment arrangement with Shinhan Financial Group, the Group is required to pay Shinhan Financial Group for the provision of the share-based payments. The Group recognizes the costs as expenses and accrued expenses in liabilities for the service period. When vesting conditions are not satisfied because of death, retirement or dismissal of employees during the specified service period, no amount is recognized for goods or services received on a cumulative basis. Share-based payment arrangements are accounted for as equity-settled share-based payment transactions, regardless of the repayment arrangement with Shinhan Financial Group. The share-based compensation agreement that the Group has given to its executives and employees is measured in cash-settled.

(z) Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

Provisions shall be used only for expenditures for which the provisions are originally recognized.

2. Significant accounting policies (continued)

(aa) Financial guarantee contracts

A financial guarantee contract is a contract that requires the Group to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument.

Financial guarantee contracts are recognized initially at their fair value, and the initial fair value is amortized over the life of the financial guarantee contract.

After initial recognition, financial guarantee contracts are measured at the higher of:

- Loss allowance in accordance with K-IFRS No.1109, '*Financial Instruments*'
- The amount initially recognized less, when appropriate, the cumulative amount of income recognized in accordance with the principles of K-IFRS No.1115, '*Revenue from Contracts with Customers*'

(ab) Recognition of revenues and expenses

The Group's revenues are recognized using five-step revenue recognition model as follows: ① 'Identifying the contract' → ② 'Identifying performance obligations' → ③ 'Determining the transaction price' → ④ 'Allocating the transaction price to performance obligations' → ⑤ 'Recognizing the revenue by satisfying performance obligations'.

i) Interest income and expenses

Interest income and expense are recognized in profit or loss using the effective interest method. The effective interest rate is the rate that exactly discounts the estimated future cash payments and receipts through the expected life of the financial asset or liability or, where appropriate, a shorter period to the net carrying amount of the financial asset or liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument but does not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, and all other premiums or discounts. When it is not possible to estimate reliably the cash flows or the expected life of a financial instrument, the Group uses the contractual cash flows over the full contractual term of the financial instrument.

Once a financial asset or a group of similar financial assets has been written down as a result of an impairment loss, interest income is thereafter recognized using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

ii) Fees and commission

The recognition of revenue for financial service fees depends on the purposes for which the fees are assessed and the basis of accounting for any associated financial instrument.

2. Significant accounting policies (continued)

(ab) Recognition of revenues and expenses (continued)

ii) Fees and commission

① Fees that are an integral part of the effective interest rate of a financial instrument

Such fees are generally treated as an adjustment to the effective interest rate. Such fees may include compensation for activities such as evaluating the borrower's financial condition, evaluating, and recording guarantees, collateral and other security arrangements, preparing and processing documents, closing the transaction and the origination fees received on issuing financial liabilities. However, when the financial instrument is measured at fair value with the change in fair value recognized in profit or loss, the fees are recognized as revenue when the instrument is initially recognized.

② Fees earned as services are provided

Fees and commission income, including investment management fees, sales commission, and account servicing fees, are recognized as revenue when the related service as a performance obligation is provided.

③ Fees that are earned on the execution of a significant act

The fees that are earned on the execution of a significant act including commission on the allotment of shares or other securities to a client, placement fee for arranging a loan between a borrower and an investor and sales commission, are recognized as revenue when the significant act as a performance obligation has been completed.

iii) Dividends income

Dividend income is recognized when the shareholder's right to receive payment is established. Usually this is the ex-dividend date for equity securities.

(ac) Income tax

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

Shinhan Financial Group, the parent company, files its national income tax return with the Korean tax authorities under the consolidated corporate tax system, which allows it to make national income tax payments based on the consolidated profits or losses of the Shinhan Financial Group and its wholly owned domestic subsidiaries including the Bank. Deferred taxes are measured based on the future tax benefits expected to be realized in consideration of the expected profits or losses of eligible companies in accordance with the consolidated corporate tax system. Consolidated corporate tax amounts, once determined, are allocated to each of the subsidiaries and are used as a basis for the income taxes to be recorded in their stand-alone financial statements.

The Group recognizes deferred tax liabilities for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Group recognizes deferred tax assets for all deductible temporary differences arising from investments in subsidiaries and associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

2. Significant accounting policies (continued)

(ac) Income tax (continued)

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and reduced the carrying amount to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.

If any additional income tax expense exists by payment of dividends, the Group recognizes it when the liability relating to the payment is recognized.

Because of the tax positions taken by the Group, tax uncertainties arise from the complexity of transactions and differences in tax law interpretation. Also, uncertainty arises from a tax refund suit, tax investigation, or a refund suit against the tax authorities' assessed tax amount. For the tax amount paid to the tax authorities, in accordance with K-IFRS No.2123, it will be recognized as the corporate tax assets if a refund in the future is probable. In addition, the amount expected to be paid as a result of the tax investigation is recognized as the tax liability.

(ad) Accounting for trust accounts

The Group accounts for trust accounts separately from its bank accounts under *the Financial Investment Services and Capital Markets Act* and thus the trust accounts are not included in the accompanying consolidated financial statements. Borrowings from trust accounts are included in other liabilities. Trust fees and commissions in relation to the service provided to trust accounts by the Group are recognized as fees and commission income.

(ae) Earnings per share

The Group presents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to the ordinary shareholder of the Bank by the weighted average number of common shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of ordinary shares outstanding, adjusted for own shares held, for the effects of all dilutive potential ordinary shares, which comprise share options granted to employees.

3. Financial risk management

3-1. Credit risk

Credit risk is the risk of financial loss of the Group if a customer or counterparty fails to meet its contractual obligation. Credit risk is classified as the most important risk to be managed in the Group's business activities, and management carefully manages the maximum credit risk exposure. Credit exposure arises principally from due from banks, the lending process related to loans, investment activities in debt securities, drafts in the Group's asset portfolio and off balance sheet items including loan commitments, etc.

(a) Credit risk management

The Group's basic policy on credit risk management is determined by the Risk Policy Committee. The Risk Policy Committee consists of the Chief Risk Officer(CRO) as the chairman, the Chief Credit Officer (CCO), the head of the business group, and the head of the risk management department, and decides the credit risk management plan and the direction of the loan policy for the entire bank. Apart from the Risk Policy Committee, the Credit Review Committee is established to separate credit monitoring, such as large loans and limit approval, and the CCO is composed of the chairman, CRO and the head of the group in charge of the credit-related business group, the head of the credit planning department, and the senior examination team to enhance the credit quality of the loan and profitability of operation.

The risk management of the asset is primarily carried out by all operating units that hold and manage the asset subject to credit risk, and the credit risk management department, such as the risk management department and the credit planning department, is in charge of the credit risk management of the Bank as a whole. The risk management department and the risk engineering department manage credit portfolio management by managing credit risk limits set by the Risk Policy Committee and credit maximum exposure limits for the same parties, affiliates, industries, and countries. The Group also measures and manages risk components such as PD (Probability of Default), LGD (Loss Given Default), and EAD (Exposure at Default) through the operation of the credit rating system and collateral management system. As an organization for supporting and checking loan decisions, the Credit Planning Department manages the credit policy and system of the entire bank, and the Credit Review Department conducts independent credit rating and loan decision making. Also, the Credit Supervision Department conducts individual credit supervision on large loans.

Each of the Group’s borrowers(retail borrowers and companies) is assigned with a credit rating, which is based on a comprehensive internal credit evaluation system that considers a variety of criteria. For retail borrowers, the credit rating takes into account the borrower’s individual information, past dealings with the Group and external credit rating information. For corporate borrowers, the credit rating takes into account financial indicators as well as non-financial indicators such as industry risk, operational risk and management risk, among others. The credit rating, once assigned, serves as the fundamental instrument in the Group’s credit risk management, and is applied in a wide range of credit risk management processes, including credit approval, credit limit management, loan pricing and computation of allowance for credit loss.

The Group's credit rating system reflects the requirements of Basel III, ACE (Automatic Credit Evaluation) and operates retail SOHO credit rating system with a maximum exposure of ₩500 million or less, and Advanced Internal Rating System (AIRS).

The credit decision for companies is based on a collective decision-making system, making objective and prudent decisions. In the case of a general credit, the credit is approved by agreement between the branch's RM (Relationship Manager) and headquarters of each business division. In the case of a large or important credit, the credit is approved by a screening body. In particular, the Credit review Committee, which is the highest decision-making body of loans, examines important loans, such as large loans that exceed the limit. The individual credit is evaluated by the individual credit evaluation system based on objective statistical methods and an automated credit scoring system (CSS) based on the bank's credit policy.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(a) Credit risk management (continued)

The Group operates a regular monitoring system for the regular management of individual loans. The review team and RM are required to conduct Loan Reviews by automatically searching for non-performing companies among the corporate loan clients, and the credit supervision department, which is independent from the business group, determines the adequacy of Loan Review results and requests credit rating adjustment of the company as necessary. In accordance with these procedures, a company is classified as an early warning company, an observer company, and a normal company, and discriminatory management is carried out in accordance with the management guidelines for each risk stage to prevent the insolvency of the loans at an early stage. The financial analysis support system affiliated with a professional credit rating agency supports credit screening and management, and the credit planning department calculates and manages industrial grades and analyzes and provides industry trends and company information.

(b) Risk management and risk mitigation policy

In order to control the credit risk of the Group at an appropriate level, the following risk management system is established and operated.
- Credit risk limits are set and managed by business sector, customer, product, industry, etc. based on credit VaR (Value at Risk) and maximum exposure amount.
- The Risk Management Department establishes and manages limits for credit VaR, and maximum exposure limits. The Credit Planning Department and the credit assessment department conduct maximum exposure limits.
- The Risk Management Department and Risk Engineering Department establish a credit risk limit operation plan for the entire bank at least once a year and commit it to the risk policy committee.
- Each business unit monitors and adheres to credit risk limits assigned to each business unit.
- The risk is re-assessed on an annual basis or within the period if deemed necessary, and the limit of risk is set and managed for each sector, such as by the person, industry and country.
- The maximum exposure for each borrower, including institutions, is managed by low level limits that are individually set for accounts in the consolidated financial statements and off-balance sheet accounts, and risk limits for daily transactions related to commodity trading including foreign currency forward trading, are also determined.
- Actual maximum exposure limits are managed daily.
- Maximum credit risk exposure is managed in the process of analyzing the interest and principal repayment ability of the borrower, and if necessary, changes the loan limit in the process.

Other risk management measures are as follows.

i) Collateral

The Group has adopted policies and procedures to mitigate credit risk. In connection with credit risk, collateral bond is generally used, and the Group has adopted a policy for pledging certain types of assets. The main types of collateral are as follows:

- Mortgage
- Real estate, inventories, accounts receivable, etc.
- Financial instruments such as debt securities and equity securities

3. Financial risk management (continued)

3-1. Credit risk (continued)

(b) Risk management and risk mitigation policy (continued)

Long-term loans are generally collateralized. On the other hand, revolving personal loans are generally unsecured. In addition, to minimize losses due to credit risk, the Group establishes additional collateral for the counterparty in the event of an indication of impairment of the asset.

Collateral for financial assets other than loans is subject to the nature of the products. Except for special cases such as Asset Backed Securities (ABS), unsecured securities are common in the case of debt securities.

ii) Derivative financial instruments

The Group maintains a credit limit on the amount and duration of derivative financial instruments that are in between the disposal agreements after purchase.

iii) Master netting arrangements

The Group limits its maximum exposure to credit losses by entering into master netting arrangements with counterparties in performing significant number of transactions.

Master netting arrangements generally do not result from offsetting assets and liabilities in the consolidated financial statements, as transactions are usually set at a gross amount basis. However, the right to offset, which is legally enforceable and affects the realization of individual financial assets and the settlement of financial liabilities, may arise under a master netting arrangement, and the credit risk of financial assets associated with this is reduced by master netting arrangements within the scope of financial liabilities.

iv) Credit related contracts

Guarantees and credit enhancements have credit risks similar to credit. Credit (which guarantees credit on behalf of the customer by issuing a note to a third party for the amount requested under specific terms and conditions) is secured by the underlying commodities associated with them, it involves less risk. The credit enhancement arrangements represent the unused portion of the credit limit in the form of a credit, guarantee or letter of credit. In relation to the credit risk of a credit enhancement arrangement, the Group is potentially exposed to the same amount as the total unused arrangements. Long-term contracts generally have a greater degree of credit risk than short-term, and the Group monitors the maturity of credit arrangements.

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model)

i) Determining significant increases in credit risk since initial recognition

At the end of each reporting period, the Group assesses whether the credit risk on a financial asset has increased significantly since initial recognition. When making the assessment, the Group uses the change in the risk of a default occurring over the expected life of the financial assets instead of the change in the amount of expected credit losses. To make that assessment, the Group compares the risk of a default occurring on the financial assets at the end of the reporting period with the risk of a default occurring on the financial assets as at the date of initial recognition and consider reasonable and supportable information, that is available without undue cost or effort, that is indicative of significant increases in credit risk since initial recognition. The supportable information also includes historical default data held by the Group and the analysis by internal credit risk rating specialists.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

i) Measuring the risk of default

The Group assigns an internal credit risk rating to each individual exposure based on observable data and historical experiences that have been found to have a reasonable correlation with the risk of default. The internal credit risk rating is determined by considering both qualitative and quantitative factors that indicate the risk of default, which may vary depending on the nature of the exposure and the type of borrower.

The internal credit risk rating based on the borrower's information related to each individual exposure on initial recognition, may change depending on the results of continuing monitoring and reviews.

ii) Measuring term structure of probability of default

The Group accumulates information after analyzing the information regarding exposure to credit risk and default information by the type of product and borrower and results of internal credit risk assessment. For some portfolios, the Group uses information obtained from external credit rating agencies when performing these analyses.

The Group applies statistical techniques to estimate the probability of default for the remaining life of the exposure from the accumulated data and to estimate changes in the estimated probability of default over time.

iii) Significant increases in credit risk

The Group uses the indicators defined as per portfolio to determine the significant increase in credit risk and such indicators generally consist of changes in the risk of default estimated from changes in the internal credit risk rating, qualitative factors, days of delinquency, and others. The method used to determine whether credit risk of financial instruments has significantly increased after the initial recognitions is summarized as follows:

Corporate exposures	Retail exposures
Significant change in credit ratings	Significant change in credit ratings
Continued past due more than 30 days	Continued past due more than 30 days
Loan classification of precautionary and below	Loan classification of precautionary and below
Borrower with early warning signals	Borrower with early warning signals
Negative net assets	Specific pool segment
Adverse audit opinion or disclaimer of opinion	Collective loans for housing for which the constructors are insolvent
Interest coverage ratio below 1 for a consecutive period of three years or negative cash flows from operating activities for a consecutive period of two years	Loans with identified indicators for significant increases in other credit risk
Loans with identified indicators for significant increases in other credit risk	

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

The Group considers the credit risk of financial assets has been significantly increased since initial recognition if a specific exposure is past due more than 30 days. The Group counts the number of days past due from the earliest date on which the Group has not received the contractual payments in full of the borrower and does not consider the grace period granted to the borrower.

The Group regularly reviews the criteria for determining if there have been significant increases in credit risk from the following perspective.

- A significant increase in credit risk shall be identified prior to the occurrence of default.
- The criteria established to judge the significant increase in credit risk shall represent proactive prediction than the days of delinquency criteria.
- As a result of applying the judgment criteria, financial assets shall not be to move too frequently between the 12-months expected credit losses measurement and the lifetime expected credit losses measurement.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

ii) Modified financial assets

If the contractual cash flows on a financial asset have been renegotiated or modified and the financial asset is not derecognized, the Group assesses whether there has been a significant increase in the credit risk of the financial assets by comparing the risk of a default occurring at initial recognition based on the original, unmodified contractual terms and the risk of a default occurring at the end of the reporting period based on the modified contractual terms.

The Group may adjust the contractual cash flows of loans to customers who are in financial difficulties to manage the risk of default and enhance the collectability (hereinafter referred to as 'debt restructuring'). These adjustments generally involve extension of maturity, changes in interest payment schedule, and changes in other contractual terms.

Debt restructuring is a qualitative indicator of a significant increase in credit risk and the Group recognizes lifetime expected credit losses for the exposure expected to be the subject of such adjustments. If a borrower faithfully makes payments of contractual cash flows that are modified in accordance with the debt restructuring or if the borrower's internal credit rating has recovered to the level prior to the recognition of the lifetime expected credit losses, the Group recognizes the 12-months expected credit losses for that exposure again.

iii) Risk of default

The Group considers a financial asset to be in default if it meets one or more of the following conditions:

- If a borrower is more than 90 days past due on its contractual payments
- If the Group judges that it is not possible to recover principal and interest without enforcing the collateral on a financial asset

The Group uses the following indicators when determining whether a borrower is in default:

- Qualitative factors (e.g. breach of contract terms),
- Quantitative factors (e.g. if the same borrower does not perform more than one payment obligations to the Group, the number of days past due per payment obligation. However, in the case of a specific portfolio, the Group uses the number of days past due for each financial instruments.)
- Internal data and external data

The definition of default applied by the Group generally conforms to the definition of default defined for regulatory capital management purposes; however, depending on the situations, the information used to determine whether a default has incurred, and the extent thereof may vary.

iv) Reflection of forward-looking information

The Group reflects forward-looking information presented by a group of internal experts based on various information when measuring expected credit losses. The Group utilizes economic forecasts disclosed by domestic and foreign research institutes, governments, and public institutions to forecast forward-looking information.

The Group reflects future macroeconomic conditions anticipated from a neutral standpoint that is free from bias in measuring expected credit losses. Expected credit losses in this respect reflect conditions that are most likely to occur and are based on the same assumptions that the Group used in its business plan and management strategy.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The Group analyzed the data experienced in the past and scenario data, derived correlations between major macroeconomic variables and credit risks required for predicting credit risk and credit loss for each portfolio, and then reflected forward-looking information through regression estimation. To reflect the prolonged COVID-19 and the internal and external economic uncertainty, the Group reflected final forward-looking information by considering 4 scenarios: upside, central, downside and worst.

The economic variables considered by the Group for the years ended December 31, 2022 and 2021 are as follows for each scenario;

① Upside scenario

Major variables(*1)(*2)(*3)	Correlation	2022.4Q	2023			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	1.4	1.6	1.7	2.5	3.9
Private consumption index (YoY %)	(-)	3.6	4.9	2.8	2.1	3.6
Facility investment growth rate (YoY %)	(-)	6.6	1.5	2.0	(4.2)	5.3
Consumer price index growth rate (%)	(+)	5.3	5.0	4.0	3.4	3.0
Balance on current account (100 million dollars)	(-)	15.0	30.0	40.0	80.0	100.0
Government bond 3y yields (%)	-	3.91	3.70	4.00	4.00	4.00

② Central scenario

Major variables(*1)(*2)(*3)	Correlation	2022.4Q	2023			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	1.4	0.4	0.5	1.2	3.7
Private consumption index (YoY %)	(-)	3.6	3.8	1.5	0.6	2.8
Facility investment growth rate (YoY %)	(-)	6.6	0.8	1.0	(5.3)	4.6
Consumer price index growth rate (%)	(+)	5.3	5.3	4.4	3.8	3.4
Balance on current account (100 million dollars)	(-)	15.0	20.0	30.0	60.0	80.0
Government bond 3y yields (%)	-	3.91	4.00	4.20	4.20	4.20

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

③ Downside scenario

Major variables(*1)(*2)(*3)	Correlation	2022.4Q	2023			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	1.4	(0.4)	(0.5)	(0.1)	2.9
Private consumption index (YoY %)	(-)	3.6	2.9	0.3	(0.8)	1.9
Facility investment growth rate (YoY %)	(-)	6.6	0.2	0.3	(6.4)	3.4
Consumer price index growth rate (%)	(+)	5.3	5.7	4.8	4.4	3.8
Balance on current account (100 million dollars)	(-)	15.0	10.0	20.0	40.0	60.0
Government bond 3y yields (%)	-	3.91	4.30	4.60	4.60	4.60

④ Worst scenario

Major variables(*1)(*2)(*4)	Correlation	1 year of crisis situations
GDP growth rate (YoY %)	(-)	(5.1)
Private consumption index (YoY %)	(-)	(11.9)
Facility investment growth rate (YoY %)	(-)	(38.6)
Consumer price index growth rate (%)	(+)	7.5
Balance on current account (100 million dollars)	(-)	401.1
Government bond 3y yields (%)	-	4.39

(*1) As a result of reviewing the correlation of each variable, the GDP growth rates and Consumer price index growth rate were applied among the major variables to reflect the final forward-looking information. The Group additionally selected the unemployment rate in addition to the table above.
(*2) Considering the forecast period of the company's bankruptcy, the Group reflected the forward-looking information.
(*3) The macroeconomic outlook figures are estimated by the Group for the purpose of calculating expected credit losses based on information from domestic and foreign research institutes. Therefore, it could be different from other institutions' estimates.
(*4) It was reflected in consideration of the period of the foreign exchange crisis in Korea.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

① Upside scenario

Major variables(*1)(*2)(*3)	Correlation	2021.4Q	2022 1Q	2022 2Q	2022 3Q	2022 4Q
GDP growth rate (YoY %)	(-)	4.1	3.0	3.1	3.8	3.7
Private consumption index (YoY %)	(-)	6.3	5.1	2.5	3.7	3.8
Facility investment growth rate (YoY %)	(-)	4.1	0.5	1.2	5.0	5.1
Consumer price index growth rate (%)	(-)	3.6	2.6	2.4	2.0	2.0
Balance on current account (100 million dollars)	(-)	202.0	230.0	200.0	220.0	230.0
Government bond 3y yields (%)	-	1.87	1.90	1.90	2.00	2.00

② Central scenario

Major variables(*1)(*2)(*3)	Correlation	2021.4Q	2022 1Q	2022 2Q	2022 3Q	2022 4Q
GDP growth rate (YoY %)	(-)	4.1	2.3	2.4	3.0	3.4
Private consumption index (YoY %)	(-)	6.3	4.4	1.8	2.9	3.5
Facility investment growth rate (YoY %)	(-)	4.1	0.2	0.8	4.5	4.9
Consumer price index growth rate (%)	(-)	3.6	2.7	2.5	2.2	2.0
Balance on current account (100 million dollars)	(-)	202.0	220.0	180.0	200.0	220.0
Government bond 3y yields (%)	-	1.87	1.80	1.80	1.90	1.90

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

③ Downside scenario

Major variables(*1)(*2)(*3)	Correlation	2021.4Q	2022			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	1.3	1.3	1.8	3.1
Private consumption index (YoY %)	(-)	6.3	3.4	0.7	1.8	3.1
Facility investment growth rate (YoY %)	(-)	4.1	(0.5)	0.3	4.3	4.5
Consumer price index growth rate (%)	(-)	3.6	3.2	3.0	3.0	2.8
Balance on current account (100 million dollars)	(-)	202.0	200.0	170.0	180.0	200.0
Government bond 3y yields (%)	-	1.87	2.00	2.00	2.20	2.40

(*1) As a result of reviewing the correlation of each variable, the private consumption index were applied among the major variables to reflect the final forward-looking information. The Group additionally selected the KOSPI forecast in addition to the table above.
(*2) Considering the forecast period of the company's bankruptcy, the Group reflected the future economic outlook.
(*3) The macroeconomic outlook figures are estimated by the Group for the purpose of calculating expected credit losses based on information from domestic and foreign research institutes. Therefore, it could be different from other institutions' estimates.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The predicted correlations between the macroeconomic variables and the risk of default, used by the Group, are derived based on long-term data over the past ten years.

The recent historical default rate is an important reference when estimating the default rate in consideration of the future economic outlook. Although the economy has slowed down by COVID-19 since 2020, the actual default rate of the Group has remained stable because of various government support in response to the COVID-19. The Group operates the financial relief programs such as moratorium of interest payments and repayment in installments, and the Group manages credit risk from the loan from such moratorium by classifying the loans to Stage 2 and performing additional expected loss assessment in order to reflect the potential insolvency. In addition, the Group manages credit risk through additional expected loss assessments for estimated loss loans. As of December 31, 2022, the exposure of the maturity-extended financial loan corresponding to the financial relief program is ₩7,528,585 million, and the provision is ₩116,447 million.

As of December 31, 2022 and 2021, the exposure and provisions for the loans who applied for moratorium of interest payments and moratorium of repayment in installments is as follows:

		December 31, 2022	
		Exposure	Provision
Moratorium of interest payments	₩	165,442	26,582
Moratorium of repayment in installments		1,105,481	123,735
Moratorium of interest payments and moratorium of repayment in installments		66,218	9,814
	₩	1,337,141	160,131

		December 31, 2021	
		Exposure	Provision
Moratorium of interest payments	₩	224,449	27,460
Moratorium of repayment in installments		1,342,366	106,899
Moratorium of interest payments and moratorium of repayment in installments		65,773	8,459
	₩	1,632,588	142,818

To reflect the COVID-19 economic situation, the Group has additionally applied the scenario of worst to three macroeconomic variable scenarios: upside, central, and downside as of December 31, 2022. The probability weight of each scenario is determined by considering the probability distribution of the economic growth rate (GDP) estimated based on the economic growth rate forecast for each scenario that reflected future forecast information presented by the internal expert group.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

If the probability weights for each scenario are assumed to be 100% and the other assumptions are the same, the sensitivity analysis of the Group's expected credit loss provisions and their impact on provisions is as follows:

Scenarios	Probability weight	Hypothesis	Difference from book value
Upside	25%	₩ 2,098,595	(312,872)
Central	30%	2,122,253	(289,214)
Downside	25%	2,159,045	(252,422)
Worst	20%	3,991,085	1,579,618

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

v) Measurement of expected credit losses

Key variables used in measuring expected credit losses are as follows:

- Probability of default (PD)
- Loss given default (LGD)
- Exposure at default (EAD)

These variables have been estimated from historical experience data by using the statistical techniques developed internally by the Group and have been adjusted to reflect forward-looking information.

Estimates of PD over a specified period are estimated by reflecting characteristics of counterparties and their exposure, based on a statistical model at a specific point of time. The Group uses its own information to develop a statistical credit assessment model used for the estimation, and additional information observed in the market is considered for some portfolios such as a group of large corporates. When a counterparty or exposure is concentrated in specific grades, the method of measuring PD for those grades would be adjusted, and the PD by grade is estimated by considering contract expiration of the exposure.

LGD refers to the expected loss if a borrower default. The Group calculates LGD based on the experience recovery rate measured from past default exposures. The model for measuring LGD is developed to reflect type of collateral, seniority of collateral, type of borrower, and cost of recovery. In particular, LGD for retail loan products uses loan to value (LTV) as a key variable. The recovery rate reflected in the LGD calculation is based on the present value of recovery amount, discounted at the effective interest rate.

EAD refers to the expected exposure at the time of default. The Group derives EAD reflecting a rate at which the current exposure is expected to be used additionally up to the point of default within the contractual limit. EAD of financial assets is equal to the total carrying amount of the asset, and EAD of loan commitments or guarantee contracts is calculated as the sum of the amount expected to be used in the future.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

v) Measurement of expected credit losses (continued)

When measuring expected credit losses on financial assets, the Group reflects a period of expected credit loss measurement based on a contractual maturity. The Group takes into consideration of the extension rights held by a borrower when deciding the contractual maturity.

Risk factors such as PD, LGD and EAD are collectively estimated according to the following criteria:

- Type of products
- Internal credit risk rating
- Type of collateral
- Loan to value (LTV)
- Industry that the borrower belongs to
- Location of the borrower or collateral
- Days of delinquency

The criteria for classification of groups are periodically reviewed to maintain homogeneity of the group and adjusted if necessary. The Group uses external benchmark information to supplement internal information for a particular portfolio that did not have sufficient internal data accumulated from the past experience.

vi) Write-off of financial assets

The Group writes off a portion of or entire loan or debt security that is not expected to receive its principal and interest. In general, the Group conducts write-off when it is deemed that the borrower has no sufficient resources or income to repay the principal and interest. Such determination on write-off is carried out in accordance with the internal rules of the Group. Apart from write-off, the Group may continue to exercise its right of collection under its own recovery policy even after the write-off of financial assets.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(d) Maximum exposure to credit risk

The Group's maximum exposure to credit risk of the financial instruments held as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Due from banks(*1)(*2):			
Banks	₩	6,687,333	4,546,076
Government/Public sector/Central bank/Etc		13,622,717	14,081,418
		20,310,050	18,627,494
Loans at amortized cost(*1)(*2):			
Banks		8,857,702	6,306,526
Retail			
Mortgage lending		56,469,256	55,230,898
Others		109,004,701	113,461,509
		165,473,957	168,692,407
Government/Public sector/Central bank/Etc		1,077,981	457,738
Corporate			
Large enterprises		45,855,175	37,461,533
Small and medium-sized enterprises		111,967,778	103,411,737
Special finance		10,822,148	9,423,639
Others		103	262
		168,645,204	150,297,171
Credit cards		244,095	179,654
		344,298,939	325,933,496
Loans at FVTPL(*2):			
Banks		109,099	-
Corporate			
Large enterprises		863,454	830,606
Small and medium-sized enterprises		-	63,554
		863,454	894,160
		972,553	894,160
Securities at FVTPL:			
Debt securities		20,900,078	23,894,803
Gold/silver deposits		75,969	83,691
		20,976,047	23,978,494
Securities at FVTOCI(*1)		47,554,952	47,584,677
Securities at amortized cost(*1)		28,379,986	21,325,243
Derivative assets		4,904,096	3,001,440
Other financial assets(*1)(*3)		15,463,269	16,529,548
Off-balance accounts:			
Guarantee contracts		17,995,698	16,546,629
Loan commitments and other credit related liabilities		111,110,774	103,157,749
		129,106,472	119,704,378
	₩	611,966,364	577,578,930

(*1) The maximum exposure amounts for due from banks, loans, securities and other financial assets are measured as the amount net of unamortized balances and allowances.
(*2) Due from banks and loans are classified as similar credit risk group to be with consistent calculating capital adequacy ratio under New Basel Capital Accord (Basel III).
(*3) Other financial assets comprise accounts receivable, accrued income, guarantee deposits, domestic exchange settlement receivables, suspense payments, etc.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of December 31, 2022 and 2021 are as follows:

	December 31, 2022								
	12-month expected loss		Life-time expected loss						Mitigation of credit risk due to collateral
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired	Total	Allowances	Net	
Due from banks:									
Banks	₩ 4,822,966	1,875,057	-	177	-	6,698,200	(10,867)	6,687,333	-
Government/ Public sector/Central bank/Etc	12,560,296	1,068,372	-	556	-	13,629,224	(6,507)	13,622,717	-
	17,383,262	2,943,429	-	733	-	20,327,424	(17,374)	20,310,050	-
Loans at amortized cost:									
Banks	6,501,512	2,255,363	111,593	-	-	8,868,468	(10,766)	8,857,702	42,418
Retail									
Residential real estate mortgage loan	53,501,020	228,730	1,967,926	716,564	76,723	56,490,963	(21,707)	56,469,256	53,729,184
Others	98,302,645	3,138,300	6,354,309	1,296,396	404,929	109,496,579	(491,878)	109,004,701	66,719,130
Government/ Public sector/Central bank/Etc	1,063,999	2,863	12,055	-	-	1,078,917	(936)	1,077,981	-
Corporate									
Large enterprises	30,191,499	10,823,234	2,368,333	2,725,435	132,406	46,240,907	(385,732)	45,855,175	10,942,389
Small and medium-sized enterprises	67,181,097	23,458,473	8,491,172	13,379,684	438,675	112,949,101	(981,323)	111,967,778	80,698,917
Special finance	2,154,704	8,515,020	26,997	156,358	-	10,853,079	(30,931)	10,822,148	4,668,799
Others	-	43	-	86	-	129	(26)	103	-
Credit cards	14	244,400	-	3,111	4,325	251,850	(7,755)	244,095	64
	258,896,490	48,666,426	19,332,385	18,277,634	1,057,058	346,229,993	(1,931,054)	344,298,939	216,800,901
Securities at FVTOCI(*)	38,391,288	9,096,464	-	67,200	-	47,554,952	-	47,554,952	-
Securities at amortized cost	26,735,483	1,643,688	-	10,517	-	28,389,688	(9,702)	28,379,986	-
	₩ 341,406,523	62,350,007	19,332,385	18,356,084	1,057,058	442,502,057	(1,958,130)	440,543,927	216,800,901

(*) Credit loss allowance recognized in other comprehensive income on securities at FVTOCI is ₩24,746 million.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021								
	12-month expected loss		Life-time expected loss						
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired	Total	Allowances	Net	Mitigation of credit risk due to collateral
Due from banks:									
Banks	₩ 3,428,533	1,125,709	-	434	-	4,554,676	(8,600)	4,546,076	-
Government/ Public sector/Central bank/Etc	13,394,476	694,415	-	257	-	14,089,148	(7,730)	14,081,418	-
	16,823,009	1,820,124	-	691	-	18,643,824	(16,330)	18,627,494	-
Loans at amortized cost:									
Banks	4,050,591	2,152,237	112,254	-	-	6,315,082	(8,556)	6,306,526	133,618
Retail									
Residential real estate mortgage loan	52,547,947	254,012	1,733,914	632,584	83,069	55,251,526	(20,628)	55,230,898	51,981,686
Others	102,729,140	3,509,099	5,982,433	1,239,751	333,438	113,793,861	(332,352)	113,461,509	65,961,052
Government/ Public sector/Central bank/Etc	442,015	16,112	-	-	-	458,127	(389)	457,738	-
Corporate									
Large enterprises	23,033,770	9,100,770	2,675,305	2,910,251	132,475	37,852,571	(391,038)	37,461,533	9,649,855
Small and medium-sized enterprises	61,630,453	22,607,642	7,161,189	12,426,271	478,222	104,303,777	(892,040)	103,411,737	72,445,216
Special finance	2,343,147	6,928,856	22,524	153,771	-	9,448,298	(24,659)	9,423,639	4,094,442
Others	-	150	-	139	-	289	(27)	262	-
Credit cards	4	177,499	2	3,737	5,140	186,382	(6,728)	179,654	43
	246,777,067	44,746,377	17,687,621	17,366,504	1,032,344	327,609,913	(1,676,417)	325,933,496	204,265,912
Securities at FVTOCI(*)	39,979,252	7,452,639	-	152,786	-	47,584,677	-	47,584,677	-
Securities at amortized cost	19,693,141	1,605,335	-	36,290	-	21,334,766	(9,523)	21,325,243	-
	₩ 323,272,469	55,624,475	17,687,621	17,556,271	1,032,344	415,173,180	(1,702,270)	413,470,910	204,265,912

(*) Credit loss allowance recognized in other comprehensive income on securities at FVTOCI is ₩ 28,739 million.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

ii) Credit risk exposure per credit grade of off-balance sheet accounts as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		12-month expected credit loss	Lifetime expected credit loss		
			Not impaired	Impaired	Total
Guarantee contracts:					
Grade 1	₩	13,997,614	385,819	-	14,383,433
Grade 2		3,313,927	199,925	-	3,513,852
Impaired		-	-	98,413	98,413
		17,311,541	585,744	98,413	17,995,698
Loan commitment and other credit related liabilities:					
Grade 1		89,495,753	4,215,975	-	93,711,728
Grade 2		15,415,924	1,983,122	-	17,399,046
Impaired		-	-	-	-
		104,911,677	6,199,097	-	111,110,774
	₩	122,223,218	6,784,841	98,413	129,106,472

		December 31, 2021			
		12-month expected credit loss	Lifetime expected credit loss		
			Not impaired	Impaired	Total
Guarantee contracts:					
Grade 1	₩	12,464,065	335,874	-	12,799,939
Grade 2		3,450,461	203,917	-	3,654,378
Impaired		-	-	92,312	92,312
		15,914,526	539,791	92,312	16,546,629
Loan commitment and other credit related liabilities:					
Grade 1		76,765,871	3,836,834	-	80,602,705
Grade 2		20,835,466	1,719,578	-	22,555,044
Impaired		-	-	-	-
		97,601,337	5,556,412	-	103,157,749
	₩	113,515,863	6,096,203	92,312	119,704,378

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iii) Credit risk exposure per collateral of financial instruments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantees	₩	60,505,261	8,502,095	226,585	69,233,941
Deposits and savings		2,482,402	232,114	2,360	2,716,876
Property and equipment		1,541,842	391,621	11,523	1,944,986
Real estate		129,871,227	15,916,705	240,894	146,028,826
	₩	194,400,732	25,042,535	481,362	219,924,629

		December 31, 2021			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantees	₩	60,808,960	8,287,776	192,950	69,289,686
Deposits and savings		1,812,844	241,588	1,516	2,055,948
Property and equipment		1,557,438	402,858	20,162	1,980,458
Real estate		120,655,956	13,258,933	226,544	134,141,433
	₩	184,835,198	22,191,155	441,172	207,467,525

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iv) Credit risk exposure per LTV of mortgage loans as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		LTV of mortgage loans					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Other	Total
Loans at amortized cost	₩	20,442,384	15,871,664	15,634,149	2,335,250	2,207,516	56,490,963
Less: allowance		(1,031)	(3,266)	(12,224)	(2,702)	(2,484)	(21,707)
	₩	20,441,353	15,868,398	15,621,925	2,332,548	2,205,032	56,469,256

		December 31, 2021					
		LTV of mortgage loans					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Other	Total
Loans at amortized cost	₩	19,148,888	15,403,119	16,807,463	2,563,101	1,328,955	55,251,526
Less: allowance		(634)	(1,854)	(13,265)	(2,861)	(2,014)	(20,628)
	₩	19,148,254	15,401,265	16,794,198	2,560,240	1,326,941	55,230,898

v) Credit qualities are classified based on the internal credit rating as follows:

Type of Borrower	Grade 1	Grade 2
Retail	Pool of retail loans with probability of default of less than 2.25%	Pool of retail loans with probability of default of 2.25% or more
Governments, Public sector, Central bank	OECD sovereign credit rating of 6 or above	OECD sovereign credit rating of below 6
Banks and Corporations	Internal credit rating of BBB+ or above	Internal credit rating of below BBB+

3. Financial risk management (continued)

3-1. Credit risk (continued)

(f) Nature and effect of modification in contractual cash flows

i) For the financial assets for which the loss allowances have been measured at amounts equal to the lifetime expected credit losses, and the contractual cash flows are modified for the years ended December 31, 2022 and 2021, the amortized costs before modification amounted to ₩50,916 million and ₩16,192 million, respectively, and the net losses resulting from the modification amounted to ₩16,297 million and ₩2,908 million, respectively.

ii) As of December 31, 2022 and 2021, the book value of financial asset, for which contractual cash flows have been modified while the loss allowance is measured at an amount equal to lifetime expected credit losses at initial recognition, and the loss allowance reverted to being measured at an amount equal to 12-month expected credit losses for the years ended December 31, 2022 and 2021 are ₩5,686 million and ₩54,904 million.

(g) The contractual amounts outstanding on financial assets that are written-off but are still subject to enforcement activity as of December 31, 2022 and 2021, are ₩5,594,676 million and ₩6,342,146 million, respectively.

(h) As of December 31, 2022 and 2021, there are no assets acquired by the execution of collateral.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location

An analysis of concentration by geographic location for financial instruments excluding equity securities as of December 31, 2022 and 2021 is as follows:

	December 31, 2022								
Division(*)	Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Others	Total
Due from banks:									
Banks	₩ 915,724	2,105,351	520,636	447,278	434,080	589,131	934,504	740,629	6,687,333
Government/Public sector/Central bank/Etc	9,801,519	915,306	-	1,404,163	21,674	345,142	441,551	693,362	13,622,717
	10,717,243	3,020,657	520,636	1,851,441	455,754	934,273	1,376,055	1,433,991	20,310,050
Loans at amortized cost:									
Banks	1,516,985	4,773	25,270	431,744	241,290	971,869	2,901,828	2,763,943	8,857,702
Retail									
Residential real estate mortgage loan	48,677,828	293,915	4,641	4,326,107	1,663	671,907	1,190,622	1,302,573	56,469,256
Others	105,714,674	108,124	3,488	31,203	2,053	1,966,639	830,547	347,973	109,004,701
Government/Public sector/Central bank/Etc	670,050	-	-	-	405,073	-	-	2,858	1,077,981
Corporate									
Large enterprises	38,787,387	1,599,839	51,119	515,975	26,792	1,342,401	1,258,553	2,273,109	45,855,175
Small and medium-sized enterprises	101,148,206	978,308	95,019	3,799,641	70,005	1,643,809	1,436,034	2,796,756	111,967,778
Special finance	7,990,243	803,632	197,345	830,825	8,408	87,887	-	903,808	10,822,148
Others	75	12	-	-	-	-	-	16	103
Credit cards	10,840	963	91	65	32	230,770	104	1,230	244,095
	304,516,288	3,789,566	376,973	9,935,560	755,316	6,915,282	7,617,688	10,392,266	344,298,939
Loans at FVTPL									
Banks	109,099	-	-	-	-	-	-	-	109,099
Corporate									
Large enterprises	863,454	-	-	-	-	-	-	-	863,454
	972,553	-	-	-	-	-	-	-	972,553
Securities at FVTPL									
Debt securities	20,259,961	129,986	4,817	32,171	21,649	-	2,713	448,781	20,900,078
Gold/silver deposits	-	-	75,969	-	-	-	-	-	75,969
	20,259,961	129,986	80,786	32,171	21,649	-	2,713	448,781	20,976,047
Securities at FVTOCI	42,254,619	2,673,595	157,951	348,241	34,065	92,940	688,085	1,305,456	47,554,952
Securities at amortized cost	26,781,017	106,480	-	214,653	-	726,476	110,884	440,476	28,379,986
Off-balance accounts:									
Guarantee contracts	16,185,620	118,951	23,481	47,806	44,203	303,054	1,015,543	257,040	17,995,698
Loan commitments and other credit related liabilities	100,816,038	732,156	314,626	539,431	41,461	1,834,268	2,455,130	4,377,664	111,110,774
	₩ 522,503,339	10,571,391	1,474,453	12,969,303	1,352,448	10,806,293	13,266,098	18,655,674	591,598,999

(*) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location (continued)
An analysis of concentration by geographic location for financial instruments excluding equity securities as of December 31, 2022 and 2021 is as follows (continued):

	December 31, 2021									
Division(*)		Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Others	Total
Due from banks:										
Banks	₩	425,254	1,377,998	26,441	333,980	447,317	413,816	843,735	677,535	4,546,076
Government/Public sector/Central bank/Etc		10,653,635	796,405	-	1,279,012	217,773	248,301	462,308	423,984	14,081,418
		11,078,889	2,174,403	26,441	1,612,992	665,090	662,117	1,306,043	1,101,519	18,627,494
Loans at amortized cost:										
Banks		1,392,907	4,950	11,735	116,708	83,372	1,060,070	1,833,710	1,803,074	6,306,526
Retail										
Residential real estate mortgage loan		47,752,200	277,827	4,573	4,304,160	1,372	580,191	1,284,732	1,025,843	55,230,898
Others		110,941,240	112,757	3,026	34,106	1,740	1,407,110	650,636	310,894	113,461,509
Government/Public sector/Central bank/Etc		441,646	-	-	-	-	-	-	16,092	457,738
Corporate										
Large enterprises		30,225,627	1,702,446	84,477	510,934	43,479	1,459,418	1,341,534	2,093,618	37,461,533
Small and medium-sized enterprises		93,752,872	831,446	44,270	3,019,992	50,707	1,325,959	1,606,095	2,780,396	103,411,737
Special finance		6,737,081	787,296	83,208	833,510	-	112,578	-	869,966	9,423,639
Others		145	7	-	-	-	-	-	110	262
Credit cards		7,343	1,582	85	45	17	169,506	84	992	179,654
		291,251,061	3,718,311	231,374	8,819,455	180,687	6,114,832	6,716,791	8,900,985	325,933,496
Loans at FVTPL										
Corporate										
Large enterprises		830,605	-	-	-	-	-	-	1	830,606
Small and medium-sized enterprises		63,554	-	-	-	-	-	-	-	63,554
		894,159	-	-	-	-	-	-	1	894,160
Securities at FVTPL										
Debt securities		23,098,304	326,107	8,396	50,503	19,048	-	9,041	383,404	23,894,803
Gold/silver deposits		-	-	83,691	-	-	-	-	-	83,691
		23,098,304	326,107	92,087	50,503	19,048	-	9,041	383,404	23,978,494
Securities at FVTOCI		44,042,942	1,426,509	120,851	250,768	52,199	120,884	679,528	890,996	47,584,677
Securities at amortized cost		19,740,332	1,526	-	244,149	-	902,377	80,042	356,817	21,325,243
Off-balance accounts:										
Guarantee contracts		15,259,083	156,225	4,690	28,725	13,374	358,862	617,574	108,096	16,546,629
Loan commitments and other credit related liabilities		92,620,943	531,120	256,083	760,322	86,329	2,789,103	2,104,907	4,008,942	103,157,749
	₩	497,985,713	8,334,201	731,526	11,766,914	1,016,727	10,948,175	11,513,926	15,750,760	558,047,942

(*) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector

i) An analysis of concentration by industry sector for financial instruments excluding equity securities as of December 31, 2022 and 2021 are as follows:

Division(*)		December 31, 2022								
		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:										
Banks	₩	6,687,333	-	-	-	-	-	-	-	6,687,333
Government/Public sector/Central bank/Etc		13,622,717	-	-	-	-	-	-	-	13,622,717
		20,310,050	-	-	-	-	-	-	-	20,310,050
Loans at amortized cost:										
Banks		8,206,048	-	-	-	29,979	-	621,675	-	8,857,702
Retail										
Residential real estate mortgage loan		-	-	-	-	-	-	-	56,469,256	56,469,256
Others		-	-	-	-	-	-	-	109,004,701	109,004,701
Government/Public sector/Central bank/Etc		1,066,103	-	-	-	-	-	11,878	-	1,077,981
Corporate										
Large enterprises		6,721,331	21,426,796	4,502,482	2,566,132	863,862	532,425	9,242,147	-	45,855,175
Small and medium-sized enterprises		1,211,710	34,951,501	17,117,543	29,910,350	2,122,623	5,216,746	21,437,305	-	111,967,778
Special finance		2,347,474	9,299	19,657	4,579,303	354,216	120,974	3,391,225	-	10,822,148
Others		-	-	26	2	-	-	75	-	103
Credit cards		-	-	-	-	-	-	-	244,095	244,095
		19,552,666	56,387,596	21,639,708	37,055,787	3,370,680	5,870,145	34,704,305	165,718,052	344,298,939
Loans at FVTPL										
Banks		-	-	-	69,533	-	-	39,566	-	109,099
Corporate										
Large enterprises		247,197	504,572	89,651	-	-	-	22,034	-	863,454
Securities at FVTPL										
Debt securities		10,861,305	1,652,645	988,310	889,125	187,188	59,459	6,262,046	-	20,900,078
Gold/silver deposits		75,969	-	-	-	-	-	-	-	75,969
Securities at FVTOCI		21,057,528	1,989,003	417,514	547,578	562,659	28,371	22,952,299	-	47,554,952
Securities at amortized cost		10,238,931	9,931	-	158,196	218,861	-	17,754,067	-	28,379,986
Off-balance sheet accounts:										
Guarantee contracts		2,340,397	8,934,828	3,380,682	115,812	224,239	89,300	2,560,434	350,006	17,995,698
Loan commitments and other liabilities for credit		18,194,380	27,582,399	9,883,883	2,799,711	1,801,246	308,030	12,322,373	38,218,752	111,110,774
	₩	102,878,423	97,060,974	36,399,748	41,635,742	6,364,873	6,355,305	96,617,124	204,286,810	591,598,999

(*) Industrial breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

i) An analysis of concentration by industry sector for financial instruments excluding equity securities as of December 31, 2022 and 2021 is as follows (continued):

Division(*)		December 31, 2021								
		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:										
Banks	₩	4,546,076	-	-	-	-	-	-	-	4,546,076
Government/Public sector/Central bank/Etc		14,081,418	-	-	-	-	-	-	-	14,081,418
		18,627,494	-	-	-	-	-	-	-	18,627,494
Loans at amortized cost:										
Banks		5,587,847	-	-	-	-	-	718,679	-	6,306,526
Retail										
Residential real estate mortgage loan		-	-	-	-	-	-	-	55,230,898	55,230,898
Others		-	-	-	-	-	-	-	113,461,509	113,461,509
Government/Public sector/Central bank/Etc		451,406	-	-	-	-	-	6,332	-	457,738
Corporate										
Large enterprises		4,302,559	18,614,635	3,704,339	2,367,214	734,533	314,134	7,424,119	-	37,461,533
Small and medium-sized enterprises		1,341,148	33,450,100	15,887,968	27,226,697	1,916,715	5,356,593	18,232,516	-	103,411,737
Special finance		2,123,235	15,721	21,084	3,897,181	176,613	126,861	3,062,944	-	9,423,639
Others		-	48	24	1	-	3	186	-	262
Credit cards		-	-	-	-	-	-	-	179,654	179,654
		13,806,195	52,080,504	19,613,415	33,491,093	2,827,861	5,797,591	29,444,776	168,872,061	325,933,496
Loans at FVTPL										
Corporate										
Large enterprises		368,872	425,282	-	-	2,037	-	34,415	-	830,606
Small and medium-sized enterprises		-	36,470	9,516	2,002	500	-	15,066	-	63,554
Securities at FVTPL										
Debt securities		13,855,973	1,684,706	876,013	416,950	150,377	62,437	6,848,347	-	23,894,803
Gold/silver deposits		83,691	-	-	-	-	-	-	-	83,691
Securities at FVTOCI		23,199,365	2,244,465	345,180	439,424	758,642	18,142	20,579,459	-	47,584,677
Securities at amortized cost		6,597,989	-	-	143,741	140,163	-	14,443,350	-	21,325,243
Off-balance accounts:										
Guarantee contracts		2,188,778	8,086,189	3,452,903	342,634	207,491	151,613	2,115,484	1,537	16,546,629
Loan commitments and other liabilities for credit		15,122,198	24,522,205	8,174,162	2,383,586	1,886,648	308,978	17,035,457	33,724,515	103,157,749
	₩	93,850,555	89,079,821	32,471,189	37,219,430	5,973,719	6,338,761	90,516,354	202,598,113	558,047,942

(*) Industrial breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

ii) As of December 31, 2022 and 2021, the concentration by industry sector for corporate loans that could be affected by the prolonged COVID-19 among the financial instruments is as follows, and the industries that will be affected by the future economic conditions may change significantly:

		December 31, 2022							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	154,076	3,281,340	1,217,228	209,652	76,982	2,160,803	56,719	7,156,800
Securities at FVTOCI		123,875	18,416	211,000	-	-	14,776	-	368,067
Securities at amortized cost		59,997	-	-	-	-	-	-	59,997
Off-balance accounts		435,399	254,076	2,731,899	8,500	76,817	1,162,054	36,784	4,705,529
	₩	773,347	3,553,832	4,160,127	218,152	153,799	3,337,633	93,503	12,290,393

		December 31, 2021							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	164,904	3,314,684	937,385	219,859	86,241	2,082,545	92,152	6,897,770
Securities at FVTPL		-	-	29,911	-	-	-	2,737	32,648
Securities at FVTOCI		114,158	18,142	264,343	-	7,123	10,678	-	414,444
Off-balance accounts		364,351	323,638	2,650,311	20,196	91,622	982,026	37,941	4,470,085
	₩	643,413	3,656,464	3,881,950	240,055	184,986	3,075,249	132,830	11,814,947

iii) In the case of borrowers classified as normal and impaired among individual loans subject to lifetime expected credit losses as disclosed in Note 3-1. (e), the effect of COVID-19 may be relatively large. The impact is subject to change, depending on the future economic situation.

3. Financial risk management (continued)

3-2. Market risk

Market risk is the risk that changes in market price such as interest rates, equity prices, and foreign exchange rates, etc. will affect the Group's income. The Group manages securities, foreign exchange positions, derivative financial instruments, etc. held for the purpose of obtaining short-term trading gains as trading positions. And the Group manages interest-sensitive assets consisting of loans, deposits, and debt securities excluding short-term trading gains, interest-sensitive debt consisting of receipts, loans, and bonds, and interest-sensitive derivatives used as hedging instruments.

The Group carries out decision-making functions such as policy establishment and setting limits on market risk management by the Risk Policy Committee, and the Risk Engineering Department provides comprehensive market risk management, market risk system management, and Middle Office functions for all operating departments and desks.

The basis of market risk management is limit management to keep the maximum possible loss due to market risk within a certain level. The Risk Policy Committee sets and operates the VaR limit, loss limit, sensitivity limit, investment limit and position limit, and stress loss limit for each operating department and desk. The Risk Engineering department monitors the operation status independently from the operating department. The Group regularly reports to the Risk Policy Committee and Risk Management Committee. In addition, the Fair Value Assurance Council and the Risk Engineering Department conduct a review of the fair value evaluation method and risk assessment before the launch (or transactions) of new products in each business unit. The Risk Review Council for derivatives and structured products supports rational decision-making such as checking risk factors and reviewing investment limits, so that objective analysis and review of risk factors can be conducted in advance.

(a) Market risk management of trading positions

Trading data for foreign exchange, stocks, bonds, and derivatives, which are subject to the measurement of market risks of trading positions, are managed by entering transactions in the front system, and are automatically interfaced with the market risk management system (Risk Watch) to perform daily risk measurement and limit management. In addition, in order to supplement the risk measurement by statistical method and to manage the impact and loss scale of rapid changes in the economic environment, stress testing is regularly conducted in parallel, and through this, the loss extent is managed within a certain range in case of crisis of the Group.

i) Measurement method on market risk arising from trading positions

The Group applies historical simulation VaR methodology to each market risk, such as interest rates, stock prices, and exchange rates exposed to trading positions to calculate market risk in a 99% confidence level. VaR is based on a statistical assessment of potential losses to current positions from an adverse market movement. This represents the maximum amount of losses that can be incurred at the level of 99% confidence. Therefore, there is a statistical probability (1.0%) that the actual loss may be greater than the VaR measurement.

The VaR model measures expected losses assuming that the daily position at the measurement point remains and that market movements for the past 10 days from each measurement point will continue in the future.

Limits for each type of market risk are the limits set on market risk within the Bank's total risk limit. It is calculated by multiplying the average 10 days VaR and Stressed VaR for the previous 60 days by the regulatory multiplier and used as a market risk management tool. The Group's VaR limit is set annually by the Risk Management Committee or the Risk Policy Committee, and compliance of each type of limit is monitored on a daily basis. In addition, when the set limit is exceeded, the manager of the operation department reports the excess details, reasons for the excess, and solutions to the group head in charge, and manages the set limit to be reduced to the limit within the next business day.

The quality of the VaR model is continuously monitored by post verification of VaR results, and all post verification results are reported to the Board of Directors.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(a) Market risk management of trading positions (continued)

ii) VaR of trading positions

The Group manages VaR for trading portfolio based on financial statements. The minimum, maximum, average VaR and the VaR for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Average	Maximum	Minimum	Year-end
Interest rate risk	₩	44,719	64,628	24,322	53,777
Equity risk		20,303	24,879	13,443	21,659
Foreign currency risk(*)		191,013	262,319	161,760	252,453
Volatility risk		84	211	25	110
Commodity risk		13	193	-	27
Covariance		(33,760)	(77,335)	(10,872)	(62,957)
	₩	222,372	274,895	188,678	265,069

(*) The Group measured foreign currency risk arising from trading positions and non-trading positions.

		December 31, 2021			
		Average	Maximum	Minimum	Year-end
Interest rate risk	₩	28,749	55,773	17,537	28,030
Equity risk		11,583	21,340	3,850	19,618
Foreign currency risk(*)		159,165	185,514	136,936	161,978
Volatility risk		162	368	29	60
Commodity risk		11	151	-	8
Covariance		(25,023)	(52,611)	(13,207)	(17,470)
	₩	174,646	210,534	145,147	192,222

(*) The Group measured foreign currency risk arising from trading positions and non-trading positions.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(b) Market risk management of non-trading positions

The most critical market risk that arises from non-trading position is the interest rate risk. Accordingly, the Group measures and manages market risk for non-trading position by taking into account effects of interest rate changes on both its net asset value and income.

The Group carries out decision-making functions such as establishing policies and setting detailed limits on interest rate risk management by the Risk Policy Committee, and within these principles and limits, management departments by account, such as overseas branches, subsidiaries, and finance departments, trust headquarters, and general finance departments, primarily recognize and manage interest rate risk. The Risk Management Department and the Risk Engineering Department support the Risk Policy Committee's decision on interest rate risk, monitor whether the interest rate risk limit is exceeded, and evaluate and manage the overall interest rate risk.

The Group measures and manages interest rate risk using various analysis methods such as interest rate gap, duration gap, and scenario-based NII (Net Interest Income) simulation through the Asset Liability Management (ALM) system. Interest rate VaR and interest rate EaR (Earnings at Risk) and interest rate gap ratios are set and monitored monthly. In addition, stress testing evaluates the impact on interest rate risk in various crisis situations.

i) Measurement method on market risk arising from non-trading positions

The Group calculates and manages the amount of change in economic value of equity (interest rate VaR) and the maximum expected interest loss (interest rate EaR) over the next year on the application of the IRRBB Standard Method interest rate scenario provided by the Bank for International Settlements (“BIS”). It also manages the risk of interest rate market risk by reflecting the customer behaviour ratio based on IRRBB standard method.

In order to calculate the interest rate risk, the Group uses the six scenarios defined by the Basel Committee, 1) Parallel shock increases, 2) Parallel shock decreases, 3) Shock stiffener, 4) Shock plattner, 5) short-term interest rate increases, and 6) short-term interest rate decreases. Based on the six scenarios, the changes in economic value of equity are measured to calculate the maximum loss (VaR: Value at Risk) and the changes in net interest income are measured to calculate the maximum expected changes of profit or loss (EaR: Earning at Risk) based on the two scenarios (parallel shock increases and decreases).

ii) Interest rate VaR and EaR for non-trading positions

Interest rate VaR (maximum expected loss among △EVE) and EaR (maximum expected changes in profit of loss among △ NII) for non-trading positions which were measured by the IRRBB standard methodology provided by BIS as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Interest rate VaR	₩	1,046,136	774,352
Interest rate EaR		599,941	96,145

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk

The Group manages foreign currency risk based on general positions which includes all spot and future foreign currency positions, etc. The Risk Policy Committee oversees the Group's foreign exchange exposure for both trading and non-trading activities by establishing limits for the net foreign currencies open position. The Group's foreign exchange position is centralized at the S&T Center. Dealers in S&T Center manage the Group's overall position within the set limits through spot trading, forward contracts, currency options, futures and swaps and foreign exchange swaps. The Group's foreign exchange transactions are mainly conducted in the U.S. dollar (USD), Japanese yen (JPY), Euro (EUR) and Chinese yuan (CNY). Other foreign currencies are limitedly traded.

Foreign currency denominated assets and liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	5,201,254	1,961,565	96,335	688,837	4,329,609	12,277,600
Securities at FVTPL		1,114,580	-	249,734	-	217,562	1,581,876
Derivative assets		588,838	337	6,632	53	7,437	603,297
Loans at amortized cost		28,607,384	10,608,558	1,704,749	5,021,722	9,842,180	55,784,593
Securities at FVTOCI		5,328,349	180,352	3,236	498,367	980,859	6,991,163
Securities at amortized cost		177,584	203,102	-	110,997	1,162,523	1,654,206
Other financial assets		2,850,535	597,067	556,962	344,126	1,498,527	5,847,217
		43,868,524	13,550,981	2,617,648	6,664,102	18,038,697	84,739,952
Liabilities							
Deposits		24,902,919	11,772,467	1,628,441	5,017,756	11,785,781	55,107,364
Financial liabilities at FVTPL		2,958	-	-	-	422,006	424,964
Derivative liabilities		698,396	-	27,933	155	50,918	777,402
Borrowings		8,672,448	1,347,623	182,926	85,862	820,957	11,109,816
Debt securities issued		6,218,177	352,677	675,600	108,864	1,180,452	8,535,770
Other financial liabilities		3,666,954	259,683	621,756	889,138	1,462,188	6,899,719
		44,161,852	13,732,450	3,136,656	6,101,775	15,722,302	82,855,035
Net assets (liabilities)		(293,328)	(181,469)	(519,008)	562,327	2,316,395	1,884,917
Off-balance sheet items							
Derivative exposures		1,652,732	782,057	199,034	(50,107)	(748,669)	1,835,047
Net position	₩	1,359,404	600,588	(319,974)	512,220	1,567,726	3,719,964

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk (continued)

Foreign currency denominated assets and liabilities as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	3,434,912	1,789,019	385,508	665,105	3,157,314	9,431,858
Securities at FVTPL		1,261,781	13,108	245,151	-	100,632	1,620,672
Derivative assets		244,776	1	3,861	314	29,771	278,723
Loans at amortized cost		23,816,176	9,901,710	975,680	5,090,928	9,469,792	49,254,286
Securities at FVTOCI		3,769,503	162,023	25,094	397,010	701,480	5,055,110
Securities at amortized cost		94,817	241,232	-	80,133	1,225,443	1,641,625
Other financial assets		3,758,677	242,919	322,078	173,906	881,139	5,378,719
		36,380,642	12,350,012	1,957,372	6,407,396	15,565,571	72,660,993
Liabilities							
Deposits		19,144,174	10,629,572	1,362,516	4,791,459	9,776,547	45,704,268
Financial liabilities at FVTPL		-	-	-	-	581,458	581,458
Derivative liabilities		142,589	356	6,825	44	11,418	161,232
Borrowings		6,159,456	938,816	181,027	463,098	702,980	8,445,377
Debt securities issued		5,113,057	137,022	671,170	-	687,112	6,608,361
Other financial liabilities		3,123,788	116,544	195,387	551,976	1,088,305	5,076,000
		33,683,064	11,822,310	2,416,925	5,806,577	12,847,820	66,576,696
Net assets (liabilities)		2,697,578	527,702	(459,553)	600,819	2,717,751	6,084,297
Off balance sheet items							
Derivative exposures		(2,054,852)	3,669	499,528	(93,505)	(1,028,457)	(2,673,617)
Net position	₩	642,726	531,371	39,975	507,314	1,689,294	3,410,680

(d) Interest rate risk management

The Group is closely monitoring the output and market of various industrial working groups that manage the transition to new interest rate indicators. It includes announcements made by LIBOR regulators.

Regulators have made it clear that they will not persuade or force banks to submit LIBOR by the end of 2021. In response to this announcement, the Group has established a LIBOR-related response plan consisting of job flows such as risk management, accounting, tax, law, computerization, and customer management. The plan is dedicated to the Chief Financial Officer (CFO) and important matters are reported to the Board of Directors. The purpose of the plan is to identify the impact and risks associated with reforming interest rate indicators within the business and prepare and implement action plans to facilitate the transition to alternative benchmark rates. The Group aims to close its response plan in accordance with the guidelines of the regulators.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

The financial instruments that have not been converted to alternative benchmark rates among the LIBOR interest rates as of December 31, 2022 are as follows:

i) Non-derivative financial assets

Division(*1)		December 31, 2022			
		Book value to be converted to alternative benchmark rates			
		USD LIBOR(*2)	JPY LIBOR	EUR LIBOR	Other LIBORs
Due from banks and loans at amortized cost:					
Loans	₩	2,453,854	-	-	-
Securities at fair value through other comprehensive income:					
Financial institution bonds		189,047	-	-	-
Corporate bonds and others		229,030	-	-	-
	₩	418,077	-	-	-
Loan commitments and guarantee contracts	₩	217,839	-	-	-

(*1) The assets are book value and the loan commitments and guarantee contracts are in nominal amount.
(*2) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR..

Division(*1)		December 31, 2021			
		Book value to be converted to alternative benchmark rates			
		USD LIBOR(*2)	JPY LIBOR	EUR LIBOR	Other LIBORs
Due from banks and loans at amortized cost:					
Loans	₩	2,757,117	207,660	49,642	122,104
Securities at fair value through other comprehensive income:					
Financial institution bonds		167,167	-	-	-
Corporate bonds and others		281,949	-	-	-
	₩	449,116	-	-	-
Loan commitments and guarantee contracts	₩	203,167	39,148	5,530	13,853

(*1) The assets are book value and the loan commitments and guarantee contracts are in nominal amount.
(*2) The instruments that will be matured before the end of June 30, 2023 are excluded in terms of USD LIBOR.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

ii) Non-derivative financial liabilities

Division		December 31, 2022			
		Book value to be converted to alternative benchmark rates			
		USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Financial liabilities at amortized cost:					
Deposits	₩	200,000	-	-	-
Borrowings		50,692	-	-	-
Debt securities issued		1,097,132	-	-	-
	₩	1,347,824	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

Division		December 31, 2021			
		Book value to be converted to alternative benchmark rates			
		USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Financial liabilities at amortized cost:					
Deposits	₩	200,000	-	-	-
Borrowings		347,420	-	-	-
Debt securities issued		745,680	-	-	-
	₩	1,293,100	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

iii) Derivative

Division		December 31, 2022			
		Open interest to be converted to alternative benchmark rates			
		USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Trading:					
Interest rates related	₩	9,978,194	-	-	-
Foreign currency related		11,718,419	-	-	-
	₩	21,696,613	-	-	-
Hedge:					
Interest rates related	₩	4,196,714	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

Division		December 31, 2021			
		Open interest to be converted to alternative benchmark rates			
		USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Trading:					
Interest rates related	₩	9,350,752	-	-	-
Foreign currency related		10,900,844	-	-	-
	₩	20,251,597	-	-	-
Hedge:					
Interest rates related	₩	4,150,155	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

3. Financial risk management (continued)

3-3. Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Risk Policy Committee is responsible for establishing policies and setting the limits related to liquidity risk management. The Risk Management Department evaluates and manages the Group's overall liquidity risk and monitors compliance of all operating subsidiaries and foreign branches with limits on a daily basis.

The Group applies the following basic principles for liquidity risk management:

- Raise funding in sufficient amounts at the optimal time and reasonable costs;
- Maintain risk at appropriate levels and preemptively manage them through a prescribed risk limit system and an early warning signal detection system;
- Secure stable sources of revenue and minimize actual losses by implementing an effective asset-liability management system based on diversified sources of funding with varying maturities;
- Monitor and manage daily and intra-daily liquidity positions and risk exposures as to timely payment and settlement due under both normal and crisis situations;
- Conduct periodic contingency analysis in anticipation of any potential liquidity crisis and establish and implement emergency plans in case of a crisis and
- Consider liquidity-related costs, benefits and risks in determining the price of products and services, employee performance evaluations and approval of launching new products and services.

The Group uses various analysis methods such as liquidity gap, liquidity ratio, loan-deposit ratio, and real liquidity gap reflecting the customer behaviour model through the ALM system, while managing its liquidity risks on won and foreign currency through various indices including risk limits, early warning index, and monitoring index. Demand deposits, in analysing the maturity structures of assets and liabilities, can be classified as short-term because they can be withdrawn whenever a customer requests; however, considering customers' behaviours that usually maintain an average balance of a certain percentage, non-core deposits are classified to be short-term.

(In millions of Korean won)

3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial instruments

Contractual maturities for financial assets and financial liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	21,335,153	708,790	451,703	122,487	-	-	22,618,133
Securities at FVTPL		18,571,082	3,131	21,263	29,584	411,482	2,165,162	21,201,704
Derivative assets		4,824,149	2,336	3,466	7,204	50,984	24,583	4,912,722
Loans at amortized cost		25,466,474	39,254,939	52,878,562	84,692,694	114,421,259	78,255,311	394,969,239
Loans at FVTPL		139,540	781,525	29,454	-	22,034	-	972,553
Securities at FVTOCI		41,386,166	215,000	496,625	950,714	5,149,929	572,350	48,770,784
Securities at amortized cost		459,842	1,812,362	1,138,319	3,466,130	21,311,738	2,429,089	30,617,480
Other financial assets		12,634,824	-	-	91,777	-	1,190,143	13,916,744
	₩	124,817,230	42,778,083	55,019,392	89,360,590	141,367,426	84,636,638	537,979,359
Liabilities								
Deposits	₩	206,118,736	42,065,346	40,644,536	68,947,374	20,050,918	2,595,957	380,422,867
Financial liabilities at FVTPL		424,964	-	-	-	-	-	424,964
Derivative liabilities		4,896,437	25,005	36,447	62,289	269,131	52,538	5,341,847
Borrowings		6,837,358	3,642,929	3,727,586	4,697,388	4,643,514	1,311,573	24,860,348
Debt securities issued		1,824,687	5,938,290	6,229,650	9,165,966	8,830,476	3,154,340	35,143,409
Financial liabilities designated at FVTPL		-	-	2,090	-	54,180	-	56,270
Other financial liabilities		19,733,853	24,207	32,611	153,613	194,456	52,197	20,190,937
	₩	239,836,035	51,695,777	50,672,920	83,026,630	34,042,675	7,166,605	466,440,642

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows were classified based on the earliest dates for obligated repayment. Financial assets at FVTPL that can be disposed of immediately and financial instruments at FVTOCI except for assets restricted for sale for certain periods were included in 1 month or less.

(In millions of Korean won)

3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial assets (continued)

Contractual maturities for financial assets and financial liabilities as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	21,773,819	619,144	219,595	164,920	21,691	-	22,799,169
Securities at FVTPL		24,173,996	-	-	-	-	-	24,173,996
Derivative assets		2,855,430	20,039	24,489	40,424	236,954	68,034	3,245,370
Loans at amortized cost		19,895,840	36,075,398	49,131,402	78,881,560	107,024,001	69,216,722	360,224,923
Loans at FVTPL		170,018	627,523	61,516	5,412	30,879	-	895,348
Securities at FVTOCI		45,694,452	152,534	91,467	629,642	1,235,743	570,509	48,374,347
Securities at amortized cost		457,818	2,390,619	1,771,729	2,488,410	13,823,888	1,958,275	22,890,739
Other financial assets		15,411,633	-	-	85,473	-	1,216,529	16,713,635
	₩	130,433,006	39,885,257	51,300,198	82,295,841	122,373,156	73,030,069	499,317,527
Liabilities								
Deposits	₩	207,119,058	35,114,100	39,843,687	57,220,414	16,498,694	2,558,925	358,354,878
Financial liabilities at FVTPL		583,662	-	-	-	-	-	583,662
Derivative liabilities		2,606,678	1,112	1,634	3,263	24,263	15,456	2,652,406
Borrowings		6,716,098	2,995,267	2,659,514	3,508,647	4,172,764	1,095,108	21,147,398
Debt securities issued		1,278,754	5,874,261	4,597,641	11,866,979	12,687,232	2,898,559	39,203,426
Other financial liabilities		18,573,525	29,332	39,412	152,636	205,852	46,052	19,046,809
	₩	236,877,775	44,014,072	47,141,888	72,751,939	33,588,805	6,614,100	440,988,579

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows are classified based on the earliest dates for obligated repayment. Financial assets at FVTPL that can be disposed of immediately and financial assets at FVTOCI except for assets restricted for sale for certain periods are included in 1 month or less.

(b) Contractual maturities for off-balance sheet items

Financial guarantees such as guarantee contracts, loan commitments and others provided by the Group are classified based on the earliest date at which the Group should fulfill the obligation under the guarantee when the counterparty requests for the payment.

Off-balance sheet accounts as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Guarantee contracts	₩	17,995,698	16,546,629
Loan commitments and others		111,110,774	103,157,749
	₩	129,106,472	119,704,378

3. Financial risk management (continued)

3-4. Measurement of fair value

The fair value which the Group primarily uses for measurement of financial instruments are the published price quotations in an active market which are based on the dealer price quotations of financial assets traded in an active market where available, which is the best evidence of fair value.

If the market for financial instruments is not active, such as OTC (Over The Counter market) derivatives, fair value is established either by using a valuation technique or an independent third-party valuation agency.

The Group uses diverse valuation techniques under reasonable assumptions which are based on the inputs observable in markets at the end of each reporting period.

Valuation techniques include using the recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. For example, the fair value for interest swaps is the present value of estimated future cash flows, and fair value for foreign exchange forwards contracts is measured by using the published forward exchange rate at the end of each reporting period.

The Group classifies and discloses fair value of the financial instruments into the following three-level hierarchy:

(i) Level 1: financial instruments measured at quoted prices from active markets are classified as level 1.
(ii) Level 2: financial instruments measured using valuation techniques where all significant inputs are observable market data are classified as level 2.
(iii) Level 3: financial instruments measured using valuation techniques where one or more significant inputs are not based on observable market data are classified as level 3.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value

i) The table below analyzes financial instruments measured at the fair value as of December 31, 2022 and 2021 by the level in the fair value hierarchy into which the fair value measurement is categorized:

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial instruments					
Loans at FVTPL:					
Loans	₩	-	950,519	22,034	972,553
Securities at FVTPL:					
Debt securities		721,935	16,390,587	3,787,556	20,900,078
Equity securities		58,951	-	166,706	225,657
Gold/silver deposits		75,969	-	-	75,969
		856,855	16,390,587	3,954,262	21,201,704
Derivative assets:					
Trading		233	4,821,409	1,300	4,822,942
Hedging		-	81,154	-	81,154
		233	4,902,563	1,300	4,904,096
Securities at FVTOCI:					
Debt securities		18,027,749	29,527,203	-	47,554,952
Equity securities		691,227	-	524,605	1,215,832
		18,718,976	29,527,203	524,605	48,770,784
	₩	19,576,064	51,770,872	4,502,201	75,849,137
Financial liabilities					
Financial liabilities designated at FVTPL:	₩	-	47,327	-	47,327
Debt securities issued		-	47,327	-	47,327
Financial liabilities at FVTPL:					
Securities sold		2,958	-	-	2,958
Gold/silver deposits		422,006	-	-	422,006
		424,964	-	-	424,964
Derivative liabilities:					
Trading		2	4,883,364	110	4,883,476
Hedging		-	552,392	343,758	896,150
		2	5,435,756	343,868	5,779,626
	₩	424,966	5,483,083	343,868	6,251,917

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

i) The table below analyzes financial assets measured at the fair value as of December 31, 2022 and 2021 by the level in the fair value hierarchy into which the fair value measurement is categorized: (continued)

		December 31, 2021			
		Level 1	**Level 2**	**Level 3**	**Total**
Financial instruments					
Loans at FVTPL:					
Loans	₩	-	787,163	106,997	894,160
Securities at FVTPL:					
Debt securities		1,114,960	19,671,048	3,108,794	23,894,802
Equity securities		72,683	-	122,820	195,503
Gold/silver deposits		83,691	-	-	83,691
		1,271,334	19,671,048	3,231,614	24,173,996
Derivative assets:					
Trading		164	2,843,706	860	2,844,730
Hedging		-	156,710	-	156,710
		164	3,000,416	860	3,001,440
Securities at FVTOCI:					
Debt securities		17,038,663	30,546,014	-	47,584,677
Equity securities		257,914	-	458,229	716,143
		17,296,577	30,546,014	458,229	48,300,820
	₩	18,568,075	54,004,641	3,797,700	76,370,416
Financial liabilities					
Financial liabilities at FVTPL:					
Securities sold	₩	2,204	-	-	2,204
Gold/silver deposits		581,458	-	-	581,458
		583,662	-	-	583,662
Derivative liabilities:					
Trading		650	2,604,599	849	2,606,098
Hedging		-	63,667	182,748	246,415
		650	2,668,266	183,597	2,852,513
	₩	584,312	2,668,266	183,597	3,436,175

ii) There were no transfers between level 1 and level 2 financial instruments measured at fair value for the years ended December 31, 2022 and 2021.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iii) Changes in level 3 of the fair value hierarchy

Changes in level 3 of the fair value hierarchy for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Loans at FVTPL	Securities at FVTPL	Securities at FVTOCI	Derivative assets	Derivative liabilities	Total
Beginning balance	₩	106,997	3,231,614	458,229	860	(183,597)	3,614,103
Total gain or loss:							
Recognized in profit or loss (*1)		(12,543)	(83,978)	-	793	(160,439)	(256,167)
Recognized in other comprehensive income		-	-	(8,044)	-	-	(8,044)
Purchases/issues		-	1,102,545	85,330	-	(298)	1,187,577
Settlements		(72,420)	(342,725)	(10,910)	(429)	466	(426,018)
Transfers into level 3(*2)		-	68,083	-	-	-	68,083
Transfers from level 3(*2)		-	(21,277)	-	76	-	(21,201)
Ending balance	₩	22,034	3,954,262	524,605	1,300	(343,868)	4,158,333

		December 31, 2021					
		Loans at FVTPL	Securities at FVTPL	Securities at FVTOCI	Derivative assets	Derivative liabilities	Total
Beginning balance	₩	136,358	2,517,407	461,556	3,022	(106,906)	3,011,437
Total gain or loss:							
Recognized in profit or loss (*1)		6,364	125,149	-	(1,448)	(79,562)	50,503
Recognized in other comprehensive income		-	-	(4,625)	-	-	(4,625)
Purchases/issues		25,000	1,198,102	1,538	400	(597)	1,224,443
Settlements		(60,725)	(674,198)	(240)	(1,070)	3,457	(732,776)
Transfers into level 3(*2)		-	139,467	-	33	-	139,500
Transfers from level 3(*2)		-	(74,313)	-	(77)	11	(74,379)
Ending balance	₩	106,997	3,231,614	458,229	860	(183,597)	3,614,103

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial assets measured at fair value (continued)

(*1) Gains or losses among the changes in level 3 of the fair value hierarchy and gains or losses related to financial instruments that the Group held as of December 31, 2022 and 2021 are presented in the consolidated statements of comprehensive income as follows:

		December 31, 2022		December 31, 2021	
		Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instruments held at the end of the year	Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instruments held at the end of the year
Net gain on financial instrumentsat FVTPL	₩	(95,157)	(104,108)	131,227	123,645
Net other operating expenses		(161,010)	(161,010)	(80,724)	(83,669)
	₩	(256,167)	(265,118)	50,503	39,976

(*2) Changes in the availability of observable market data for the financial instruments have resulted in transfers between levels. The Group has recognized changes in levels at the end of the reporting period when events or situations that cause transfers between levels occur.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of December 31, 2022 and 2021 are as follows:

	December 31, 2022				
	Type of financial instruments		Book value	Valuation techniques	Inputs
Financial instruments					
Loans at FVTPL		₩	950,519	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities		16,390,587	Discounted cash flow, Net asset value	Discount rate, Price of underlying assets; such as securities and bonds
Derivative assets	Trading		4,821,409	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		81,154		
			4,902,563		
Securities at FVTOCI	Debt securities		29,527,203	Discounted cash flow	Discount rate
		₩	51,770,872		

	December 31, 2022				
	Type of financial liabilities		Book value	Valuation techniques	Inputs
Financial liabilities					
Financial liabilities designated at FVTPL	Debt securities	₩	47,327	Option model	Discount rate, volatility
Derivative liabilites	Trading		4,883,364	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		552,392		
			5,435,756		
		₩	5,483,083		

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021				
	Type of financial instruments		Book value	Valuation techniques	Inputs
Financial instruments					
Loans at FVTPL		₩	787,163	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities		19,671,048	Discounted cash flow, Net asset value	Discount rate, Price of underlying assets; such as securities and bonds
Derivative assets	Trading		2,843,706	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		156,710		
			3,000,416		
Securities at FVTOCI	Debt securities		30,546,014	Discounted cash flow	Discount rate
		₩	54,004,641		
Financial liabilities					
Derivative liabilities	Trading	₩	2,604,599	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		63,667		
		₩	2,668,266		

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows:

	December 31, 2022						
Financial instruments	Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Loans at FVTPL	Option model (*1)	Loans	₩ 22,034	Volatility of underlying assets, Discount rate	Volatility of underlying assets	41.99%	The higher the volatility, the higher the volatility of fair value
Securities at FVTPL	Net asset value method, Option model (*1)(*2)	Debt securities	3,787,556	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Discount rate, Correlation coefficient	23.97%~35.54% 7.56%~15.15% 7.45%~66.90%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases, The effects of trading instruments and market conditions increase or decrease fair value with changes in correlation coefficients
	Discounted cash flow, Comparable company analysis	Equity securities	166,706	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	25.3% 5.59%~15.18%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			3,954,262				
Derivative assets	Option model (*2)	Equity and foreign exchange	1,300	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	4.89%~31.73%	The higher the volatility, the higher the volatility of fair value
Securities FVTOCI	Net asset value method, Discounted cash flow, Comparable company analysis, Option model (*1)	Equity securities	524,605	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	28.62% 9.08%~19.14%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			₩ 4,502,201				

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows (continued):

December 31, 2022

	Valuation technique	Type of financial assets		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities								
Derivative liabilities								
	Option model (*2)	Equity related	₩	110	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	4.89%~43.22%	The higher the volatility, the higher the volatility of fair value
	Option model (*2)	Interest rates related		343,758	Volatility of underlying assets Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation coefficient	0.64%~1.02% 0.0026%~1.4568% 52.90%~90.34%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩	343,868				

(*1) The Group uses Binomial Tree and LSMC option model.
(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments(continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows (continued):

	December 31, 2021						
	Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial instruments							
Loans at FVTPL	Option model (*1)	Loans	₩ 106,997	Volatility of underlying assets, Discount rate	Volatility of underlying assets	17.89%~41.5%	The higher the volatility, the higher the volatility of fair value
Securities at FVTPL	Net asset value method, option model (*1)(*2)	Debt securities	3,108,794	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Correlation coefficient	19.48%~41.5% 23.17%~58.47%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in correlation coefficients
	Discounted cash flow, comparable company analysis	Equity securities	122,820	Discount rate, Terminal growth rate, Stock price	Discount rate, Terminal growth rate	5.45%~16.35% 1.00%	Fair value increases as discount rate decreases, Fair value increases as growth rate increases
			3,231,614				
Derivative assets	Option model (*2)	Equity and foreign exchange related	785	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	2.29%~21.7%	The higher the volatility, the higher the volatility of fair value
	Discounted cash flow	Interest rates related	75	Discount rate	Discount rate	1.11%~1.83%	Fair value increases as discount rate decreases
			860				
Securities at FVTOCI	Net asset value method, discounted cash flow, comparable company analysis, option model (*1)	Equity securities	458,229	Volatility of underlying assets, Discount rate, Terminal growth rate, Stock price	Volatility of underlying assets, Discount rate, Terminal growth rate	25.49% 9.8%~22.79% 0%~1.00%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases, Fair value increases as growth rate increases
			₩ 3,797,700				

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows (continued):

	December 31, 2021							
	Valuation technique	Type of financial assets		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities								
Derivative liabilities								
	Option model (*2)	Equity and foreign exchange related	₩	849	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	2.29%~21.7%	The higher the volatility, the higher the volatility of fair value
	Option model (*2)	Interest rates related		182,748	Volatility of underlying assets Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation coefficient	0.46%~0.78% 0.0024%~0.539% 38.06%~90.34%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩	183,597				

(*1) The Group uses Binomial Tree and LSMC option model.
(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

v) Sensitivity to changes in unobservable inputs.

For level 3 fair value measurement, changing one or more of the unobservable inputs used to reasonably possible alternative assumptions would have the following effect on profit (loss), and other comprehensive income (loss) as of December 31, 2022 and 2021 are as follows:

			December 31, 2022			
			Profit (loss) for the year		Other comprehensive income (loss) for the year	
Type of financial instruments (*1)			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL(*2)		₩	246	(251)	-	-
Securities at FVTPL	Debt securities(*2)		5,145	(4,763)	-	-
	Equity securities(*3)		6,271	(4,613)	-	-
Derivative assets(*2)	Equity and foreign exchange related		243	(242)	-	-
Securities at FVTOCI(*3)	Equity securities		-	-	13,431	(10,682)
		₩	11,905	(9,869)	13,431	(10,682)
Derivative liabilities(*2)	Equity and foreign exchange related	₩	17	(19)	-	-
	Interest rates related		4,960	(6,131)	-	-
		₩	4,977	(6,150)	-	-

(*1) ₩3,893,450 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.
(*2) Based on 10% of increase or decrease in unobservable volatility of underlying assets or correlation coefficient.
(*3) Based on changes in unobservable growth rate (-1.0%~1.0%) and discount rate (-1%p~1%p).

			December 31, 2021			
			Profit (loss) for the year		Other comprehensive income (loss) for the year	
Type of financial instruments			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL(*1)		₩	3,556	(3,238)	-	-
Securities at FVTPL	Debt securities(*2)		3,261	(2,922)	-	-
	Equity securities(*3)		3,462	(2,775)	-	-
Derivative assets(*2)	Equity and foreign exchange related		61	(61)	-	-
Securities at FVTOCI(*3)	Equity securities		-	-	15,359	(11,009)
		₩	10,340	(8,996)	15,359	(11,009)
Derivative liabilities(*2)	Equity and foreign exchange related	₩	71	(71)	-	-
	Interest rates related		7,154	(6,983)	-	-
		₩	7,225	(7,054)	-	-

(*1) ₩3,372,388 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.
(*2) Based on 10% of increase or decrease in unobservable volatility of underlying assets or correlation coefficient.
(*3) Based on changes in unobservable growth rate (-0.5%p~0.5%p) and discount rate (-1%p~1%p).

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost

i) The method of measuring the fair value of financial instruments measured at amortized cost is as follows:

Type	Measurement methods of fair value
Cash and due from banks	The book value and the fair value for cash are identical and most of deposits are floating interest rate deposits or next day deposits of a short-term instrument. Therefore, the book value for deposits approximates fair value.
Loans at amortized cost	The fair value of loans at amortized cost is measured by discounting the expected cash flows anticipated to be received at the market interest rate, credit risk of a borrower, etc.
Securities at amortized cost	An external professional evaluation agency is used to calculate the valuation amount using the market information. The agency calculates the fair value based on active market prices, and DCF model is used to calculate the fair value if there is no quoted price.
Deposits and borrowings	The book value and the fair value for demand deposits, cash management account deposits, call money and bonds sold under repurchase agreements as short-term instruments are identical. The fair value of others is measured by discounting the contractual cash flows at the market interest rate that takes into account the residual risk.
Debentures	An external professional evaluation agency is used to calculate the valuation amount using the market information, and the fair value is calculated using DCF model.
Other financial instruments and financial liabilities	The book value is used as a fair value for short-term and transitional accounts such as spot exchange, unpaid/uncollected domestic exchange settlements, and the fair value, the present value of the contractual cash flow discounted at the market interest rate taking the residual risk into account, is calculated for the rest of other financial instruments and liabilities.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
Cash	₩	2,259,832	-	-	2,259,832	2,259,832
Due from banks		20,327,424	-	(17,374)	20,310,050	20,310,050
Loans at amortized cost:						
Household loans		141,550,553	394,250	(420,977)	141,523,826	139,448,925
Corporate loans		192,795,291	111,255	(1,471,833)	191,434,713	190,897,442
Public and other loans		3,680,407	(1,024)	(21,237)	3,658,146	3,655,430
Loans to bank		7,447,411	-	(9,252)	7,438,159	7,419,082
Credit card receivables		251,850	-	(7,755)	244,095	251,406
Securities at amortized cost:						
Government bonds		17,242,773	-	(1,720)	17,241,053	16,725,311
Financial institutions bonds		5,367,661	-	(3,766)	5,363,895	5,327,714
Corporate bonds and others		5,545,119	-	(4,216)	5,540,903	5,208,079
Others		234,135	-	-	234,135	234,135
Other financial assets		15,773,321	(36,887)	(273,165)	15,463,269	15,697,088
	₩	412,475,777	467,594	(2,231,295)	410,712,076	407,434,494
Liabilities						
Deposits:						
Demand deposits	₩	156,340,586	-	-	156,340,586	156,340,586
Time deposits		190,637,968	-	-	190,637,968	190,285,047
Negotiable certificates of deposits		14,843,073	-	-	14,843,073	14,670,388
Note discount deposits		6,631,858	-	-	6,631,858	6,631,276
CMA		4,634,010	-	-	4,634,010	4,634,010
Others		16,694	-	-	16,694	16,692
Borrowings:						
Call money		1,199,600	-	-	1,199,600	1,199,601
Bill sold		15,057	-	-	15,057	15,006
Bonds sold under repurchase agreements		135,711	-	-	135,711	135,710
Borrowings		22,865,012	(2,588)	-	22,862,424	22,714,236
Debt securities issued:						
Debt securities issued in Korean won		24,692,498	(12,474)	-	24,680,024	24,359,200
Debt securities issued in foreign currencies		8,535,770	(29,614)	-	8,506,156	8,468,816
Other financial liabilities		22,888,291	(19,857)	-	22,868,434	22,595,576
	₩	453,436,128	(64,533)	-	453,371,595	452,066,144

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
Cash	₩	4,152,633	-	-	4,152,633	4,152,633
Due from banks		18,643,824	-	(16,330)	18,627,494	18,627,494
Loans at amortized cost:						
Household loans		145,292,774	429,557	(290,324)	145,432,007	145,561,105
Corporate loans		174,254,361	112,977	(1,354,024)	173,013,314	173,734,561
Public and other loans		3,387,086	1,553	(19,907)	3,368,732	3,386,347
Loans to bank		3,945,222	-	(5,434)	3,939,788	3,935,286
Credit card receivables		186,383	-	(6,728)	179,655	185,879
Securities at amortized cost:						
Government bonds		14,230,156	-	(1,924)	14,228,232	14,253,646
Financial institutions bonds		2,127,050	-	(3,135)	2,123,915	2,118,835
Corporate bonds and others		4,683,714	-	(4,464)	4,679,250	4,649,328
Others		293,846	-	-	293,846	293,847
Other financial assets		16,713,635	(23,111)	(160,976)	16,529,548	16,679,028
	₩	387,910,684	520,976	(1,863,246)	386,568,414	387,577,989
Liabilities						
Deposits:						
Demand deposits	₩	171,079,697	-	-	171,079,697	171,079,697
Time deposits		156,376,199	-	-	156,376,199	156,174,192
Negotiable certificates of deposits		16,399,604	-	-	16,399,604	16,429,973
Note discount deposits		5,818,001	-	-	5,818,001	5,817,844
CMA		5,246,478	-	-	5,246,478	5,246,478
Others		17,645	-	-	17,645	17,646
Borrowings:						
Call money		1,444,111	-	-	1,444,111	1,444,111
Bill sold		9,032	-	-	9,032	9,019
Bonds sold under repurchase agreements		82,578	-	-	82,578	82,578
Borrowings		19,426,611	(93)	-	19,426,518	19,387,203
Debt securities issued:						
Debt securities issued in Korean won		31,059,362	(14,726)	-	31,044,636	31,045,014
Debt securities issued in foreign currencies		6,608,361	(27,258)	-	6,581,103	6,760,657
Other financial liabilities		20,307,903	(10,889)	-	20,297,014	20,289,446
	₩	433,875,582	(52,966)	-	433,822,616	433,783,858

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Assets					
Cash and due from banks:					
Cash	₩	2,259,832	-	-	2,259,832
Due from banks		-	20,310,050	-	20,310,050
Loans at amortized cost:					
Household loans		-	-	139,448,925	139,448,925
Corporate loans		-	-	190,897,442	190,897,442
Public and other loans		-	-	3,655,430	3,655,430
Loans to bank		-	5,911,562	1,507,520	7,419,082
Credit card receivables		-	-	251,406	251,406
Securities at amortized cost:					
Government bonds		5,620,012	11,105,299	-	16,725,311
Financial institutions bonds		1,898,457	3,429,257	-	5,327,714
Corporate bonds and others		-	5,208,079	-	5,208,079
Others		-	234,135	-	234,135
Other financial assets		-	11,946,279	3,750,809	15,697,088
	₩	9,778,301	58,144,661	339,511,532	407,434,494
Liabilities					
Deposits:					
Demand deposits	₩	-	156,340,586	-	156,340,586
Time deposits		-	-	190,285,047	190,285,047
Negotiable certificates of deposits		-	-	14,670,388	14,670,388
Note discount deposits		-	-	6,631,276	6,631,276
CMA		-	4,634,010	-	4,634,010
Others		-	-	16,692	16,692
Borrowings:					
Call money		-	1,199,601	-	1,199,601
Bill sold		-	-	15,006	15,006
Bonds sold under repurchase agreements		-	-	135,710	135,710
Borrowings		-	-	22,714,236	22,714,236
Debt securities issued:					
Debt securities issued in Korean won		-	23,387,638	971,562	24,359,200
Debt securities issued in foreign currencies		-	8,468,816	-	8,468,816
Other financial liabilities		-	8,487,115	14,108,461	22,595,576
	₩	-	202,517,766	249,548,378	452,066,144

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021			
		Level 1	Level 2	Level 3	Total
Assets					
Cash and due from banks:					
Cash	₩	4,152,633	-	-	4,152,633
Due from banks		-	18,627,494	-	18,627,494
Loans at amortized cost:					
Household loans		-	-	145,561,105	145,561,105
Corporate loans		-	-	173,734,561	173,734,561
Public and other loans		-	-	3,386,347	3,386,347
Loans to bank		-	2,494,948	1,440,338	3,935,286
Credit card receivables		-	-	185,879	185,879
Securities at amortized cost:					
Government bonds		2,983,626	11,270,020	-	14,253,646
Financial institutions bonds		698,105	1,420,730	-	2,118,835
Corporate bonds and others		-	4,649,328	-	4,649,328
Others		-	293,847	-	293,847
Other financial assets		-	13,822,118	2,856,910	16,679,028
	₩	7,834,364	52,578,485	327,165,140	387,577,989
Liabilities					
Deposits:					
Demand deposits	₩	-	171,079,697	-	171,079,697
Time deposits		-	-	156,174,192	156,174,192
Negotiable certificates of deposits		-	-	16,429,973	16,429,973
Note discount deposits		-	-	5,817,844	5,817,844
CMA		-	5,246,478	-	5,246,478
Others		-	-	17,646	17,646
Borrowings:					
Call money		-	1,444,111	-	1,444,111
Bill sold		-	-	9,019	9,019
Bonds sold under repurchase agreements		-	-	82,578	82,578
Borrowings		-	-	19,387,203	19,387,203
Debt securities issued:					
Debt securities issued in Korean won		-	29,876,372	1,168,642	31,045,014
Debt securities issued in foreign currencies		-	6,760,657	-	6,760,657
Other financial liabilities		-	8,982,082	11,307,364	20,289,446
	₩	-	223,389,397	210,394,461	433,783,858

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 or level 3 as of December 31, 2022 and 2021 are as follows:

	December 31, 2022				
Level	Type of financial instruments		Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩	19,976,770		Discount rate
Level 3	Loans at amortized cost		335,760,723	Discounted cash flow	Discount rate, Credit spread, Prepayment rate
	Other financial assets		3,750,809		Discount rate
		₩	359,488,302		
Level 2	Debt securities issued	₩	31,856,454		Discount rate
Level 3	Deposits(*)		209,709,502		Discount rate
	Borrowings(*)		14,779,693	Discounted cash flow	Discount rate
	Debt securities issued		971,562		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities		14,108,461		Discount rate
		₩	271,425,672		

(*) There is no disclosure for valuation techniques and input variables related to items where the carrying amount is recognized as a reasonable approximation of fair value and the carrying amount is disclosed at fair value.

	December 31, 2021				
Level	Type of financial instruments		Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩	17,633,925		Discount rate
Level 3	Loans at amortized cost		324,308,230	Discounted cash flow	Discount rate, Credit spread, Prepayment rate
	Other financial assets		2,856,910		Discount rate
		₩	344,799,065		
Level 2	Debt securities issued	₩	36,637,029		Discount rate
Level 3	Deposits(*)		176,572,020		Discount rate
	Borrowings(*)		11,930,091	Discounted cash flow	Discount rate
	Debt securities issued		1,168,642		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities		11,307,364		Discount rate
		₩	237,615,146		

(*) There is no disclosure for valuation techniques and input variables related to items where the carrying amount is recognized as a reasonable approximation of fair value and the carrying amount is disclosed at fair value.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(c) Deferred day one gain or loss for the year ended December 31, 2022 and the year ended December 31, 2021 is as follows:

		December 31, 2022			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(330)	-	330	-
Equity options		92	261	(193)	160
	₩	(238)	261	137	160

		December 31, 2021			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(2,253)	-	1,923	(330)
Equity options		36	137	(81)	92
	₩	(2,217)	137	1,842	(238)

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments

Financial assets and liabilities were measured at fair value or amortized cost. The carrying amounts of each category of financial assets as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets designated at FVTOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	20,310,050	-	20,310,050
Securities at FVTPL		21,201,704	-	-	-	-	21,201,704
Derivative assets		4,822,942	-	-	-	81,154	4,904,096
Loans at FVTPL		972,553	-	-	-	-	972,553
Loans at amortized cost		-	-	-	344,298,939	-	344,298,939
Securities at FVTOCI		-	47,554,951	1,215,833	-	-	48,770,784
Securities at amortized cost		-	-	-	28,379,986	-	28,379,986
Other financial assets		-	-	-	15,463,269	-	15,463,269
	₩	26,997,199	47,554,951	1,215,833	408,452,244	81,154	484,301,381

		Financial instruments at FVTPL				
		Financial liabilities at FVTPL	Financial liabilities designated at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging	Total
Liabilities						
Deposits	₩	-	-	373,104,189	-	373,104,189
Financial liabilities at FVTPL		424,964	-	-	-	424,964
Financial liabilities designated at FVTPL		-	47,327	-	-	47,327
Derivative liabilities		4,883,475	-	-	896,151	5,779,626
Borrowings		-	-	24,212,792	-	24,212,792
Debt securities issued		-	-	33,186,180	-	33,186,180
Other financial liabilities		-	-	22,868,434	-	22,868,434
	₩	5,308,439	47,327	453,371,595	896,151	459,623,512

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments (continued)

Financial assets and liabilities were measured at fair value or amortized cost. The carrying amounts of each category of financial assets as of December 31, 2022 and 2021 are as follows (continued):

		December 31, 2021					
		Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets designated at FVTOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	18,627,494	-	18,627,494
Securities at FVTPL		24,173,996	-	-	-	-	24,173,996
Derivative assets		2,844,730	-	-	-	156,710	3,001,440
Loans at FVTPL		894,160	-	-	-	-	894,160
Loans at amortized cost		-	-	-	325,933,496	-	325,933,496
Securities at FVTOCI		-	47,584,677	716,143	-	-	48,300,820
Securities at amortized cost		-	-	-	21,325,243	-	21,325,243
Other financial assets		-	-	-	16,529,548	-	16,529,548
	₩	27,912,886	47,584,677	716,143	382,415,781	156,710	458,786,197

		Financial liabilities at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging	Total
Liabilities					
Deposits	₩	-	354,937,624	-	354,937,624
Financial liabilities at FVTPL		583,662	-	-	583,662
Derivative liabilities		2,606,098	-	246,415	2,852,513
Borrowings		-	20,962,239	-	20,962,239
Debt securities issued		-	37,625,739	-	37,625,739
Other financial liabilities		-	20,297,014	-	20,297,014
	₩	3,189,760	433,822,616	246,415	437,258,791

There are no financial instruments that are reclassified between categories of financial assets as of December 31, 2022 and 2021.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(e) Financial income and costs by category for the year ended December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (Provision for) credit loss allowance	Others	Total	Other comprehensive loss
Deposits	₩	149,225	-	(607)	-	148,618	-
Securities at FVTPL		388,236	14,000	-	47,778	450,014	-
Securities at FVTOCI		822,079	10,205	3,372	(57,622)	778,034	(1,115,966)
Securities at amortized cost		590,960	-	(463)	(60)	590,437	-
Loans at FVTPL		13,496	-	-	(312)	13,184	-
Loans at amortized cost		12,064,439	102,685	(578,730)	13,035	11,601,429	-
Other financial assets		57,380	148,440	(3,401)	2,203	204,622	-
Financial liabilities at FVTPL		-	(225)	-	(33,846)	(34,071)	-
Financial liabilities designated at FVTPL		(1,296)	-	-	2,673	1,377	-
Financial liabilities at amortized cost		(5,879,317)	(63)	-	775,708	(5,103,672)	(29,116)
Net derivatives held for hedging		-	-	-	(737,257)	(737,257)	3,324
Allowance for off-balance sheet items		-	-	(18,460)	-	(18,460)	-
	₩	8,205,202	275,042	(598,289)	12,300	7,894,255	(1,141,758)

		December 31, 2021					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (provision for) credit loss allowance	Others	Total	Other Comprehensive loss
Deposits	₩	34,922	-	(5,703)	-	29,219	-
Securities at FVTPL		209,463	11,623	-	337,461	558,547	-
Securities at FVTOCI		539,489	7,024	(17,364)	72,142	601,291	(419,772)
Securities at amortized cost		444,047	-	(2,366)	(310)	441,371	-
Loans at FVTPL		8,362	-	-	20,521	28,883	-
Loans at amortized cost		8,167,087	85,966	(346,132)	13,940	7,920,861	-
Other financial assets		42,101	133,097	(673)	1	174,526	-
Financial liabilities at FVTPL		-	101	-	(21,370)	(21,269)	-
Financial liabilities at amortized cost		(2,833,713)	(116)	-	281,818	(2,552,011)	(61,672)
Net derivatives held for hedging		-	-	-	(280,240)	(280,240)	(12,853)
Allowance for off-balance sheet items		-	-	19,492	-	19,492	-
	₩	6,611,758	237,695	(352,746)	423,963	6,920,670	(494,297)

3. Financial risk management (continued)

3-5. Capital risk management

In response to the increased risk of financial institutions following financial deregulation in the 1980s, Capital regulations applicable to banks are adopted in 1988, which focused primarily on capital adequacy and asset soundness as a measure of risk. Building upon the initial Basel Capital Accord of 1988, capital regulations are developed to reflect additional risks as well. To improve risk management and increasing capital adequacy of banks, capital adequacy standards based on the new Basel Capital Accord (Basel III) is implemented by the Financial Services Commission regulations beginning on December 1, 2013. Under these regulations, all domestic banks including the Group are required to maintain a certain ratio or higher of the common stock capital ratio, basic capital ratio, and total equity capital ratio step by step from the effective date and report whether the Group meet the capital adequacy ratio to the Financial Services Commission according to 'Banking-related Legislation'.

Under *the Banking Act*, the capital of a bank is divided into two categories.

(a) Tier 1 capital (Common equity Tier 1 capital + Additional Tier 1 capital)
i) Ordinary shares Tier 1 capital: Common equity Tier 1 capital that can be compensated first and last at the time of bank liquidation and is not repaid except at the time of liquidation, including common stock, capital surplus, other comprehensive income accumulated, other capital surplus, capital adjustment, and part of the non-controlling shareholding of the bank's subsidiary.

ii) Other Tier 1 capital: Additional Tier 1 capital consists of equity instrument that meet certain criteria for perpetual nature of the equity instrument, any related capital surplus, instruments issued by consolidated subsidiaries of the Bank and held by third parties that meet certain criteria.

(b) Tier 2 capital (Supplementary capital)

The Group includes capital securities that meet the recognition requirements to compensate for the Group's losses upon liquidation. This includes some of the associated capital surplus and the amount of external investors' holdings of supplementary capital issued by subsidiaries. Also, it includes the provisions that meet Basel III requirements.

The Group calculates the ratio of equity capital by dividing the equity capital (the amount deducted from the sum of the above basic capital and supplementary capital) into risk-weighted assets. Risk weighted assets are calculated by applying higher weights to reflect the actual risk of the Group. It comprises the sum of credit risk weighted assets, operational risk weighted assets, market risk weighted assets and additional risk assets.

The Group evaluates and manages the capital adequacy ratio pursuant to internally developed standards. It means that the Group assesses whether the level on ratio of available capital to economic capital is sufficient, or not. The Group manages the economic adequacy by the amount of each risk type including credit, market, operation, interest rate, liquidity, concentration, and foreign currency settlement risk, as well as the total amounts of all of those risk types.

(In millions of Korean won)

3. Financial risk management (continued)

3-5. Capital risk management (continued)

Details of capital categories and the capital adequacy ratio of the Group as of December 31, 2022 and 2021 are as follows:

Category		December 31, 2022	December 31, 2021
Capital:			
Common equity Tier 1 capital	₩	26,729,156	26,069,127
Additional Tier 1 capital		1,788,975	1,497,029
Tier 1 capital		28,518,131	27,566,156
Tier 2 capital		5,241,681	4,630,525
	₩	33,759,812	32,196,681
Risk-weighted assets: (*)			
Credit risk-weighted assets	₩	165,459,759	154,332,487
Market risk-weighted assets		12,959,292	12,020,063
Operating risk-weighted assets		11,560,955	10,745,434
	₩	189,980,006	177,097,984
Capital adequacy ratio:			
Common equity Tier 1 capital ratio		14.07%	14.72%
Tier 1 capital ratio		15.01%	15.57%
Tier 2 capital ratio		2.76%	2.61%
Total capital ratio		17.77%	18.18%

(*) The additional risk weighted assets resulting from the insufficient capital under capital floor is included in credit risk-weighted assets.

The criteria for capital adequacy to be complied with by the Bank are 8.0% or more of the total equity capital ratio, 6.0% or higher of the basic capital ratio, and 4.5% or more of the common stock capital ratio. In addition, the minimum regulatory BIS capital ratio required to be observed by 2019 has been raised to up to 14% as the capital regulation based on the Basel III standard is enforced from 2016. This is based on the addition of capital conservation capital (2.5%p) and domestic system-critical banks (D-SIB) capital (1.0%p) and economic response capital (2.5%p) to the existing lowest common equity capital ratio, the capital conservation capital and D-SIB capital will be raised by 2.5% and 1.0% each year by applying the transitional criteria by 2019, and economic response capital can be charged up to 2.5%p during credit expansion period. As of December 31, 2022, the minimum regulatory BIS capital ratio to be observed is 11.5%, which is the standard for applying capital conservation capital (2.5%p), D-SIB capital (1.0%p), and economic response capital (0%p).

(In millions of Korean won)

3. Financial risk management (continued)

3-6. Transaction as a transfer of financial instrument

(a) Transfers financial assets that are not derecognized

i) Bonds sold under repurchase agreements at a fixed price as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Transferred assets:			
Securities at amortized cost		258,579	210,490
	₩	258,579	210,490
Associated liabilities:			
Bonds sold under repurchase agreements	₩	135,710	82,578

ii) When the Group's securities are transferred, the Group transfers the ownership of the securities, but upon termination, the Group will have to return the securities. As a result, securities loaned as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021	Lender
Securities at FVTOCI:				
Government bonds	₩	2,830,091	2,177,012	Korea Securities Finance Corp., Korea Securities Depository
Financial institutions bonds		267,702	209,594	Korea Securities Finance Corp., Korea Securities Depository
Securities at amortized cost:				
Government bonds		898,347	23,872	Korea Securities Finance Corp., Korea Securities Depository
Financial institutions bonds		89,665	-	NH investment & securities co., Ltd. Korea Securities Finance Corp., Korea Securities Depository
	₩	4,085,805	2,410,478	

iii) Securitization of financial assets

The Group uses the securitization of financial assets as a means of financing and to transfer risk. Generally, these securitization transactions result in the transfer of contractual cash flows to the debt securities holders issued from the financial asset portfolio. The Group recognizes debt securities issued without derecognition of assets under individual agreements, partially recognizes assets to the extent of the Group's level of involvement in assets, or recognizes rights and obligations arising from the derecognition and transfer of assets as separate assets and liabilities. The Group derecognizes the entire asset only if it transfers contractual rights to the cash flows of financial assets or if it holds contractual rights but bears contractual obligations to pay cash flows to the other party without significant delays or reinvestment and transfers most of the risks and benefits of ownership (e.g., credit risk, interest rate risk, prepayment risk, etc.). For the years ended December 31, 2022 and 2021, the carrying amounts of financial assets related to securitization transactions that have neither been transferred nor derecognized are ₩4,765,561 million and ₩4,270,618 million; the carrying amounts of related liabilities are ₩2,102,965 million and ₩2,677,423 million, respectively.

(b) Financial instruments that are qualified for derecognition but under continuing involvement.

There are no financial instrument that meets the conditions of derecognition and in which the Group has continuing involvement as of December 31, 2022 and 2021.

(In millions of Korean won)

3. Financial risk management (continued)

3-7. Offsetting financial assets and financial liabilities

Details of financial assets and financial liabilities subject to offsetting, enforceable master netting agreements and similar agreements as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Gross amounts of recognized financial assets and liabilities	Gross amounts of recognized financial assets and liabilities set off in the statement of financial position	Net amounts of financial assets and liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amount
					Financial instruments	Cash collateral received	
Financial assets							
Derivative assets (*1)	₩	4,884,335	-	4,884,335	10,043,722	74,895	1,783,544
Other financial assets (*1)		7,017,826	-	7,017,826			
Bonds sold under repurchase agreements related collateral of securities (*2)		258,579	-	258,579	132,217	-	126,362
Bonds purchased under resale agreement (Loans) (*2)		3,083,597	-	3,083,597	3,083,597	-	-
Securities lent (*2)		4,085,806	-	4,085,806	4,085,806	-	-
Domestic exchange settlements receivables (*3)		44,745,207	39,051,457	5,693,750	-	-	5,693,750
Receivable from disposal of securities, etc. (*4)		18,901	3,245	15,656	-	-	15,656
	₩	64,094,251	39,054,702	25,039,549	17,345,342	74,895	7,619,312
Financial liabilities							
Derivative liabilities (*1)	₩	5,648,398	-	5,648,398	9,825,349	-	1,633,012
Other financial liabilities (*1)		5,809,963	-	5,809,963			
Bonds sold under repurchase agreements (Borrowings) (*2)		135,710	-	135,710	132,217	-	3,493
Securities sold		2,958	-	2,958	2,958	-	-
Domestic exchange settlement payables (*3)		41,282,964	39,051,457	2,231,507	2,231,507	-	-
Payable from purchase of securities, etc. (*4)		4,235	3,245	990	990	-	-
	₩	52,884,228	39,054,702	13,829,526	12,193,021	-	1,636,505

(*1) The Group has certain derivative transactions subject to the ISDA (International Swaps and Derivatives Association) agreement. According to the ISDA agreement, when credit events (e.g. default) of counterparties occur, the net amount after offsetting the amounts obligated by each party is settled.

(*2) Resale and repurchase agreement, securities borrowing and lending agreement are also similar to ISDA agreement with respect to enforceable netting agreements.

(*3) The Group has legally enforceable right to set off and settles financial assets and liabilities on a net basis. Therefore, domestic exchanges settlement receivables (payables) are recorded on a net basis in the consolidated statements of financial position.

(*4) Receivables and payables related to settlement of purchase and disposition of enlisted securities are offset and the net amount is presented in the consolidated statement of financial position because the Group currently has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The effect of offsetting due to the establishment of 'Central Counter Party ("CCP")' system is included in the amount.

(In millions of Korean won)

3. Financial risk management (continued)

3-7. Offsetting financial assets and financial liabilities (continued)

Details of financial assets and financial liabilities subject to offsetting, enforceable master netting agreements and similar agreements as of December 31, 2022 and 2021 are as follows (continued):

		December 31, 2021					
					Related amounts not set off in the statement of financial position		
		Gross amounts of recognized financial assets and liabilities	Gross amounts of recognized financial assets and liabilities set off in the statement of financial position	Net amounts of financial assets and liabilities presented in the statement of financial position	Financial instruments	Cash collateral received	Net amount
Financial assets							
Derivative assets (*1)	₩	2,973,656	-	2,973,656			1,594,579
Other financial assets (*1)		7,506,542	-	7,506,542	8,885,619	-	
Bonds sold under repurchase agreements related collateral of securities (*2)		210,490	-	210,490	81,849	-	128,641
Bonds purchased under resale agreement (Loans) (*2)		1,814,157	-	1,814,157	1,814,157	-	-
Securities lent (*2)		2,410,477	-	2,410,477	2,410,477	-	-
Domestic exchange settlements receivables (*3)		44,599,946	37,953,026	6,646,920	-	-	6,646,920
Receivable from disposal of securities, etc. (*4)		27,762	2,464	25,298	-	-	25,298
	₩	59,543,030	37,955,490	21,587,540	13,192,102	-	8,395,438
Financial liabilities							
Derivative liabilities (*1)	₩	2,833,062	-	2,833,062			
Other financial liabilities (*1)		6,413,960	-	6,413,960	8,734,105	-	512,917
Bonds sold under repurchase agreements (Borrowings) (*2)		82,578	-	82,578	81,849	-	729
Securities sold		2,203	-	2,203	2,203	-	-
Domestic exchange settlement payables (*3)		39,762,753	37,953,026	1,809,727	1,809,727	-	-
Payable from purchase of securities, etc. (*4)		5,095	2,464	2,631	701	-	1,930
	₩	49,099,651	37,955,490	11,144,161	10,628,585	-	515,576

(*1) The Group has certain derivative transactions subject to the ISDA (International Swaps and Derivatives Association) agreement. According to the ISDA agreement, when credit events (e.g. default) of counterparties occur, the net amount after offsetting the amounts obligated by each party is settled.

(*2) Resale and repurchase agreement, securities borrowing and lending agreement are also similar to ISDA agreement with respect to enforceable netting agreements.

(*3) The Group has legally enforceable right to set off and settles financial assets and liabilities on a net basis. Therefore, domestic exchanges settlement receivables (payables) are recorded on a net basis in the consolidated statements of financial position.

(*4) Receivables and payables related to settlement of purchase and disposition of enlisted securities are offset and the net amount is presented in the consolidated statement of financial position because the Group currently has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The effect of offsetting due to the establishment of 'Central Counter Party ("CCP")' system is included in the amount.

4. Significant estimates and judgments

The preparation of consolidated financial statements requires the application of certain critical estimates and judgments relative to the future. Management's estimated outcomes may differ from actual outcomes. The change in an accounting estimate is recognized prospectively in profit or loss in the period of the change, if the change affects that period only, or the period of the change and future periods, if the change affects both.

(a) Income taxes

The Group is subject to tax laws from various countries. In the normal course of business, there are various types of transactions and different accounting methods that may add uncertainties to the decision of the final income taxes. The Group has recognized current and deferred taxes that reflect tax consequences based on the best estimates in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. However, actual income taxes in the future may not be identical to the recognized deferred tax assets and liabilities, and this difference can affect current and deferred tax at the period when the final tax effect is determined.

(b) Fair value of financial instruments

The fair values of financial instruments which are not actively traded in the market are determined by using valuation techniques. The Group determines valuation techniques and assumptions based on significant market conditions at the end of each reporting period. Diverse valuation techniques are used to determine the fair value of financial instruments, from generic valuation techniques to internally developed valuation models that incorporate various types of assumptions and variables.

(c) Allowances for loan losses, guarantees and unused loan commitments

The Group determines and recognizes allowances for losses on debt securities, loans and other receivables measured at amortized cost or FVTOCI, and recognizes provisions for guarantees and unused loan commitments through impairment testing. The accuracy of allowances for credit losses is determined by the estimation of expected cash flows for individually assessed allowances, and methodology and assumptions used for collectively assessed allowances and provisions for groups of loans, guarantees and unused loan commitments.

(d) Defined benefit obligation

The present value of a defined benefit obligation that is measured by actuarial valuation methods uses various assumptions which can change according to various elements. The rate used to discount post-employment benefit obligations is determined by reference to market yields at the end of the reporting period on high quality corporate bonds. The currency and term of the corporate bonds are consistent with the currency and estimated term of the post-employment benefit obligations. Actuarial gains and losses including experience adjustments and the effects of changes in actuarial assumptions are recognized in other comprehensive income. Other significant assumptions related to defined benefit obligations are based on current market situations.

(In millions of Korean won)

5. Operating segment

(a) The general descriptions of the Group's operating segments

The Group has four reportable segments which are strategic business units. Each of these segments is providing different services and managed separately.

Description	Area of business
Retail banking	Loans to or deposits from individual customers, wealth management customers, and institutions such as hospitals, airports and schools.
Corporate banking	Loans to or deposits from corporations, including small or medium sized companies and businesses related to investment banking.
International group	Supervision of overseas subsidiaries and branch operations and other international businesses.
Others	Fund management, investment in securities, others and various support businesses

(b) The following table provides information of financial performance of each reportable segment for the years ended December 31, 2022 and 2021.

		December 31, 2022					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Categories							
Net interest income (expense)	₩	4,574,304	3,420,604	1,063,425	(856,903)	3,772	8,205,202
Net fees and commission income (expense)		340,473	470,522	119,878	32,643	(8,206)	955,310
Net other income (expense)(*)		(2,253,168)	(714,261)	(503,923)	(1,603,483)	77,073	(4,997,762)
Operating income (expense)		2,661,609	3,176,865	679,380	(2,427,743)	72,639	4,162,750
Net non-operating income (expenses)		(36,930)	(24,006)	8,911	(23,802)	(1,598)	(77,425)
Share of profit of associates		-	-	-	-	22,301	22,301
Profit (loss) before income tax		2,624,679	3,152,859	688,291	(2,451,545)	93,342	4,107,626
Income tax expense		(688,346)	(826,866)	(163,636)	615,069	1,885	(1,061,894)
Profit (loss) for the year	₩	1,936,333	2,325,993	524,655	(1,836,476)	95,227	3,045,732
Attributable to:							
Equity holder of the Bank		1,936,333	2,325,993	524,655	(1,836,476)	94,507	3,045,012
Non-controlling interests	₩	-	-	-	-	720	720

(*) Profit or loss effect of hedging on net investments in foreign operations was included.

(In millions of Korean won)

5. Operating segment (continued)

(b) The following table provides information of financial performance of each reportable segment for for the years ended December 31, 2022 and 2021 (continued).

		December 31, 2021					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Categories							
Net interest income	₩	2,672,827	2,515,122	865,333	550,010	8,466	6,611,758
Net fees and commission income (expense)		381,839	492,880	103,051	6,626	(6,591)	977,805
Net other income (expense)(*)		(1,998,175)	(606,134)	(434,684)	(968,478)	4,625	(4,002,846)
Operating income (expense)		1,056,491	2,401,868	533,700	(411,842)	6,500	3,586,717
Net non-operating income (expense)		(38,971)	(18,285)	(3,187)	(211,283)	7,505	(264,221)
Share of loss of associates		-	-	-	-	25,400	25,400
Profit (loss) before income tax		1,017,520	2,383,583	530,513	(623,125)	39,405	3,347,896
Income tax expense		(263,715)	(617,764)	(127,964)	168,554	(12,113)	(853,002)
Profit (loss) for the year	₩	753,805	1,765,819	402,549	(454,571)	27,292	2,494,894
Attributable to:							
Equity holder of the Bank		753,805	1,765,819	402,549	(454,571)	26,773	2,494,375
Non-controlling interests	₩	-	-	-	-	519	519

(*) Profit or loss effect of hedging on net investments in foreign operations was included.

(c) The following table provides information of net interest income of each reportable operating segment from external consumers and net interest income (expenses) between operating segments for the years ended December 31, 2022 and 2021.

		December 31, 2022					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income (expense) from:							
External customers	₩	2,442,269	3,881,809	1,126,161	754,963	-	8,205,202
Internal transactions		2,132,035	(461,205)	(62,736)	(1,611,866)	3,772	-
	₩	4,574,304	3,420,604	1,063,425	(856,903)	3,772	8,205,202

		December 31, 2021					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income (expense) from:							
External customers	₩	2,170,699	2,950,247	891,481	599,331	-	6,611,758
Internal transactions		502,128	(435,125)	(26,148)	(49,321)	8,466	-
	₩	2,672,827	2,515,122	865,333	550,010	8,466	6,611,758

(In millions of Korean won)

5. Operating segment (continued)

(d) Financial information of geographical area

i) The following table provides information of operating income from external consumers by geographical area for the years ended December 31, 2022 and 2021.

		Operating revenue		Operating expenses		Operating income	
		December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Domestic	₩	32,933,062	21,700,833	29,575,056	18,649,066	3,358,006	3,051,767
Overseas		2,581,399	1,839,514	1,776,655	1,304,564	804,744	534,950
	₩	35,514,461	23,540,347	31,351,711	19,953,630	4,162,750	3,586,717

ii) The following table provides information of non-current assets by geographical area as of December 31, 2022 and 2021.

Classification(*)		December 31, 2022	December 31, 2021
Domestic	₩	3,459,593	3,330,987
Overseas		319,316	305,801
	₩	3,778,909	3,636,788

(*) Non-current assets include property and equipment, intangible assets and investment properties.

(In millions of Korean won)

6. Cash and due from banks

(a) Cash and due from banks as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Cash	₩	2,259,832	4,152,634
Deposits in Korean won:			
Reserve deposits		8,477,472	9,624,230
Others		53,986	11,172
		8,531,458	9,635,402
Deposits in foreign currencies:			
Deposits		8,506,913	6,718,502
Time deposits		2,836,102	1,933,980
Others		452,951	355,939
		11,795,966	9,008,421
Allowance for impairment		(17,374)	(16,330)
	₩	22,569,882	22,780,127

(b) Restricted due from banks as of December 31, 2022 and 2021 are as follows:

Classification		December 31, 2022	December 31, 2021	The laws of evidence, etc.
Deposits in Korean won:				
Reserve deposits	₩	8,477,472	9,624,230	Article 55 of the Bank of Korea Act
Others		547	292	Article 387 of Capital Market Act of Korea Act, etc.
		8,478,019	9,624,522	
Deposits in foreign currencies:				
Deposits		1,675,889	1,785,206	Article 55 of the Bank of Korea Act, etc.
Time deposits		66,533	50,384	New York State, etc. Banking Law
Others		44,257	35,892	Derivative contract
		1,786,679	1,871,482	
	₩	10,264,698	11,496,004	

(In millions of Korean won)

7. Securities at fair value through profit or loss

Securities at FVTPL as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Debt securities:			
Government bonds	₩	760,724	1,108,350
Financial institution bonds		3,353,917	3,396,087
Corporate bonds		2,357,745	3,312,683
Bills bought		4,110,319	5,040,896
CMA		3,850,613	3,591,822
Beneficiary certificates		4,664,866	5,933,295
Others		1,801,894	1,511,669
		20,900,078	23,894,802
Equity securities:			
Stocks		225,657	195,503
Gold/silver deposits		75,969	83,691
	₩	21,201,704	24,173,996

(In millions of Korean won)

8. Derivatives

(a) The notional amounts of derivatives as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Foreign currency related			
Over the counter:			
Currency forwards	₩	113,580,287	131,593,190
Currency swaps		40,947,512	37,226,456
Currency options		1,327,752	2,274,151
Exchange traded:			
Currency futures		38,019	35,565
		155,893,570	171,129,362
Interest rates related			
Over the counter:			
Interest rate swaps		30,748,577	30,232,188
Interest rate options		145,424	168,460
Exchange traded:			
Interest rate futures		159,744	520,863
Interest rate swaps(*)		38,396,230	31,454,900
		69,449,975	62,376,411
Equity related			
Over the counter:			
Equity options		217,834	132,403
Exchange traded:			
Equity futures		25,132	65,424
Equity options		-	28,125
		242,966	225,952
Commodity related			
Over the counter:			
Commodity swap and forwards		241,494	355,116
Commodity options		8,000	11,500
		249,494	366,616
Hedge			
Fair value hedge:			
Interest rate swaps		13,530,243	7,079,469
Net investment hedge:			
Currency forwards		253,460	237,100
		13,783,703	7,316,569
	₩	239,619,708	241,414,910

(*) The notional amount of derivatives which is settled in the 'Central Counter Party ("CCP")' system.

(In millions of Korean won)

8. Derivatives (continued)

(b) Fair values of derivatives as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Assets	**Liabilities**	**Assets**	**Liabilities**
Foreign currency related					
Over the counter:					
Currency forwards	₩	2,667,464	2,445,020	2,038,432	1,631,637
Currency swaps		1,589,098	1,833,258	654,717	759,455
Currency options		14,776	13,603	12,225	11,592
		4,271,338	4,291,881	2,705,374	2,402,684
Interest rates related					
Over the counter:					
Interest rate swaps		536,144	588,793	131,239	193,010
Interest rate options		3,203	-	1,895	-
Exchange traded:					
Interest rate futures		-	-	99	143
		539,347	588,793	133,233	193,153
Equity related					
Over the counter:					
Equity options		1,258	1,279	785	1,347
Exchange traded:					
Equity futures		233	2	21	507
Equity options		-	-	43	-
		1,491	1,281	849	1,854
Commodity related					
Over the counter:					
Commodity swap and forwards		10,766	4	5,274	-
Commodity options		-	1,516	-	8,406
		10,766	1,520	5,274	8,406
Hedge					
Fair value hedge:					
Interest rate swaps		77,757	895,005	156,710	236,758
Net investment hedge:					
Currency forwards		3,397	1,146	-	9,658
		81,154	896,151	156,710	246,416
	₩	4,904,096	5,779,626	3,001,440	2,852,513

(In millions of Korean won)

8. Derivatives (continued)

(c) Gain or loss on valuation of derivatives for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Gain	Loss	Gain	Loss
Foreign currency related					
Over the counter:					
Currency forwards	₩	2,407,263	2,397,550	1,994,598	1,683,442
Currency swaps		1,210,590	1,408,598	1,081,867	1,320,816
Currency options		12,138	7,890	23,412	21,418
		3,629,991	3,814,038	3,099,877	3,025,676
Interest rates related					
Over the counter:					
Interest rate swaps		541,025	545,698	159,298	258,253
Interest rate options		1,898	36	736	-
Exchange traded:					
Interest rate futures		-	-	100	143
		542,923	545,734	160,134	258,396
Equity related					
Over the counter:					
Equity options		4,416	271	1,470	419
Exchange traded:					
Equity futures		233	2	21	507
Equity options		-	-	-	58
		4,649	273	1,491	984
Commodity related					
Over the counter:					
Commodity swap and forwards		10,766	4	5,274	-
Commodity options		5,840	-	-	4,956
		16,606	4	5,274	4,956
Hedge					
Fair value hedge:					
Interest rate swaps		67,614	807,803	7,456	284,906
Net investment hedge:					
Currency forwards		5,886	8,708	-	2,029
		73,500	816,511	7,456	286,935
	₩	4,267,669	5,176,560	3,274,232	3,576,947

(In millions of Korean won)

8. Derivatives (continued)

(d) Hedge accounting

i) Purpose and strategy of hedge accounting

The Group trades derivative financial instruments to hedge the interest rate risk and foreign exchange risk arising from the group's assets and liabilities. The Group applies fair value risk hedge accounting using interest rate swaps to avoid the risk of changes in fair value due to changes in market interest rates on structured bonds in won, foreign currency issued financial bonds, structured deposits in won and foreign currency investment bonds. In addition, to avoid the risk of foreign currency exchange rate fluctuations at foreign operations, the Group applies net investment risk hedge accounting for foreign operations that utilize currency forwards and non-derivative financial instruments.

ii) Nominal amounts and average hedge ratios for hedging instruments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	4,553,650	2,540,240	143,969	1,337,001	586,760	4,368,623	13,530,243
Average price conditions(*1)		0.42%	0.48%	0.73%	0.84%	0.71%	0.60%	0.55%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations(*2)								
Currency forwards		253,460	-	-	-	-	-	253,460
Borrowings in foreign currencies		239,044	-	-	-	-	-	239,044
Debt securities issued in foreign currencies		359,079	64,858	113,450	510,608	-	-	1,047,995
	₩	851,583	64,858	113,450	510,608	-	-	1,540,499
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, USD SOFR, 3M USD Libor, 3M Euribor and 3M AUD Bond.

(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,217.73, EUR/KRW 1,298.11, JPY/KRW 10.13, CAD/KRW 948.79, CNY/KRW 190.96, AUD/KRW 877.18.

		December 31, 2021						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	643,057	597,492	268,468	140,689	1,273,227	4,156,536	7,079,469
Average price conditions (*1)		0.80%	0.75%	0.75%	0.82%	0.65%	0.57%	0.63%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations (*2)								
Currency forwards		237,100	-	-	-	-	-	237,100
Borrowings in foreign currencies		60,490	192,655	-	-	-	-	253,145
Debt securities issued in foreign currencies		563,160	342,831	64,432	34,356	-	-	1,004,779
	₩	860,750	535,486	64,432	34,356	-	-	1,495,024
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, 3M USD Libor, 3M Euribor and 3M AUD Bond.

(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,143.63, EUR/KRW 1,298.11, JPY/KRW 10.53, CAD/KRW 868.95, CNY/KRW 174.4, AUD/KRW 877.18.

(In millions of Korean won)

8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements

i) Impact on hedging instruments in the consolidated statement of financial position, as of December 31, 2022 and 2021, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the year ended are as follows:

			December 31, 2022						
			Notional amounts	Consolidated statement of financial position				Consolidated statement of comprehensive income	Changes in fair value for the year
				Derivative assets	Derivative liabilities	Borrowings	Debt securities issued	Other comprehensive income (loss) for the year	
Fair value hedges									
Interest rate risk	Interest rate swaps	₩	13,530,243	77,757	895,005	-	-	-	(740,189)
Hedge of net investments in foreign operations:									
Foreign exchange Risk	Currency forwards		253,460	3,397	1,146	-	-	3,324	(772)
	Borrowings in foreign currencies		239,044	-	-	239,044	-	14,100	14,100
	Debt securities issued in foreign currencies		1,047,995	-	-	-	1,043,317	(43,216)	(43,216)
			1,540,499	3,397	1,146	239,044	1,043,317	(25,792)	(29,888)
		₩	15,070,742	81,154	896,151	239,044	1,043,317	(25,792)	(770,077)

			December 31, 2021						
			Notional amounts	Consolidated statement of financial position				Consolidated statement of comprehensive income	Changes in fair value for the year
				Derivative assets	Derivative liabilities	Borrowings	Debt securities issued	Other comprehensive loss for the year	
Fair value hedges									
Interest rate risk	Interest rate swaps	₩	7,079,469	156,710	236,758	-	-	-	(277,450)
Hedge of net investments in foreign operations:									
Foreign exchange Risk	Currency forwards		237,100	-	9,658	-	-	(12,853)	(14,947)
	Borrowings in foreign currencies		253,145	-	-	253,145	-	(729)	(729)
	Debt securities issued in foreign currencies		1,004,779	-	-	-	1,003,097	(60,942)	(60,942)
			1,495,024	-	9,658	253,145	1,003,097	(74,524)	(76,618)
		₩	8,574,493	156,710	246,416	253,145	1,003,097	(74,524)	(354,068)

(In millions of Korean won)

8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

ii) Impact on hedged items in the consolidated statement of financial position, as of December 31, 2022 and 2021, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the year ended are as follows:

December 31, 2022

	Hedging instruments		Consolidated statement of financial position: Securities at FVTOCI	Consolidated statement of financial position: Deposits	Consolidated statement of financial position: Debt securities issued	Consolidated statement of comprehensive income: Other comprehensive income for the year	Fair value hedges Adjusted accumulated amount	Changes in fair value for the year	Reserve of exchange differences on translation
Fair value hedges:									
Interest rate risk	Debt securities issued	₩	-	-	12,169,122	-	(673,601)	679,835	-
	Investment bonds		505,668	-	-	-	69,687	(65,158)	-
	Time deposits		-	542,473	-	-	(187,527)	93,762	-
			505,668	542,473	12,169,122	-	(791,441)	708,439	-
Hedge of net investments in foreign operations:									
Foreign exchange risk	Net investments in foreign operations		-	-	-	25,792	-	25,792	(40,834)
		₩	505,668	542,473	12,169,122	25,792	(791,441)	734,231	(40,834)

December 31, 2021

	Hedging instruments		Consolidated statement of financial position: Securities at FVTOCI	Consolidated statement of financial position: Deposits	Consolidated statement of financial position: Debt securities issued	Consolidated statement of comprehensive income: Other comprehensive income for the year	Fair value hedges Adjusted accumulated amount	Changes in fair value for the year	Reserve of exchange differences on translation
Fair value hedges:									
Interest rate risk	Debt securities issued	₩	-	-	5,734,095	-	8,324	231,503	-
	Investment bonds		580,552	-	-	-	6,207	(7,283)	-
	Time deposits		-	636,235	-	-	(93,765)	46,941	-
			580,552	636,235	5,734,095	-	(79,234)	271,161	-
Hedge of net investments in foreign operations:									
Foreign exchange risk	Net investments in foreign operations		-	-	-	74,524	-	74,524	(66,626)
		₩	580,552	636,235	5,734,095	74,524	(79,234)	345,685	(66,626)

(In millions of Korean won)

8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

iii) The amounts recognized as gains or losses due to an ineffective portion of hedge for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Gains on fair value hedges (hedged items)	Losses on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	708,439	(740,189)	(31,750)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		25,792	(29,888)	(4,096)	-
	₩	734,231	(770,077)	(35,846)	-

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

		December 31, 2021			
		Gains on fair value hedges (hedged items)	Losses on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	271,161	(277,450)	(6,289)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		74,524	(76,618)	(2,094)	-
	₩	345,685	(354,068)	(8,383)	-

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

(f) The effects of quantifying the credit risk of derivatives mitigated by collateral held as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Deposits, securities, and etc	₩	1,486,480	603,833

(In millions of Korean won)

8. <u>Derivatives (continued)</u>

(g) Hedge relationships affected by an interest rate benchmark reform

The revised Standard requires that exceptions be applied when analysing future information in relation to the application of risk hedge accounting, while uncertainties arising from the interest rate benchmark reform movement exist. The exception assumes that when assessing whether the expected cash flows that comply with existing interest rate benchmarks are highly probable, whether there is an economic relationship between the hedged item and the hedging instrument, and whether there is a high hedge effectiveness between the hedged item and the hedging instrument, the interest rate benchmark on which the hedged item and the hedging instrument is not altered as a result of the interest rate benchmark reform.

The carrying amount of hedged items and nominal amount of the hedging instruments related to the interest rate benchmark exposed to the hedging relationship due to the Group's interest rate benchmark reform as of December 31, 2022 and 2021 are as follows:

	December 31, 2022		
Interest rate index	**Nominal amount of hedging instruments(*)**	**Carrying amount of hedged assets**	**Carrying amount of hedged liabilities**
KRW 3M CD	7,700,000	-	7,557,687
USD 3M LIBOR(*)	4,196,714	283,014	3,785,641
EURLIBOR 3M	274,294	3,236	269,826

	December 31, 2021		
Interest rate index	**Nominal amount of hedging instruments(*)**	**Carrying amount of hedged assets**	**Carrying amount of hedged liabilities**
KRW 3M CD	1,520,000	-	1,449,653
USD 3M LIBOR(*)	4,150,155	504,935	3,589,452
EURLIBOR 3M	293,972	25,094	267,830

(*) The instruments that will be matured before the end of June 30, 2023 are excluded when LIBOR interest rate calculation is discontinued.

The USD LIBOR interest rate will be replaced by a SOFR (Secured Overnight Financing Rate) based on actual transactions. In Korea, the "Korea Overnight Financing Repo Rate (KOFR)" was finally selected as the risk-free index interest rate. The Group has assumed that in this hedging relationship, the spread changed on the basis of SOFR, KOFR would be similar to the spread included in the interest rate swap used as the hedging instrument after LIBOR rate is suspended. The Group does not assume any changes in other conditions.

(In millions of Korean won)

9. Loans

(a) Details of loans as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Loans at amortized cost	Loans at FVTPL	Loans at amortized cost	Loans at FVTPL
Household loans	₩	141,550,553	-	145,292,774	-
Corporate loans		192,795,291	863,454	174,254,361	894,160
Public and other loans		3,680,407	109,099	3,387,086	-
Loans to banks		7,447,411	-	3,945,222	-
Credit card receivables		251,850	-	186,383	-
		345,725,512	972,553	327,065,826	894,160
Deferred loan origination costs and fees		504,481	-	544,087	-
		346,229,993	972,553	327,609,913	894,160
Less: Allowance for impairment		(1,931,054)	-	(1,676,417)	-
	₩	344,298,939	972,553	325,933,496	894,160

(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value

i) Changes in allowance for impairment of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired	
Beginning balance	₩ 16,151	179	-	97,560	64,357	128,407	443,168	628,563	282,293	1,935	713	4,081	10,589	9,257	5,494	155,928	2,519	2,529	1,853,723
Transfer to 12 month expected credit losses	-	-	-	15,102	(14,288)	(814)	75,533	(73,892)	(1,641)	166	(117)	(49)	403	(403)	-	234	(194)	(40)	-
Transfer to lifetime expected credit losses	-	-	-	(7,463)	23,835	(16,372)	(43,665)	45,444	(1,779)	(51)	57	(6)	(122)	122	-	(104)	125	(21)	-
Transfer to credit-impaired financial assets	-	-	-	(2,164)	(6,762)	8,926	(1,218)	(14,084)	15,302	(194)	(153)	347	(1)	(5)	6	(18)	(152)	170	-
Provision for (reversal of) allowance (*1)	689	(82)	-	53,591	52,482	161,060	(5,773)	148,433	156,858	1,380	579	3,781	3,706	246	2,387	458	1,878	1,064	582,737
Write-offs	-	-	-	-	-	(206,920)	-	-	(199,806)	-	-	(5,253)	-	-	(1,121)	-	-	(1,364)	(414,464)
Effect of discounting	-	-	-	-	-	(5,568)	-	-	(11,169)	-	-	-	-	-	-	-	-	-	(16,737)
Disposal of loans	-	-	-	-	(28)	(3,340)	-	(5)	(10,676)	-	-	-	-	-	(217)	-	-	(61)	(14,327)
Recoveries	-	-	-	-	-	79,410	-	-	39,898	-	-	536	-	-	145	-	-	122	120,111
Others(*2)	433	4	-	(26)	(5)	(3)	25	67	(43)	1	-	3	2	-	-	110,092	-	-	110,550
Ending balance	₩ 17,273	101	-	156,600	119,591	144,786	468,070	734,526	269,237	3,237	1,079	3,440	14,577	9,217	6,694	266,590	4,176	2,399	2,221,593

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2022, to cope with prolonged COVID-19 and internal and external economic uncertainty. As of December 31, 2022, the Group has set aside an additional provision of ₩172,679 million (including provisions for debt securities, provisions for off-balance accounts, etc.) through the re-estimation of the forecast default rate that reflected the updated forward-looking information considering worst scenario for the year ended December 31, 2022 and an additional provision of ₩112,467 million through the additional selection and adjustment of cash flows for loans subject to individual assessment, and additional provision of ₩133,638 million was set aside by reflecting additional expected losses on loans in moratorium of interest payments and moratorium of repayment including mature-extended loans and estimated loss loans and mature-extended loans.

(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

i) Changes in allowance for impairment of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired	
Beginning balance	₩ 9,153	577	-	94,541	69,961	140,979	460,156	570,659	319,999	1,656	575	2,586	11,435	9,600	6,417	16,862	2,703	2,909	1,720,768
Transfer to 12 month expected credit losses	-	-	-	18,163	(17,688)	(475)	72,638	(67,766)	(4,872)	41	(35)	(6)	200	(200)	-	183	(178)	(5)	-
Transfer to lifetime expected credit losses	(2)	2	-	(7,736)	19,886	(12,150)	(49,703)	57,972	(8,269)	(41)	41	-	(359)	359	-	(114)	118	(4)	-
Transfer to credit-impaired financial assets	-	-	-	(1,989)	(5,514)	7,503	(1,462)	(22,266)	23,728	(211)	(84)	295	(7)	-	7	(18)	(215)	233	-
Provision for (reversal of) allowance (*1)	6,127	(424)	-	(6,125)	(2,340)	131,249	(43,408)	82,249	184,985	382	178	1,011	(949)	(503)	(598)	(4)	91	586	352,507
Write-offs	-	-	-	-	-	(206,482)	-	-	(238,265)	-	-	-	-	-	(1,218)	-	-	(1,701)	(447,666)
Effect of discounting	-	-	-	-	-	(4,437)	-	-	(11,460)	-	-	-	-	-	-	-	-	-	(15,897)
Disposal of loans	-	-	-	-	(1)	(5,455)	-	-	(14,410)	-	-	-	-	-	(1)	-	-	(40)	(19,907)
Recoveries	-	-	-	-	-	77,087	-	-	56,405	-	-	-	-	-	887	-	-	551	134,930
Others(*2)	873	24	-	706	53	588	4,947	7,715	(25,548)	108	38	195	269	1	-	139,019	-	-	128,988
Ending balance	₩ 16,151	179	-	97,560	64,357	128,407	443,168	628,563	282,293	1,935	713	4,081	10,589	9,257	5,494	155,928	2,519	2,529	1,853,723

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2021, to cope with the economic recession caused by the spread of the COVID-19. As of December 31, 2021, the Group has set aside an additional provision of ₩63,422 million through the additional selection and adjustment of cash flows for loans subject to individual assessment, and additional provision of ₩83,029 million through reflecting additional expected losses on loans in moratorium of interest payments and moratorium of repayment.
(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021
(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired	
Beginning balance	₩ 18,643,132	691	-	137,475,936	7,900,137	346,257	147,222,368	26,481,650	663,321	178,938	2,304	5,140	6,647,449	668,661	17,752	16,628,947	56,926	4,651	362,944,260
Transfer to 12 month expected credit losses	-	-	-	3,331,001	(3,323,000)	(8,001)	7,263,929	(7,257,084)	(6,845)	413	(350)	(63)	55,767	(55,767)	-	15,483	(15,393)	(90)	-
Transfer to lifetime expected credit losses	-	-	-	(4,107,377)	4,140,904	(33,527)	(9,867,090)	9,877,091	(10,001)	(1,605)	1,612	(7)	(52,028)	52,030	(2)	(19,831)	19,939	(108)	-
Transfer to credit-impaired financial assets	-	-	-	(135,798)	(138,470)	274,268	(164,674)	(297,966)	462,640	(3,184)	(327)	3,511	(18)	(12)	30	(688)	(1,807)	2,495	-
Origination, recoveries, and others(*1)	1,683,559	42	-	(2,940,267)	(635,031)	56,021	18,793,449	195,483	(131,114)	69,852	(128)	997	3,795,855	766	180	(993,235)	41,644	(266)	19,937,807
Write-offs	-	-	-	-	-	(206,920)	-	-	(199,806)	-	-	(5,253)	-	-	(1,121)	-	-	(1,364)	(414,464)
Disposal of loans	-	-	-	-	(1,151)	(50,179)	-	(1,333)	(117,472)	-	-	-	-	-	(2,748)	-	-	(869)	(173,752)
Ending balance	₩ 20,326,691	733	-	133,623,495	7,943,389	377,919	163,247,982	28,997,841	660,723	244,414	3,111	4,325	10,447,025	665,678	14,091	15,630,676	101,309	4,449	382,293,851

(*) Other changes were due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows (continued):

	December 31, 2021																		
	Due from banks			Loans at amortized cost												Other assets			Total
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired	
Beginning balance	₩ 25,842,746	2,152	-	125,961,826	7,946,103	372,210	130,850,324	23,888,538	771,610	159,503	2,049	3,219	8,454,605	664,875	18,043	11,115,576	54,846	5,219	336,113,444
Transfer to 12 month expected credit losses	-	-	-	3,118,171	(3,111,597)	(6,574)	5,973,996	(5,903,368)	(70,628)	246	(238)	(8)	43,342	(43,342)	-	11,962	(11,941)	(21)	-
Transfer to lifetime expected credit losses	(626)	626	-	(3,386,377)	3,419,483	(33,106)	(8,774,580)	8,796,098	(21,518)	(1,202)	1,202	-	(94,269)	94,271	(2)	(16,772)	16,794	(22)	-
Transfer to credit-impaired financial assets	-	-	-	(118,685)	(118,857)	237,542	(186,599)	(272,019)	458,618	(3,969)	(203)	4,172	(896)	(2)	898	(599)	(1,733)	2,332	-
Origination, recoveries, and others(*1)	(7,198,988)	(2,087)	-	11,901,001	(234,271)	26,149	19,359,227	(27,419)	(117,282)	24,360	(506)	(2,243)	(1,755,333)	(47,141)	75	5,518,780	(1,039)	(301)	27,442,982
Write-offs	-	-	-	-	-	(206,482)	-	-	(238,265)	-	-	-	-	-	(1,218)	-	-	(1,701)	(447,666)
Disposal of loans	-	-	-	-	(724)	(43,482)	-	(180)	(119,214)	-	-	-	-	-	(44)	-	(1)	(855)	(164,500)
Ending balance	₩ 18,643,132	691	-	137,475,936	7,900,137	346,257	147,222,368	26,481,650	663,321	178,938	2,304	5,140	6,647,449	668,661	17,752	16,628,947	56,926	4,651	362,944,260

(*) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Loans (continued)

(c) Changes in deferred loan origination costs for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Beginning balance	₩	544,087	500,391
Loan origination		215,314	307,668
Amortization		(254,920)	(263,972)
Ending balance	₩	504,481	544,087

10. Securities at fair value through other comprehensive income and securities at amortized cost

(a) Details of securities at FVTOCI and securities at amortized cost as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Securities at FVTOCI:			
Debt securities:			
Government bonds	₩	20,705,591	17,873,765
Financial institutions bonds		16,904,523	17,958,703
Corporate bonds		9,895,483	11,752,208
Others		49,355	-
		47,554,952	47,584,676
Equity securities:			
Stocks		1,173,962	663,311
Equity investments		3,075	2,958
Others		38,795	49,875
		1,215,832	716,144
	₩	48,770,784	48,300,820
Securities at amortized cost:			
Debt securities:			
Government bonds	₩	17,242,773	14,230,156
Financial institutions bonds		5,367,661	2,127,050
Corporate bonds		5,545,119	4,683,714
Others		234,135	293,846
		28,389,688	21,334,766
Allowance for impairment		(9,702)	(9,523)
	₩	28,379,986	21,325,243

(In millions of Korean won)

10. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(a) Details of securities at FVTOCI and securities at amortized cost as of December 31, 2022 and 2021 are as follows (continued):

Details of equity instruments designated at FVTOCI as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Marketable securities	₩	691,629	258,291
Non-marketable securities		482,333	405,020
Others		41,870	52,833
	₩	1,215,832	716,144

Above equity securities are equity securities designated as FVTOCI, and for the retention required by the policy, the option of measuring FVTOCI is exercised.

Cumulative net gains or losses reclassified in equity upon disposition of equity securities for the years ended December 31, 2022 and 2021 are ₩2,943 million and ₩(-)45,518 million and there are no cumulated gains or losses replaced by the reclassification of the account for the years ended December 31, 2022 and 2021, respectively.

(b) Gains and losses on sale of securities at FVTOCI for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Gain on sale of securities at FVTOCI	₩	9,393	73,830
Loss on sale of securities at FVTOCI		(10,602)	(6,765)
	₩	(1,209)	67,065

The Group disposed equity instruments that are measured at FVTOCI for debt-equity swap. At the time of disposal, fair value of equity instruments for the years ended December 31, 2022 and 2021 are ₩48,525 million and ₩79,386 million, and cumulative net gains or losses for the years ended December 31, 2022 and 2021 are ₩2,943 million and ₩(-)45,518 million, respectively.

(c) Gains and losses on sale of securities at amortized cost

Gains and losses on sale of securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Gain on disposal of securities at amortized cost	₩	5	24
Loss on disposal of securities at amortized cost		(65)	(334)
	₩	(60)	(310)

Securities at amortized cost are sold due to the partial redemption of payables.

(In millions of Korean won)

10. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVTOCI and securities at amortized cost.

i) Changes in allowance for credit loss of securities at FVTOCI and securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022							
		Securities at FVTOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩	28,137	602	-	28,739	9,060	463	-	9,523
Transfer to 12-month expected credit losses		166	(166)	-	-	203	(203)	-	-
Transfer to lifetime expected credit losses		(20)	20	-	-	-	-	-	-
Transfer to impaired financial assets		-	-	-	-	-	-	-	-
Reversal		(3,016)	(355)	-	(3,371)	557	(94)	-	463
Disposals and Others(*)		(633)	11	-	(622)	(275)	(9)	-	(284)
Ending balance	₩	24,634	112	-	24,746	9,545	157	-	9,702

(*) Other changes are due to foreign exchange rate changes, etc.

		December 31, 2021							
		Securities at FVTOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩	16,300	677	-	16,977	6,000	-	-	6,000
Transfer to 12-month expected credit losses		33	(33)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(63)	63	-	-	(216)	216	-	-
Transfer to impaired financial assets		-	-	-	-	-	-	-	-
Provision(reversal)		17,389	(25)	-	17,364	2,127	240	-	2,367
Disposals and Others(*)		(5,522)	(80)	-	(5,602)	1,149	7	-	1,156
Ending balance	₩	28,137	602	-	28,739	9,060	463	-	9,523

(*) Other changes are due to foreign exchange rate changes, etc.

(In millions of Korean won)

10. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVTOCI and securities at amortized cost (continued).

ii) Changes in carrying amount of securities at FVTOCI and securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022							
		Securities at FVTOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Credit unimpaired financial assets	Impaired financial assets	Total
Beginning balance	₩	47,431,890	152,786	-	47,584,676	21,298,476	36,290	-	21,334,766
Transfer to 12-month expected credit losses		61,740	(61,740)	-	-	18,544	(18,544)	-	-
Transfer to lifetime expected credit losses		(23,619)	23,619	-	-	-	-	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase (decrease) in balance		17,741	(47,465)	-	(29,724)	7,062,151	(7,229)	-	7,054,922
Ending balance	₩	47,487,752	67,200	-	47,554,952	28,379,171	10,517	-	28,389,688

		December 31, 2021							
		Securities at FVTOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Credit unimpaired financial asset	Impaired financial assets	Total
Beginning balance	₩	38,459,361	267,135	-	38,726,496	20,184,443	-	-	20,184,443
Transfer to 12-month expected credit losses		51,055	(51,055)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(35,665)	35,665	-	-	(35,505)	35,505	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase (decrease) in balance		8,957,139	(98,959)	-	8,858,180	1,149,538	785	-	1,150,323
Ending balance	₩	47,431,890	152,786	-	47,584,676	21,298,476	36,290	-	21,334,766

(In millions of Korean won)

11. Property and equipment

(a) Details of property and equipment as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Carrying amount
Land	₩	1,317,048	-	1,317,048
Buildings(*)		905,103	(431,256)	473,847
Right-of-use assets		864,469	(462,887)	401,582
Others		1,576,295	(1,231,290)	345,005
	₩	4,662,915	(2,125,433)	2,537,482

(*) ₩65 million of government subsidy is deducted from book value.

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Carrying amount
Land	₩	1,305,608	-	1,305,608
Buildings(*)		883,323	(395,257)	488,066
Right-of-use assets		930,605	(514,067)	416,538
Others		1,464,906	(1,187,733)	277,173
	₩	4,584,442	(2,097,057)	2,487,385

(*) ₩129 million of government subsidy is deducted from book value.

(b) Changes in property and equipment for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Land	Buildings	Right-of-use assets	Others	Total
Beginning balance	₩	1,305,608	488,066	416,538	277,173	2,487,385
Acquisitions (*1)(*2)		631	49,071	256,705	176,239	482,646
Disposals and write-offs (*3)		(209)	(405)	(67,717)	(1,646)	(69,977)
Depreciation		-	(45,190)	(208,222)	(107,471)	(360,883)
Amounts transferred to investment properties		12,703	(15,830)	-	-	(3,127)
Amounts transferred to non-current assets held for sale		(1,666)	(1,395)	-	-	(3,061)
Effects of foreign currency movements		(19)	(470)	4,278	710	4,499
Ending balance	₩	1,317,048	473,847	401,582	345,005	2,537,482

(*1) ₩33,983 million transferred from construction-in progress is included.
(*2) ₩6,276 million of provision for the asset retirement related to newly acquired assets is included.
(*3) ₩1,821 million of write-off is included.

(In millions of Korean won)

11. Property and equipment (continued)

(b) Changes in property and equipment for the years ended December 31, 2022 and 2021 are as follows: (continued):

		December 31, 2021				
		Land	Buildings	Right-of-use assets	Others	Total
Beginning balance	₩	1,301,446	505,926	444,812	197,681	2,449,865
Acquisitions (*1)(*2)		126	30,469	190,465	157,454	378,514
Disposals and write-offs (*3)		(288)	(188)	(6,445)	(1,440)	(8,361)
Depreciation		-	(43,204)	(229,384)	(80,004)	(352,592)
Amounts transferred to investment properties		4,177	(4,209)	-	-	(32)
Amounts transferred to non-current assets held for sale		(169)	(853)	-	-	(1,022)
Effects of foreign currency movements		316	125	17,090	3,482	21,013
Ending balance	₩	1,305,608	488,066	416,538	277,173	2,487,385

(*1) ₩18,748 million transferred from construction-in progress is included.
(*2) ₩3,614 million of provision for the asset retirement related to newly acquired assets is included.
(*3) ₩1,361 million of write-off is included.

(c) Insured assets and liability insurances as of December 31, 2022 are follows:

Type of insurance	Insured assets		Amount covered	Insurance company
Comprehensive insurance for financial institutions	Cash & securities	₩	20,000	Samsung Fire & Marine Insurance Co., Ltd. and 4 other insurance companies
Property insurance	Real estate & movable properties for business purpose		874,386	Samsung Fire & Marine Insurance Co., Ltd., etc. and 4 other insurance companies
Burglary insurance	Cash & securities		60,000	Samsung Fire & Marine Insurance Co., Ltd., etc and 3 other insurance companies
Compensation liability insurance for officers	-		50,000	Meritz Fire & Marine Insurance Co., Ltd., etc. and 6 other insurance companies
Compensation liability insurance for gas accident	Real estate		500	Meritz Fire & Marine Insurance Co., Ltd.
Compensation liability insurance for personal information protection	-		10,000	DB Insurance Co., Ltd.
Compensation liability insurance for electronic financial transaction	-		3,000	Lotte Insurance Co., Ltd., etc.
Compensation liability insurance for casualty	Real estate		1,000	Samsung Fire & Marine Insurance Co., Ltd.
Compaensation liability insurance for elevator accidents	-		80	Samsung Fire & Marine Insurance Co., Ltd.
		₩	1,018,966	

Besides the insurances listed above, the Group also has automobile liability insurance, medical insurance for employees, and casualty insurance for protecting property and employees.

(In millions of Korean won)

12. Leases

(a) Details of lease right-of-use assets by class of underlying asset of the lessee as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Book value
Real property	₩	787,846	(412,616)	375,230
Vehicle		44,974	(28,814)	16,160
Others		31,649	(21,457)	10,192
	₩	864,469	(462,887)	401,582

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Real property	₩	860,893	(472,235)	388,658
Vehicle		40,083	(24,043)	16,040
Others		29,629	(17,789)	11,840
	₩	930,605	(514,067)	416,538

(b) Changes in underlying assets for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Real property	Vehicle	Others	Total
Beginning balance	₩	388,658	16,040	11,840	416,538
Acquisitions		242,593	10,511	3,601	256,705
Disposals		(65,506)	(1,375)	(836)	(67,717)
Depreciation		(194,744)	(9,067)	(4,411)	(208,222)
Effects of foreign currency movements		4,229	51	(2)	4,278
Ending balance	₩	375,230	16,160	10,192	401,582

		December 31, 2021			
		Real property	Vehicle	Others	Total
Beginning balance	₩	416,661	15,349	12,803	444,813
Acquisitions		172,601	13,693	4,171	190,465
Disposals		(3,279)	(3,135)	(30)	(6,444)
Depreciation		(214,232)	(10,048)	(5,104)	(229,384)
Effects of foreign currency movements		16,907	181	-	17,088
Ending balance	₩	388,658	16,040	11,840	416,538

(In millions of Korean won)

12. Leases (continued)

(c) Details of maturity of lease liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022						
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Assets								
Real property	₩	19,470	22,290	29,712	49,620	184,247	58,127	363,466
Vehicle		6,463	1,376	1,872	3,372	9,965	-	23,048
Others		439	541	1,079	2,076	6,592	10	10,737
	₩	26,372	24,207	32,663	55,068	200,804	58,137	397,251

		December 31, 2021						
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Assets								
Real property	₩	19,006	27,208	36,418	62,657	188,722	46,023	380,034
Vehicle		5,988	1,505	1,918	3,559	9,149	-	22,119
Others		449	619	1,077	2,112	7,981	26	12,264
	₩	25,443	29,332	39,413	68,328	205,852	46,048	414,416

The abovementioned amounts shown above are classified by the earliest maturity dates on which the Group's payment obligation arises based on undiscounted cash flows.

(d) For the years ended December 31, 2022 and 2021, the lease payment for low value assets is ₩4,194 million and ₩4,206 million. Short-term lease payment does not exist.

(e) The Group applied a practical simplified method that does not evaluate whether it is a lease change for real estate rental fee discounts that have occurred as a direct result of the COVID-19. For the years ended December 31, 2022 and 2021, the amount recognized in profit or loss to reflect changes in lease payments arising from the rent discount is ₩22,308 million and ₩47,589 million, respectively.

(In millions of Korean won)

13. Intangible assets

(a) Details of intangible assets as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Goodwill	₩	32,082	28,199
Software		149,661	104,475
Development cost		144,191	78,159
Memberships		46,897	48,379
Others		263,656	283,914
	₩	636,487	543,126

(b) Changes in intangible assets for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Goodwill	Software	Development cost	Membership	Others	Total
Beginning balance	₩	28,199	104,475	78,159	48,379	283,914	543,126
Acquisitions		-	84,235	98,249	1,814	95,402	279,700
Disposal		-	-	-	(3,299)	(67)	(3,366)
Amortization(*1)		-	(39,810)	(32,217)	-	(115,811)	(187,838)
Effects of foreign currency movements		3,883	761	-	3	218	4,865
Ending balance(*2)	₩	32,082	149,661	144,191	46,897	263,656	636,487

(*1) ₩111,945 million among amortization cost of other intangible assets is included in other operating expenses.
(*2) ₩44,100 million of other intangible assets is accounted for as account payables.

		December 31, 2021					
		Goodwill	Software	Development cost	Membership	Others	Total
Beginning balance	₩	59,139	90,082	60,000	48,240	282,380	539,841
Acquisitions		-	45,412	41,297	-	114,879	201,588
Disposal		-	(1,998)	-	(16)	-	(2,014)
Impairment		(30,940)	-	-	-	(1,124)	(32,064)
Amortization(*1)		-	(31,013)	(23,138)	-	(113,154)	(167,305)
Effects of foreign currency movements		-	1,992	-	155	933	3,080
Ending balance(*2)	₩	28,199	104,475	78,159	48,379	283,914	543,126

(*1) ₩108,802 million among amortization cost of other intangible assets is included in other operating expenses.
(*2) ₩161,843 million of other intangible assets is accounted for as account payables.

(In millions of Korean won)

13. Intangible assets (continued)

(c) Goodwill

i) The carrying amounts of goodwill allocated to each Cash-Generating Unit ("CGU") as of December 31, 2022 and 2021 are as follows:

CGU		December 31, 2022	December 31, 2021
Shinhan Bank Vietnam Co., Ltd.	₩	32,082	28,199

ii) Impairment test

The recoverable amount of all cash-generating units required for impairment testing is based on value in use. The recoverable amounts of CGUs are determined on the basis of value-in-use calculations using discounted cash flow (DCF) model.

① Measurement date and projection period
The recoverable amounts are measured as of June 30, 2022. The projection period used in value-in-use calculations is 5.5 years (July 2022 through December 2027) considering synergy effect of business combinations and the value-in-use after projection period is estimated on the assumption that the future cash flows will increase by perpetual growth rate for every year.

② Significant assumptions
The expected future cash flows from the cash-generating unit are based on the CPI growth rate, market size and the market share of the Group. Major unobservable assumptions applied during the forecast period are as follows:

(Unit: %)

Cash-generating units	Net interest income growth rate	Net commission income growth rate	General administrative expenses growth rate	Growth rate
Shinhan Bank Vietnam Co., Ltd.	6.46	2.10	6.68	5.69

The cost of equity capital is calculated by taking into account the systematic risk of the entity in the market risk premium paid in return for risk free rate. Permanent growth rate is estimated based on inflation and did not exceed the projected long-term average growth rate of the relevant industry report.

(Unit: %)

Cash-generating units	Discount rate	Permanent growth rate
Shinhan Bank Vietnam Co., Ltd.	14.20	2.00

13. Intangible assets (continued)

(c) Goodwill (continued)

ii) Impairment test (continued)

ⓒ The recoverable amounts and carrying amounts

The recoverable amounts and carrying amounts of the CGUs to which goodwill has been allocated as of valuation date are as follows:

		Shinhan Bank Vietnam Co., Ltd.
Recoverable amount	₩	1,545,793
Carrying amount		1,288,007
Recoverable amount in excess of carrying amount amount	₩	257,786

The carrying amount of Shinhan Bank Vietnam's cash-generating unit does not exceed the recoverable amount.

14. Investments in associates

(a) Investments in associates as of December 31, 2022 and 2021 are as follows:

				Ownership (%)	
Investees	Location	Reporting date	Industry sector	December 31, 2022	December 31, 2021
BNP Paribas Cardif Life Insurance Co., Ltd.(*1)(*2)	Korea	September 30	Insurance	14.99	14.99
KOREA FINANCE SECURITY(*1)(*5)	Korea	September 30	Others	14.91	14.91
DOODOO LOGITECH(*3)(*4)	Korea	December 31	Others	27.96	27.96
One Shinhan Future's Fund 1(*1)	Korea	September 30	Investment	27.78	27.78
KST-SH Laboratory Investment Fund No.1(*1)	Korea	December 31	Investment	20.00	20.00
One Shinhan Future's Fund 2(*1)	Korea	September 30	Investment	29.70	29.70
One Shinhan Future's Fund 3(*1)(*6)	Korea	September 30	Investment	29.90	-
One-Shinhan Connect New Technology Investment Fund 1(*1)	Korea	November 30	Investment	30.00	30.00
One-Shinhan Connect New Technology Investment Fund 2(*1)(*6)	Korea	November 30	Investment	33.33	-
Neoplux Technology Valuation Investment Fund(*1)	Korea	November 30	Investment	33.33	33.33
Partners 4th Growth Investment Fund(*1)	Korea	November 30	Investment	25.00	25.00
KTB Newlake Global Healthcare PEF(*8)	Korea	-	Investment	-	20.00
Newlake Growth Capital Partners2 PEF(*1)	Korea	November 30	Investment	23.01	23.01
Songrim Co., Ltd.(*9)	Korea	-	Retail	-	35.34
MIEL Co., Ltd.(*3)(*4)	Korea	December 31	Others	28.77	28.77
MSTEEL Co., Ltd.(*3)(*4)	Korea	December 31	Others	29.45	29.45
JB AIR(*9)	Korea	-	Others	-	28.77
BACK DOO Co., Ltd.(*3)(*4)	Korea	December 31	Retail	25.90	25.90
Chungwon assets(*3)(*4)	Korea	December 31	Manufacturing	22.53	22.53
Jinmyung Plus(*3)(*4)	Korea	December 31	Manufacturing	22.20	22.20
SEOKWANG T&I (*3)	Korea	-	Manufacturing	28.55	-
Korea Credit Bureau(*1)(*5)	Korea	September 30	Credit	4.50	4.50
Goduck Gangil1 PFV Co., Ltd.(*1)(*5)	Korea	September 30	Real estate	1.04	1.04
Goduck Gangil10 PFV Co., Ltd.(*1)(*5)	Korea	September 30	Real estate	14.00	14.00

14. Investments in associates (continued)

(a) Investments in associates as of December 31, 2022 and 2021 are as follows: (continued)

Investees	Location	Reporting date	Industry sector	Ownership (%) December 31, 2022	Ownership (%) December 31, 2021
SBC PFV Co., Ltd.(*1)(*5)(*7)	Korea	September 30	Real estate	12.50	12.50
DDI LVC Master Real Estate Investment Trust Co., Ltd.(*1)(*5)(*6)	Korea	September 30	Real estate	15.00	-
Logisvalley Shinhan REIT Co., Ltd.(*1)(*5)(*6)	Korea	September 30	Real estate	14.95	-
ICSF (The Korea's Information Center for Savings & Finance) (*4)	Korea	December 31	Service	32.26	32.26
Shinhan-Albatross Technology Investment Fund(*1)	Korea	November 30	Investment	33.33	33.33
Shinhan-Neoplux Energy Newbiz Fund	Korea	December 31	Investment	23.33	23.33
Stassets-DA Value Healthcare Fund I(*1)	Korea	September 30	Investment	24.10	24.10
Shinhan SKS Corporate Recovery Private Equity Fund(*1)	Korea	November 30	Investment	23.99	23.99
BTS 2nd Private Equity Fund(*1)(*6)	Korea	November 30	Investment	20.00	-
Shinhan global flagship venture fund 1(*1)(*6)	Korea	November 30	Investment	45.00	-
Korea Digital Asset Custody(*1)(*5)	Korea	September 30	Service	14.09	14.98
Shinhan VC tomorrow venture fund 1	Korea	December 31	Investment	21.74	21.74

(*1) Financial statements as of September 30, 2022 and November 30, 2022 are used for the equity method accounting since the financial statements as of December 31, 2022 are not available. Significant trades and events occurred within the period are properly reflected.
(*2) The Group classified investments in associates as the Group has significant influence over the investee through significant operating transactions.
(*3) In the course of the rehabilitation process, the shares were acquired through debt-equity swap. Although voting rights cannot be exercised during the rehabilitation process, normal voting rights are exercised because the rehabilitation process was completed before December 31, 2022. Also, it has been reclassified to the investments in associates.
(*4) The latest financial statements available are used for the equity method accounting since the financial statements as of December 31, 2022 are not available. Significant trades and events occurred within the period are properly reflected.
(*5) Although it holds less than 20% of shares, the equity method is applied for evaluation since it has significant impact on the investee, such as participation in their decision making.
(*6) It is newly acquired or newly incorporated as investments in associates for the year ended December 31, 2022.
(*7) The percentage of voting rights held is 4.65%.
(*8) It is excluded from associates due to partial repayment for the year ended December 31, 2022.
(*9) It is excluded from associates due to disposal for the year ended December 31, 2022.

(In millions of Korean won)

14. Investments in associates (continued)

(b) Changes in investments in associates for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022								
Associates	Acquisition cost	Beginning balance	Acquisition (redemption)	Gain from disposal	Share of profit (loss) of associates	Share of other comprehensive income (loss) of associates	Dividends received	Others (*1)	Ending balance
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 42,204	44,028	-	-	(1,776)	(12,079)	-	-	30,173
KOREA FINANCE SECURITY	3,448	2,994	-	-	(583)	-	-	-	2,411
DOODOO LOGITECH	-	1	-	-	-	-	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	2,206	2,845	(794)	-	516	-	-	-	2,567
KST-SH Laboratory Investment Fund No.1	2,000	1,408	500	-	(19)	-	-	-	1,889
One-Shinhan Future's New Technology Investment Fund 2	2,970	2,892	-	-	371	-	-	-	3,263
One-Shinhan Future's New Technology Investment Fund 3	598	-	598	-	(33)	-	-	-	565
One-Shinhan Connect New Technology Investment Fund 1	70,937	70,940	(1,063)	-	7,632	-	-	-	77,509
One-Shinhan Connect New Technology Investment Fund 2	15,000	-	15,000	-	(682)	-	-	-	14,318
Neoplux Technology Valuation Investment Fund	2,278	9,055	-	-	1,988	-	(598)	-	10,445
Partners 4th Growth Investment Fund	9,219	13,033	(582)	-	6,916	(4,694)	(1,132)	-	13,541
KTB Newlake Global Healthcare PEF	-	6,275	(488)	495	-	-	-	(6,282)	-
Newlake Growth Capital Partners2 PEF	10,000	9,939	-	-	(191)	-	(136)	-	9,612
Songrim Partners Co., Ltd.	-	-	-	-	-	-	-	-	-
MIEL Co., Ltd.(*2)									
MSTEEL Co., Ltd.(*2)	-	1,538	-	-	(1,538)	-	-	-	-
JB AIR	-	22	-	-	(22)	-	-	-	-
BAEK DOO Co., Ltd.	-	152	-	-	(35)	-	-	-	117
Chungwon assets	-	239	-	-	165	144	-	-	548
Jinmyung Plus	-	26	-	-	(5)	-	-	-	21
SEOKWANG T&I	-	-	-	-	-	-	-	-	-
Korea Credit Bureau	2,250	3,847	-	-	(1,327)	-	-	-	2,520
Goduck Gangil1 PFV Co., Ltd.	50	-	-	-	60	-	-	-	60
Goduck Gangil10 PFV Co., Ltd.	700	-	-	-	2,277	-	-	-	2,277
SBC PFV Co., Ltd.	16,250	14,790	-	-	(559)	-	-	-	14,231
DDI LVC Master Real Estate Investment Trust Co., Ltd.	6,625	-	6,625	-	(220)	-	-	-	6,405
Logisvalley Shinhan REIT Co., Ltd.	2,925	-	2,925	-	(44)	(45)	-	-	2,836
ICSF (The Korea's Information Center for Savings & Finance)	300	167	-	-	8	-	-	-	175
Shinhan-Albatross Technology Investment Fund	1,900	7,020	(1,200)	-	3,476	(128)	-	-	9,168
Shinhan-Neoplux Energy Newbiz Fund	10,651	10,598	(288)	-	5,044	-	-	-	15,354
Stassets-DA Value Healthcare Fund I	508	739	(107)	-	1,747	-	-	-	2,379
Shinhan SKS Corporate Recovery Private Equity Fund	8,980	3,928	4,965	-	81	-	-	-	8,974
BTS 2nd Private Equity Fund	3,026	-	3,026	-	(125)	-	-	-	2,901
Shinhan global flagship venture fund 1	18,000	-	18,000	-	(412)	-	-	-	17,588
Korea Digital Asset Custody	505	435	-	-	(179)	16	-	-	272
Shinhan VC tomorrow venture fund 1	15,000	5,000	10,000	-	(227)	-	-	-	14,773
	₩ 248,530	211,911	57,117	495	22,304	(16,786)	(1,866)	(6,282)	266,893

(*1) No cash flow is involved as acquired from another account as reclassification.
(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

(In millions of Korean won)

14. Investments in associates (continued)

(b) Changes in investments in associates for the years ended December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021								
Associates	**Acquisition cost**	**Beginning balance**	**Acquisition (redemption)**	**Gain from disposal**	**Share of profit (loss) of associates**	**Share of other comprehensive income (loss) of associates**	**Dividends received**	**Others**	**Ending balance**
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 42,204	50,606	-	-	(660)	(5,918)	-	-	44,028
KOREA FINANCE SECURITY	3,448	3,055	-		(61)	-	-	-	2,994
DAEGY Electrical Construction Co., Ltd.	-	69	-	(66)	-	(3)	-	-	-
DOODOO LOGITECH	-	1	-	-	-	-	-	-	1
One Shinhan Future's Fund 1	3,000	2,921	-		(76)	-	-	-	2,845
KST-Shinhan Fund 1	1,500	920	500		(12)	-	-	-	1,408
One Shinhan Future's Fund 2	2,970	1,783	1,170		(61)	-	-	-	2,892
One-Shinhan Connect New Technology Investment Fund 1	72,000	-	72,000		(1,060)	-	-	-	70,940
Neoplux Technology Valuation Investment Fund	2,278	9,083	(7,824)	-	10,869	-	(3,073)	-	9,055
Partners 4th Growth Investment Fund	9,801	11,958	(3,753)	-	12,525	4,694	(12,390)	-	13,034
KTB Newlake Global Healthcare PEF	6,770	6,269	-	-	6	-	-	-	6,275
Newlake Growth Capital Partners2 PEF	10,000	-	10,000		(61)	-	-	-	9,939
DAEKWANG SEMICON DUCTOR Co., Ltd.	-	3,631	(2,020)	(1,721)	113	(3)		-	-
Songrim Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
Multimedia Tech Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
Hyungje art printing(*2)	-	-	-	-	-	-	-		-
MIEL Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
COSPEC BIM tech	-	95	(89)	(86)	80	-	-	-	-
WON JIN HOME PLAN Co., Ltd.	-	189	(102)	(87)	-	-	-	-	-
MSTEEL Co., Ltd.(*1)	-	-	-	-	-	-	-	1,538	1,538
JB AIR(*1)	-	-			-	-	-	22	22
Real Spin	-	-	(4)	(74)	-	-	-	78	-
BAEK DOO Co., Ltd.(*1)	-	-	-	-	-	-	-	152	152
Chungwon Assets(*1)	-	-	-	-	-	-	-	239	239
Jinmyung Plus(*1)	-	-	-	-	-	-	-	26	26
Korea Credit Bureau	2,250	3,488	-	-	404	-	(45)	-	3,847
Goduck Gangil1 PFV Co., Ltd.(*2)	50	-	-	-	-	-	-	-	-
Goduck Gangil10 PFV Co., Ltd.(*2)	700	23	-	-	(23)	-	-	-	-
SBC PFV Co., Ltd	16,250	9,104	6,250	-	(563)	-	-	-	14,791
ICSF (The Korea's Information Center for Savings & Finance)	300	159	-	-	8	-	-	-	167
Shinhan-Albatross Technology Investment Fund	3,100	8,772	(6,000)	-	4,248	-	-	-	7,020
Shinhan-Neoplux Energy Newbiz Fund	10,940	10,355	350	-	(107)	-	-	-	10,598
Stassets-DA Value Healthcare Fund I	614	753	-	-	(13)	-	-	-	740
Shinhan SKS Corporate Recovery Private Equity Fund	4,015	-	4,015	-	(87)	-	-	-	3,928
Korea Digital Asset Custody	505	-	505	-	(70)	-	-	-	435
Shinhan VC tomorrow venture fund 1	5,000	-	5,000	-	-	-	-	-	5,000
	₩ 197,695	123,234	79,998	(2,034)	25,399	(1,230)	(15,508)	2,055	211,914

(*1) No cash flow is involved as acquired from another account as reclassification.
(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

(In millions of Korean won)

14. Investments in associates (continued)

(c) Condensed financial statements of associates as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
Associates		Assets	Liabilities	Operating revenue	Profit (loss) for the year	Other comprehensive loss	Total comprehensive income (loss)
BNP Paribas Cardif Life Insurance Co., Ltd.	₩	2,528,558	2,327,352	47,631	(11,901)	(80,527)	(92,428)
KOREA FINANCE SECURITY		29,060	12,892	54,341	(3,909)	-	(3,909)
DOODOO LOGITECH		3	-	-	(1)	-	(1)
One-Shinhan Future's New Technology Investment Fund 1		9,245	-	2,177	1,859	-	1,859
KST-SH Laboratory Investment Fund No.1		9,445	-	100	(96)	-	(96)
One-Shinhan Future's New Technology Investment Fund 2		10,984	-	5	1,248	-	1,248
One-Shinhan Future's New Technology Investment Fund 3		1,891	-	-	(109)	-	(109)
One-Shinhan Connect New Technology Investment Fund 1		258,363	-	28,891	25,439	-	25,439
One-Shinhan Connect New Technology Investment Fund 2		42,953	-	-	(2,047)	-	(2,047)
Neoplux Technology Valuation Investment Fund		31,820	487	3,864	5,964	-	5,964
Partners 4th Growth Investment Fund		54,661	496	14,432	27,663	(18,774)	8,889
Newlake Growth Capital Partners2 PEF		42,358	592	-	(829)	-	(829)
MIEL Co., Ltd.		422	565	36	(1)	-	(1)
MSTEEL Co., Ltd.		773	2,032	27,238	(6,481)	-	(6,481)
BAEK DOO Co., Ltd.		777	328	1,333	(137)	-	(137)
Chungwon assets		3,360	929	4,023	731	-	731
Jinmyung Plus		592	495	209	(21)	-	(21)
SEOKWANG T&I		-	-	-	-	-	-
Korea Credit Bureau		144,765	88,766	141,445	(29,498)	-	(29,498)
Goduck Gangil1 PFV Co., Ltd.		212,608	206,893	187,295	21,478	-	21,478
Goduck Gangil10 PFV Co., Ltd.		179,923	163,660	210,961	24,625	-	24,625
SBC PFV Co., Ltd.		444,206	290,391	-	(4,471)	-	(4,471)
DDI LVC Master Real Estate Investment Trust Co., Ltd.		42,665	43	-	(1,466)	-	(1,466)
Logisvalley Shinhan REIT Co., Ltd.		81,182	55,619	1,000	(296)	-	(296)
ICSF (The Korea's Information Center for Savings & Finance)		544	1	100	24	-	24
Shinhan-Albatross		27,870	363	1,469	10,429	(383)	10,046
Shinhan-Neoplux Energy Newbiz Fund		66,779	978	3,371	21,618	-	21,618
Stassets-DA Value Healthcare Fund I		9,877	-	335	7,250	-	7,250
Shinhan SKS Corporate Recovery Private Equity Fund		37,555	145	1,457	337	-	337
BTS 2nd Private Equity Fund		15,018	513	1	(625)	-	(625)
Shinhan Global Flagship Venture Fund 1		39,083	-	187	(917)	-	(917)
Korea Digital Asset Custody		400	60	-	(1,273)	-	(1,273)
Shinhan VC Tomorrow Venture Fund 1		68,808	850	163	(1,042)	-	(1,042)
	₩	4,396,548	3,154,450	732,064	83,545	(99,684)	(16,139)

(In millions of Korean won)

14. Investments in associates (continued)

(c) Condensed financial statements of associates as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021					
Associates		Assets	Liabilities	Operating revenue	Profit (loss) for the year	Other comprehensive income (loss)	Total comprehensive income (loss)
BNP Paribas Cardif Life Insurance Co., Ltd.	₩	3,268,153	2,974,519	48,207	(4,499)	(39,454)	(43,953)
KOREA FINANCE SECURITY		35,044	14,966	63,693	(412)	-	(412)
DOODOO LOGITECH		4	-	-	(1)	-	(1)
One-Shinhan Future's New Technology Investment Fund 1		10,244	-	3	(272)	-	(272)
KST-SH Laboratory Investment Fund No.1		7,043	2	-	(56)	-	(56)
One-Shinhan Future's New Technology Investment Fund 2		9,736	-	-	(205)	-	(205)
One-Shinhan Connect New Technology Investment Fund 1		236,479	11	39	(3,532)	-	(3,532)
Neoplux Technology Valuation Investment Fund		30,463	3,298	33,345	32,607	-	32,607
Partners 4th Growth Investment Fund		60,073	7,939	52,019	50,100	18,774	68,874
KTB Newlake Global Healthcare PEF		30,969	161	552	27	-	27
Newlake Growth Capital Partners2 PEF		43,187	-	290	(263)	-	(263)
Songrim Partners Co., Ltd.		1,003	1,065	548	-	-	-
MIEL Co., Ltd.		491	632	36	(56)	-	(56)
MSTEEL Co., Ltd.		9,635	4,412	3,126	-	-	-
JB AIR		386	310	319	-	-	-
BAEK DOO Co., Ltd.		1,711	1,125	1,278	-	-	-
Chungwon assets		3,358	2,296	2,445	-	-	-
Jinmyung Plus		624	506	205	-	-	-
Korea Credit Bureau		129,478	43,981	121,982	8,988	-	8,988
Goduck Gangil1 PFV Co., Ltd.		301,513	317,276	88,085	(1,835)	-	(1,835)
Goduck Gangil10 PFV Co., Ltd.		253,607	261,969	-	(8,526)	-	(8,526)
SBC PFV Co., Ltd.		334,262	175,976	-	(4,462)	-	(4,462)
ICSF (The Korea's Information Center for Savings & Finance)		539	21	100	28	-	28
Shinhan-Albatross		21,552	491	14,217	12,745	-	12,745
Shinhan-Neoplux Energy Newbiz Fund		46,175	755	1,808	(460)	-	(460)
Stassets-DA Value Healthcare Fund I		3,131	62	-	(55)	-	(55)
Shinhan SKS Corporate Recovery Private Equity Fund		16,604	230	314	(364)	-	(364)
Korea Digital Asset Custody		693	17	-	(470)	-	(470)
Shinhan VC tomorrow venture fund 1		23,000	-	-	-	-	-
	₩	4,879,157	3,812,020	432,611	79,027	(20,680)	58,347

(In millions of Korean won)

14. Investments in associates (continued)

(d) Reconciliation of associates' financial information presented to the carrying amount of the Group's interest in the associates as of December 31, 2022 and 2021 are as follows:

	December 31, 2022					
Associates	Net assets (A)	Proportion of ownership interest (B)	Equity amount of net asset (A) x (B)	Unrealized income and expenses	Other adjustments	Carrying amount
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 201,205	14.99%	30,181	(8)	-	30,173
KOREA FINANCE SECURITY	16,168	14.91%	2,411	-	-	2,411
DOODOO LOGITECH	3	27.96%	1	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	9,245	27.78%	2,568	-	-	2,568
KST-SH Laboratory Investment Fund No.1	9,445	20.00%	1,889	-	-	1,889
One-Shinhan Future's New Technology Investment Fund 2	10,984	29.70%	3,262	-	-	3,262
One-Shinhan Future's New Technology Investment Fund 3	1,891	29.90%	565	-	-	565
One-Shinhan Connect New Technology Investment Fund 1	258,363	30.00%	77,509	-	-	77,509
One-Shinhan Connect New Technology Investment Fund 2	42,953	33.33%	14,318	-	-	14,318
Neoplux Technology Valuation Investment Fund	31,333	33.33%	10,445	-	-	10,445
Partners 4th Growth Investment Fund	54,165	25.00%	13,541	-	-	13,541
Newlake Growth Capital Partners2 PEF	41,767	23.01%	9,611	-	-	9,611
MIEL Co., Ltd. (*2)	(142)	28.77%	(41)	-	41	-
MSTEEL Co., Ltd. (*2)	(1,259)	29.45%	(371)	-	371	-
BAEK DOO Co., Ltd.	449	25.90%	116	-	-	116
Chungwon Assets	2,430	22.53%	547	-	-	547
Jinmyung Plus	97	22.20%	22	-	-	22
SEOKWANG T&I	-	28.55%	-	-	-	-
Korea Credit Bureau	55,999	4.50%	2,520	-	-	2,520
Goduck Gangil1 PFV Co., Ltd.	5,715	1.04%	59	-	-	59
Goduck Gangil10 PFV Co., Ltd.	16,263	14.00%	2,277	-	-	2,277
SBC PFV Co., Ltd.(*3)	153,815	12.50%	19,227	-	(4,995)	14,232
DDI LVC Master Real Estate Investment Trust Co., Ltd.(*1)	42,621	15.00%	6,393	-	12	6,405
Logisvalley Shinhan REIT Co., Ltd.(*1)	25,564	14.95%	3,822	-	(986)	2,836
ICSF (The Korea's Information Center for Savings & Finance)	543	32.26%	175	-	-	175
Shinhan-Albatross	27,507	33.33%	9,168	-	-	9,168
Shinhan-Neoplux Energy Newbiz Fund	65,802	23.33%	15,354	-	-	15,354
Stassets-DA Value Healthcare Fund I	9,877	24.10%	2,380	-	-	2,380
Shinhan SKS Corporate Recovery Private Equity Fund	37,410	23.99%	8,975	-	-	8,975
BTS 2nd Private Equity Fund	14,505	20.00%	2,901	-	-	2,901
Shinhan global flagship venture fund 1	39,083	45.00%	17,587	-	-	17,587
Korea Digital Asset Custody (*1)	341	14.09%	48	-	224	272
Shinhan VC tomorrow venture fund 1	67,958	21.74%	14,774	-	-	14,774
	₩ 1,242,100		272,234	(8)	(5,333)	266,893

(*1) Other is the fair value adjustment amount incurred during acquisition.
(*2) Other adjustments represent the unrecognized share of accumulated losses resulting from the Group's discontinuing the use of equity method since its interest is reduced to zero by the accumulated losses of the investee.
(*3) It is the amount of adjustment that does not use of the equity method for preferred shares without voting rights issued by the investee.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021
(In millions of Korean won)

14. Investments in associates (continued)

(d) Reconciliation of associates' financial information presented to the carrying amount of the Group's interest in the associates as of December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021					
Associates	Net assets (A)	Proportion of ownership interest (B)	Equity amount of net asset (A) x (B)	Unrealized income and expenses	Other adjustments	Carrying amount
BNP Paribas Cardif Life Insurance Co., Ltd.	293,633	14.99%	44,045	(17)	-	44,028
KOREA FINANCE SECURITY	20,077	14.91%	2,994	-	-	2,994
DOODOO LOGITECH	4	27.96%	1	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	10,243	27.78%	2,845	-	-	2,845
KST-SH Laboratory Investment Fund No.1	7,041	20%	1,408	-	-	1,408
One-Shinhan Future's New Technology Investment Fund 2	9,736	29.70%	2,892	-	-	2,892
One-Shinhan Connect New Technology Investment Fund 1	236,468	30%	70,940	-	-	70,940
Neoplux Technology Valuation Investment Fund	27,164	33.33%	9,055	-	-	9,055
Partners 4th Growth Investment Fund	52,134	25%	13,034	-	-	13,034
KTB Newlake Global Healthcare PEF(*1)	30,807	20%	6,162	-	113	6,275
Newlake Growth Capital Partners2 PEF	43,187	23.01%	9,939	-	-	9,939
Songrim Partners Co., Ltd. (*2)	(62)	35.34%	(22)	-	22	-
MIEL Co., Ltd. (*2)	(141)	28.77%	(41)	-	41	-
MSTEEL Co., Ltd.	5,223	29.45%	1,538	-	-	1,538
JB AIR	76	28.77%	22	-	-	22
BAEK DOO Co., Ltd.	586	25.90%	152	-	-	152
Chungwon Assets	1,062	22.53%	239	-	-	239
Jinmyung Plus	118	22.20%	26	-	-	26
Korea Credit Bureau	85,497	4.50%	3,847	-	-	3,847
Goduck Gangil1 PFV Co., Ltd. (*2)	(15,763)	1.04%	(164)	-	164	-
Goduck Gangil10 PFV Co., Ltd.(*2)	(8,362)	14%	(1,171)	-	1,171	-
SBC PFV Co., Ltd. (*3)	158,286	12.50%	19,786	-	(4,995)	14,791
ICSF (The Korea's Information Center for Savings & Finance)	518	32.26%	167	-	-	167
Shinhan-Albatross	21,061	33.33%	7,020	-	-	7,020
Shinhan-Neoplux Energy Newbiz Fund	45,420	23.33%	10,598	-	-	10,598
Stassets-DA Value Healthcare Fund I	3,069	24.10%	740	-	-	740
Shinhan SKS Corporate Recovery Private Equity Fund	16,374	23.99%	3,928	-	-	3,928
Korea Digital Asset Custody (*1)	676	14.98%	101	-	334	435
Shinhan VC Tomorrow Venture Fund 1	23,000	21.74%	5,000	-	-	5,000
	1,067,132		215,081	(17)	(3,150)	211,914

(*1) Other is the fair value adjustment amount incurred during acquisition.
(*2) Other adjustments represent the unrecognized share of accumulated losses resulting from the Group's discontinuing the use of equity method since its interest is reduced to zero by the accumulated losses of the investee.
(*3) It is the amount of adjustment that does not use of the equity method for preferred shares without voting rights issued by the investee.

(In millions of Korean won)

14. Investments in associates (continued)

(e) The unrecognized equity method losses and accumulated unrecognized equity losses for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	
		Unrecognized equity method loss	**Accumulated unrecognized equity method loss**
MSTEEL Co., Ltd.	₩	(371)	(371)
MIEL Co., Ltd.		-	(41)
	₩	(371)	(371)

		December 31, 2021	
		Unrecognized equity method loss	**Accumulated unrecognized equity method loss**
Songrim Co., Ltd.	₩	-	(22)
MIEL Co., Ltd.		(16)	(41)
Goduck Gangil1 PFV Co., Ltd.		(19)	(164)
Goduck Gangil10 PFV Co., Ltd.		(1,171)	(1,171)
	₩	(1,206)	(1,398)

(In millions of Korean won)

15. Investment properties

(a) Investment properties as of December 31, 2022 and 2021 are as follows:

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	442,102	-	442,102
Buildings		289,101	(126,263)	162,838
	₩	731,203	(126,263)	604,940

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	455,753	-	455,753
Buildings		257,432	(106,908)	150,524
	₩	713,185	(106,908)	606,277

(b) Changes in investment properties for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Land	Buildings	Total
Beginning balance	₩	455,753	150,524	606,277
Acquisition		-	10,091	10,091
Depreciation		-	(12,465)	(12,465)
Amounts transferred from (to) property and equipment		(12,703)	15,830	3,127
Amounts transferred to assets held for sale		(948)	(1,142)	(2,090)
Ending balance	₩	442,102	162,838	604,940

		December 31, 2021		
		Land	Buildings	Total
Beginning balance	₩	454,486	155,753	610,239
Acquisition		3,442	4,849	8,291
Disposal		-	(2,279)	(2,279)
Depreciation		-	(12,255)	(12,255)
Amounts transferred from (to) property and equipment		(4,177)	4,209	32
Amounts transferred to assets held for sale		2,002	237	2,239
Foreign currency adjustment		-	10	10
Ending balance	₩	455,753	150,524	606,277

(In millions of Korean won)

15. Investment properties (continued)

(c) Fair value of investment properties as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Investment properties (*)	₩	740,387	706,509

(*) Fair value of investment properties is estimated based on the recent market transactions and certain significant unobservable inputs. Accordingly, fair value of investment properties is classified as level 3.

(d) Income and expenses on investment properties for the years ended December 31, 2022 and 2021 are as follows

		December 31, 2022	December 31, 2021
Rental income	₩	26,737	24,244
Direct operating expenses for investment properties that generate rental income		6,325	4,985

(In millions of Korean won)

16. Other assets

Other assets as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Accounts receivable	₩	6,947,041	7,397,838
Domestic exchange settlement receivables		5,693,750	6,646,920
Guarantee deposits		806,502	919,410
Accrued income		1,942,419	1,452,347
Prepaid expense		123,307	102,432
Suspense payments		376,719	292,145
Sundry assets		221,751	120,432
Others		7,148	10,494
Present value discount		(36,887)	(23,111)
Allowance for impairment		(273,165)	(160,976)
	₩	15,808,585	16,757,931

17. Non-current assets held for sale

(a) Non-current assets held for sale as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Property and equipment	₩	29,211	30,706

The Group has classified property and equipment which are highly expected to be sold within one year from December 31, 2022, as non-current assets held for sale.

(b) The cumulative income or loss recognized in other comprehensive income

There are no cumulative income or loss recognized in other comprehensive income relating to non-current assets held for sale as of December 31, 2022 and 2021.

(In millions of Korean won)

18. Pledged assets

(a) Assets pledged as collateral as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021	Reasons for collateral
Securities (*1):				
Securities at FVTOCI	₩	6,800,795	2,338,898	Borrowings, Settlement security for Bank of Korea, Borrowing securities, etc
Securities at amortized cost		14,638,624	15,897,633	Borrowings, Settlement security for Bank of Korea, Customer RP, etc
		21,439,419	18,236,531	
Property and equipment (*2)		4,246	4,041	Establishment of the right to pledge, etc
	₩	21,443,665	18,240,572	

(*1) The carrying amounts of assets pledged as collateral that the third party had the right to sell or repledge regardless of the Group's default as of December 31, 2022 and 2021 are ₩ 965,951 million and ₩ 606,432 million, respectively.
(*2) The amounts are based on the notification amount of pledge.

(b) The fair value of collateral held that the Group has the right to sell or repledge regardless of pledger's default as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Collateral held	Collateral sold or repledged	Collateral held	Collateral sold or repledged
Securities	₩	3,750,199	-	2,163,744	-

(In millions of Korean won)

19. Financial liabilities designated at FVTPL

(a) Financial liabilities designated at FVTPL as of December 31, 2022 and 2021 are as follows:

Classification(*1)		December 31, 2022	December 31, 2021
Debt securities issued(*2)	₩	47,327	-

(*1) In accordance with K-IFRS No. 1109 'Financial instruments', the Group has designated debt securities issued that are permitted to designate financial liabilities at FVTPL.
(*2) The carrying amount of financial liabilities designated at FVTPL was calculated based on the option valuation model.

(b) The difference between the carrying amount of financial liabilities designated at FVTPL and the amount required to be paid at contractual maturity as of December 31, 2022 are as follows and there is no amount for the year ended December 31, 2021.

		December 31, 2022		
		Redemption amount on a contractual maturity	Carrying amounts	Difference
Debt securities issued	₩	50,000	47,327	2,673

(c) The details of net gain or loss (excluding interest income and interest expenses) related to financial liabilities designated at FVTPL for the year ended December 31, 2022 are as follows and there is no amount for the year ended December 31, 2021.

		December 31, 2022		
		Gain or loss on valuation	Gain or loss on sale	Total
Debt securities issued	₩	2,673	-	2,673

20. Deposits

Deposits as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Demand deposits:			
Korean won	₩	130,929,126	150,303,143
Foreign currencies		25,411,460	20,776,554
		156,340,586	171,079,697
Time deposits:			
Korean won		165,865,497	135,611,024
Foreign currencies		24,959,998	20,858,940
Gain on fair value hedge		(187,527)	(93,765)
		190,637,968	156,376,199
Negotiable certificates of deposits		14,843,073	16,399,604
Note discount deposits		6,631,858	5,818,001
CMA		4,634,010	5,246,478
Others		16,694	17,645
	₩	373,104,189	354,937,624

(In millions of Korean won)

21. Financial liabilities at fair value through profit or loss

(a) Financial liabilities at FVTPL as of December 31, 2022 and 2021 are as follows:

	Interest rate (%)		Amount	Interest rate (%)		Amount
Securities sold:						
Equity securities	-	₩	2,958	-	₩	2,203
Gold/silver deposits	-		422,006	-		581,459
		₩	424,964		₩	583,662

(b) Net gain (loss) on financial liabilities at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Securities sold:			
Gain on sale	₩	1,430	-
Loss on sale		(794)	-
Gain on valuation		-	30
Loss on valuation		(44)	(27)
Gold/silver deposits:			
Gain on sale		3,535	3,937
Loss on sale		(810)	(446)
Loss on valuation		(38,997)	(26,224)
	₩	(35,680)	(22,730)

(In millions of Korean won)

22. Borrowings

Borrowings as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			December 31, 2021		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Call money:						
Foreign currencies	0.05~6.30	₩	1,199,600	(-)0.30~0.68	₩	1,444,111
			1,199,600			1,444,111
Bill sold	0.00~3.95		15,057	0.00~1.47		9,032
Bonds sold under repurchase agreements:						
Korean won	0.00~3.21		1,264	0.00~1.12		1,176
Foreign currencies	5.15~6.80		134,447	5.15		81,402
			135,711			82,578
Borrowings in Korean won:						
Borrowings from Bank of Korea	0.25~1.75		4,999,051	0.25		5,150,101
Others	0.00~3.70		8,090,193	0.00~3.70		7,356,645
			13,089,244			12,506,746
Borrowings in foreign currencies:						
Overdraft due to banks	0.00~0.30		48,072	0.00~0.30		42,434
Borrowings from banks	0.00~5.75		7,575,602	(-)0.49~5.50		5,147,868
Sub-lease	0.00~2.28		8,719	0.00		9,994
Others	0.00~22.65		2,143,375	0.00~11.25		1,719,569
			9,775,768			6,919,865
Deferred origination fees			(2,588)			(93)
		₩	24,212,792		₩	20,962,239

(In millions of Korean won)

23. Debt securities issued

Debt securities issued as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			December 31, 2021		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Debt securities issued in Korean won:						
Debt securities issued	0.05~4.59	₩	22,581,073	0.79~8.00	₩	27,321,306
Subordinated debt securities issued	2.20~3.98		2,460,125	2.20~4.60		3,860,125
Loss on fair value hedges			(348,700)			(122,069)
Discount on debt securities issued			(12,474)			(14,726)
			24,680,024			31,044,636
Debt securities issued in foreign currencies:						
Debt securities issued	0.25~6.02		5,792,612	0.25~3.88		4,178,338
Subordinated debt securities issued	3.75~5.00		3,068,059	3.75~5.00		2,299,631
Gain(loss) on fair value hedges			(324,901)			130,392
Discount on debt securities issued			(29,614)			(27,258)
			8,506,156			6,581,103
		₩	33,186,180		₩	37,625,739

(In millions of Korean won)

24. Defined benefit liabilities

The Group operates a defined benefit pension system based on employees' length of service. The Group also trusts plan assets in trust companies, fund companies and other similar companies.

(a) Defined benefit plan assets and liabilities

Defined benefit plan assets and liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Present value of defined benefit obligations	₩	1,395,869	1,594,573
Fair value of plan assets		(1,919,023)	(1,703,164)
Net defined benefit assets	₩	523,154	108,591

(b) Changes in the present value of defined benefit obligations for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Beginning balance	₩	1,594,573	1,583,133
Current service cost		123,323	127,003
Interest expense		52,907	48,209
Remeasurements(*1)(*2)		(295,701)	(73,902)
Effects of foreign currency movements		(453)	249
Benefits paid by the plan		(83,570)	(96,374)
Others		4,790	5,055
Past service cost		-	1,200
Ending balance	₩	1,395,869	1,594,573

(*1) Remeasurements for the year ended December 31, 2022 consist of ₩328,199 million of actuarial gain arising from changes in financial assumptions, ₩32,691 million of actuarial loss arising from changes in experience adjustments and ₩193 million of actuarial gain arising from changes in demographic assumptions.
(*2) Remeasurements for year ended December 31, 2022 consist of ₩65,846 million of actuarial gain arising from changes in financial assumptions, ₩8,056 million of actuarial gain arising from changes in experience adjustments.

(c) Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Beginning balance	₩	1,703,164	1,590,977
Interest income		58,657	49,551
Remeasurements		(26,111)	(27,024)
Contributions paid into the plan		261,000	177,000
Benefits paid by the plan		(77,687)	(87,340)
Ending balance	₩	1,919,023	1,703,164

(In millions of Korean won)

24. Defined benefit liabilities (continued)

(d) The amount of major categories of the fair value of plan assets as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Deposits	₩	1,719,109	1,532,588
Others		199,914	170,576
	₩	1,919,023	1,703,164

(e) Actuarial assumptions as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021	Descriptions
Discount rate	5.83%	3.48%	AA0 Corporate bond yields
Future salary increasing rate	2.36% + Promotion rate	2.29% + Promotion rate	Average for last 5 years

(f) Sensitivity analysis

Sensitivity analysis of the present value fluctuations of defined benefit obligations as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	
		Change in present value when the factor rises by 100 basis points	Change in present value when the factor falls by 100 basis points
Discount rate	₩	(113,751)	130,445
Future salary increasing rate		133,804	(118,430)

		December 31, 2021	
		Change in present value when the factor rises by 100 basis points	Change in present value when the factor falls by 100 basis points
Discount rate	₩	(146,684)	170,311
Future salary increasing rate		170,628	(149,607)

(g) The maturity analysis of undiscounted retirement benefit payments for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		1 year or less	1 year~ 2 years or less	2 years~ 5 years or less	5 years~ 10 years or less	More than 10 years	Total
Salary payment amount	₩	37,569	67,201	364,249	506,729	1,588,437	2,564,185

		December 31, 2021					
		1 year or less	1 year~ 2 years or less	2 years~ 5 years or less	5 years~ 10 years or less	More than 10 years	Total
Salary payment amount	₩	37,458	61,657	303,266	492,996	1,449,762	2,345,139

(h) The weighted average durations of defined benefit obligations as of December 31, 2022 and 2021 are 9.3 years and 10.3 years, respectively.

(i) The Group's estimated contribution will be ₩ 106,000 million as of December 31, 2022.

(In millions of Korean won)

25. Provisions

(a) Changes in provision for unused credit commitments and guarantee contracts issued for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022						
		Loan commitments and other liabilities for credit			Guarantee contracts			
			Lifetime expected credit losses			Lifetime expected credit losses		Total
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	
Beginning balance	₩	69,281	20,427	-	47,825	6,562	27	144,122
Transfer to 12-month expected credit losses		4,068	(4,068)	-	2,680	(2,680)	-	-
Transfer to lifetime expected credit losses		(2,882)	2,882	-	(3,714)	3,714	-	-
Transfer to impaired financial asset		(45)	(48)	93	-	-	-	-
Provision(reversal)		15,284	3,171	(93)	(552)	648	5	18,463
Foreign exchange movements		(2,068)	131	-	909	118	-	(910)
Others(*)		-	-	-	(5,536)	(712)	(5)	(6,253)
Ending balance	₩	83,638	22,495	-	41,612	7,650	27	155,422

(*) These include the new occurrence of guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

(In millions of Korean won)

25. Provisions (continued)

(a) Changes in provision for unused credit commitments and guarantee contracts issued for the years ended December 31, 2022 and 2021 are as follows:(continued)

		December 31, 2021						
		Loan commitments and other liabilities for credit			Guarantee contracts			
			Lifetime expected credit losses			Lifetime expected credit losses		
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩	83,726	21,858	-	50,375	7,282	9	163,250
Transfer to 12-month expected credit losses		4,671	(4,671)	-	2,892	(2,892)	-	-
Transfer to lifetime expected credit losses		(3,266)	3,266	-	(3,621)	3,621	-	-
Transfer to impaired financial asset		(56)	(75)	131	-	-	-	-
Provision(reversal)		(17,758)	(1,028)	(131)	(268)	(312)	5	(19,492)
Foreign exchange movements		1,964	1,077	-	1,910	534	-	5,485
Others(*)		-	-	-	(3,463)	(1,671)	13	(5,121)
Ending balance	₩	69,281	20,427	-	47,825	6,562	27	144,122

(*) These include the new occurrence of guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

(In millions of Korean won)

25. Provisions (continued)

(b) Changes in other provisions for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Asset retirement	Litigation	Non-guarantee contracts	Others	Total
Beginning balance	₩	48,862	3,113	26,823	182,121	260,919
Provision(reversal)		5,826	1,134	(410)	(46,637)	(40,087)
Provision used		(6,468)	-	-	(6,993)	(13,461)
Foreign exchange movements		-	-	1,351	353	1,704
Others(*)		6,276	-	(181)	(1,391)	4,704
Ending balance	₩	54,496	4,247	27,583	127,453	213,779

(*) This is the effect of changing the discount rate.

		December 31, 2021				
		Asset retirement	Litigation	Non-guarantee contracts	Others	Total
Beginning balance	₩	40,884	8,892	21,958	111,311	183,045
Provision(reversal)		6,779	(672)	3,701	79,421	89,229
Provision used		(2,415)	(5,107)	-	(8,382)	(15,904)
Foreign exchange movements		-	-	1,264	(540)	724
Others(*)		3,614	-	(100)	311	3,825
Ending balance	₩	48,862	3,113	26,823	182,121	260,919

(*) This is the effect of changing the discount rate.

(c) Asset retirement obligation liabilities

Asset retirement obligation liabilities represent the estimated cost to restore the existing leased properties which are discounted to the present value using the appropriate discount rate at the end of the reporting period. Disbursements of such costs are expected to incur at the end of the lease contract. Such costs are reasonably estimated using the average lease period and the average restoration expenses. The average lease period is calculated based on the past ten-year historical data of the expired leases. The average restoration expense is calculated based on the actual costs incurred for the past three years using the three-year average inflation rate.

(In millions of Korean won)

26. Other liabilities

Other liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Account payable	₩	7,077,295	7,584,144
Borrowing from trust account		6,563,116	5,189,455
Accrued expenses		3,333,172	2,238,814
Liability incurred by agency relationship		1,384,311	1,191,097
Domestic exchange settlement payable		2,231,507	1,809,727
Lease liabilities(*)		397,251	414,416
Agency business income		711,510	877,381
Guarantee deposits received		751,949	558,239
Foreign exchange settlement payables		359,394	221,521
Suspense payable		38,104	45,037
Unearned income		111,382	74,664
Withholding value-added tax and other taxes		194,723	137,535
Dividends payable		965	-
Sundry liabilities		55,040	171,855
Present value discount		(19,857)	(10,889)
	₩	23,189,862	20,502,996

(*) For the year ended December 31, 2022, expenses for the variable lease payments that are not included in the measurement of lease liabilities amount to ₩12,337 million, the cash outflows from lease liabilities amount to ₩201,775 million, and interest expense on lease liabilities amount to ₩8,134 million. Expenses for variable lease payments not included in the measurement of lease liabilities for the year ended December 31, 2021 amount to ₩79 million, cash outflows from lease liabilities amount to ₩217,795 million, and interest expense on lease liability amounts to ₩6,852 million.

(In millions of Korean won)

27. Equity

(a) Equity as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Capital stock:			
Common stock	₩	7,928,078	7,928,078
Other equity instruments:			
Hybrid bonds		2,088,542	1,586,662
Capital surplus:			
Share premium		398,080	398,080
Others		5,084	5,084
		403,164	403,164
Capital adjustments:			
Stock options		1,744	3,702
Others		771	(960)
		2,515	2,742
Accumulated other comprehensive income (loss):			
Net change in fair value of financial instruments at FVTOCI		(1,029,853)	(210,617)
Share of other comprehensive income of associates		(7,933)	2,254
Foreign currency translation differences for foreign operations		(162,244)	(142,654)
Remeasurements of defined benefit plans		(60,799)	(256,023)
Credit risk adjustment of financial liabilities		1	-
		(1,260,828)	(607,040)
Retained earnings:			
Legal reserve(*1)		2,652,548	2,437,255
Voluntary reserve(*2)		14,448,364	13,518,553
Other reserve(*3)		175,898	156,327
Unappropriated retained earnings(*4)		4,720,628	3,802,425
		21,997,438	19,914,560
Non-controlling interests		8,351	7,472
	₩	31,167,260	29,235,638

(*1) According to the Article 40 of the Banking Act, the Group is required to appropriate an amount equal to a minimum of 10% of cash dividends paid for each accounting period as a legal reserve, until such reserve equals 100% of issued capital. The legal reserve is only available to be used to reduce accumulated deficit or transfer to capital stock.
(*2) The amounts include regulatory reserve for loan loss based on separate financial statements of ₩2,559,855 million and ₩2,276,212 million as of December 31, 2022 and 2021, respectively. The amounts also include asset revaluation surplus of ₩355,898 million as of both December 31, 2022 and 2021.
(*3) Other reserve was established according to the laws applicable to some oversea branches and it may be used only to reduce their deficit.
(*4) As of December 31, 2022, the difference between the expected reversal of regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩ 10,330 million, and this includes the expected reversal of regulatory reserve of loan loss based on consolidated statements amounting ₩ 131,349 million.
As of December 31, 2021, the difference between the expected provision for regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩ 6,277 million, and this includes the expected provision for regulatory reserve of loan loss based on consolidated statements amounting ₩ 289,920 million.

(In millions of Korean won)

27. Equity (continued)

(b) Capital stock

Capital stock of the Group as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Number of authorized shares	2,000,000,000 shares	2,000,000,000 shares
Par value per share in won	₩5,000	₩5,000
Number of issued shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(c) Hybrid bonds

Hybrid bonds as of December 31, 2022 and 2021 are as follows:

Date of issuance	Date of maturity		Book value December 31, 2022	Book value December 31, 2021	Interest rate (%)
Hybrid bonds issued in Korean won:					
June 7, 2013	June 7, 2043	₩	299,568	299,568	4.63
June 29, 2017	Perpetual bond		-	129,701	-
June 29, 2017	Perpetual bond		69,844	69,844	3.81
October 15, 2018	Perpetual bond		199,547	199,547	3.70
February 25, 2019	Perpetual bond		299,327	299,327	3.30
February 25, 2020	Perpetual bond		239,459	239,459	2.88
February 25, 2020	Perpetual bond		49,888	49,888	3.08
November 5, 2020	Perpetual bond		299,327	299,328	2.87
May 3, 2022	Perpetual bond		322,277	-	4.50
October 17, 2022	Perpetual bond		309,305	-	5.70
		₩	2,088,542	1,586,662	
Dividends on hybrid bond holders		₩	64,269	55,248	
Weighted average interest rate (%)			3.57	3.48	

The above hybrid bonds are subject to early redemption option after five years or ten years from the date of issuance, and the maturity can be extended under the same condition at the maturity date.

(In millions of Korean won)

27. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022						
		Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss			
		Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans	Total
Beginning balance	₩	(254,466)	2,253	(142,653)	43,850	-	(256,024)	(607,040)
Change due to fair value measurement		(1,164,128)	-	-	(38,412)	-	-	(1,202,540)
Change due to equity method measurement		-	(16,785)	-	-	-	-	(16,785)
Change due to impairment		(3,992)	-	-	-	-	-	(3,992)
Change due to disposal		30,852	-	-	-	-	-	30,852
Effect of hedge accounting		63,480	-	(25,793)	-	-	-	37,687
Effect of foreign currency movements		-	-	5,658	(823)	-	-	4,835
Remeasurements of defined benefit plans		-	-	-	-	-	269,591	269,591
Amounts transferred to retained earnings		-	-	-	(2,943)	-	-	(2,943)
Effect of tax		298,934	6,599	544	(2,204)	-	(74,366)	229,507
Ending balance	₩	(1,029,320)	(7,933)	(162,244)	(532)	-	(60,799)	(1,260,828)

(In millions of Korean won)

27. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the years ended December 31, 2022 and 2021 are as follows (continued):

		December 31, 2021						
		Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss			
		Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans	Total
Beginning balance	₩	100,226	5,119	(350,308)	(6,427)	-	(290,021)	(541,411)
Change due to fair value measurement		(436,566)	-	-	23,156	-	-	(413,410)
Change due to equity method measurement		-	(1,230)	-	-	-	-	(1,230)
Change due to impairment		11,758	-	-	-	-	-	11,758
Change due to disposal		(74,939)	-	-	-	-	-	(74,939)
Effect of hedge accounting		10,627	-	(74,525)	-	-	-	(63,898)
Effect of foreign currency movements		-	-	281,459	674	-	-	282,133
Remeasurements of defined benefit plans		-	-	-	-	-	46,878	46,878
Amounts transferred to retained earnings		-	-	-	45,518	-	-	45,518
Effect of tax		134,428	(1,636)	721	(19,071)	-	(12,881)	101,561
Ending balance	₩	(254,466)	2,253	(142,653)	43,850	-	(256,024)	(607,040)

(In millions of Korean won, except for per share)

27. Equity (continued)

(e) The appropriation of retained earnings for the year ended December 31, 2022, is expected to be appropriated at the shareholders' meeting on March 23, 2023. The appropriation date for the year ended December 31, 2021, was March 23, 2022.

Statements of appropriation of retained earnings for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Unappropriated retained earnings:			
Balance at beginning of year	₩	-	-
Transfer from other comprehensive income through the sale of securities at FVTOCI		2,134	(33,001)
Interest on hybrid bond		(64,269)	(55,248)
Profit for the year		2,631,873	2,152,934
		2,569,738	2,064,685
Transfer from reserves:			
Voluntary reserve		11,253,761	10,607,590
Regulatory reserve		141,679	-
		11,395,440	10,607,590
Appropriation of retained earnings:			
Legal reserve		263,187	215,294
Regulatory reserve for loan loss		-	283,643
Other reserve		11,590	19,577
Voluntary reserves		12,532,997	11,253,761
Loss on redemption of hybrid bond		299	-
Dividends on common stock		1,157,105	900,000
(Dividend per share in won:			
2022 ₩729.75 (14.60%)			
2021 ₩567.60 (11.35%)			
		13,965,178	12,672,275
Unappropriated retained earnings to be carried over to subsequent year	₩	-	-

These statements of appropriation of retained earnings are based on the separate financial statements of the Bank.

(f) Dividends

Dividends of common stock for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Number of issued shares outstanding		1,585,615,506	1,585,615,506
Par value per share in won	₩	5,000	5,000
Dividend rate per share		14.60%	11.35%
Dividend per share in won	₩	729.75	567.60

(g) Dividends payout ratio

Dividends payout ratio for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Dividends	₩	1,157,105	900,000
Profit for the year (*)		3,045,012	2,494,375
Dividends payout ratio to profit for the year		38.00%	36.08%
Profit for the year adjusted for regulatory reserve for loan loss (*)		3,176,361	2,204,455
Dividends payout ratio to profit for the year adjusted for regulatory reserve for loan loss		36,43%	40.83%

(*) Profit for the year and profit for the year adjusted for regulatory reserve for loan loss are the amount attributable to equity holder of the Group.

(In millions of Korean won, except for earnings per share)

28. Regulatory reserve for loan loss

The Group should calculate and disclose regulatory reserve for loan loss, in accordance with *the Article 29-1 and 29-2 of Regulation on Supervision of Banking Business.*

(a) The regulatory reserve for loan loss as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Regulatory reserve for loan loss	₩	2,631,990	2,342,070
Provision for(reversal of) regulatory reserve for loan loss		(131,349)	289,920
	₩	2,500,641	2,631,990

(b) Profit for the year adjusted for regulatory reserve for loan loss and adjusted profit after reflecting regulatory reserve for loan loss for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Provision for(reversal of) regulatory reserve for loan loss	₩	(131,349)	289,920
Adjusted profit after reflecting regulatory reserve for loan loss(*)		3,177,081	2,204,974
Adjusted earnings per share after reflecting regulatory reserve for loan loss in won	₩	1,963	1,356

(*) The adjusted reserve which reflects abovementioned loan loss is not based on K-IFRS and is calculated by assuming that the provisions of loan loss before income tax effects are reflected in profit for the year.

(In millions of Korean won)

29. Net interest income

(a) Net interest income for the years ended December 31, 2022 and 2021 is as follows:

		December 31, 2022	December 31, 2021
Interest income:			
Cash and due from banks	₩	149,225	34,922
Securities at FVTPL		388,236	209,463
Securities at FVTOCI		822,079	539,489
Securities at amortized cost		590,960	444,048
Loans(*)		12,077,935	8,175,449
Others		57,381	42,100
	₩	14,085,816	9,445,471
Interest income from impaired financial assets	₩	16,737	15,897

(*) Interest income from loans at FVTPL for the year ended December 31, 2022 and 2021 are ₩13,497 million and ₩8,362 million, respectively.

(b) Interest expense for the years ended December 31, 2022 and 2021 is as follows:

		December 31, 2022	December 31, 2021
Financial liabilities at amortized cost(*)			
Deposits	₩	4,496,591	2,095,439
Borrowings		404,739	137,663
Debt securities issued		859,837	562,852
Others		118,151	37,759
	₩	5,879,318	2,833,713
Financial liabilities designated at fair value			
Debt securities issued	₩	1,296	-
		1,296	-
	₩	5,880,614	2,833,713

(*) There is no interest expense on financial liabilities at fair value through profit or loss for the years ended December 31, 2022 and 2021.

(In millions of Korean won)

30. Net fees and commission income

Net fees and commission income for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Fees and commission income:			
Credit placement fees	₩	56,812	62,691
Commission received as electronic charge receipt		148,867	150,011
Brokerage fees		62,454	92,693
Commission received as agency		263,411	268,685
Investment banking fees		102,434	88,332
Commission received in foreign exchange activities		223,877	198,662
Asset management fees from trust accounts		177,579	183,765
Guarantee fees		97,213	86,835
Others		147,928	142,076
	₩	1,280,575	1,273,750
Fees and commission expense:			
Credit-related fees	₩	35,822	37,494
Brand-related fees		45,850	42,279
Service-related fees		46,515	44,501
Trading and brokerage fees		9,512	8,155
Commission paid in foreign exchange activities		55,458	43,344
Others		132,108	120,172
	₩	325,265	295,945

31. Dividend income

Dividend income for the years ended December 31, 2022 and 2021 is as follows:

		December 31, 2022	December 31, 2021
Securities at FVTPL	₩	2,411	2,051
Securities at FVTOCI(*1)		18,421	16,520
	₩	20,832	18,571

(*) Dividend income for stocks disposed for the year ended December 31, 2022 are ₩982 million and dividend income for stocks disposed for the year ended December 31, 2021 is ₩840 million.

(In millions of Korean won)

32. Gain and loss on financial instruments at fair value through profit or loss

Gain and loss on financial instruments at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Financial instruments at FVTPL			
Debt:			
Gain on valuation of debt securities	₩	186,396	211,050
Gain on sale of debt securities		62,130	46,603
Loss on valuation of debt securities		(228,484)	(171,987)
Loss on sale of debt securities		(191,634)	(86,255)
Others		163,052	155,911
		(8,540)	155,322
Equity:			
Gain on valuation of equity securities		9,845	15,340
Gain on sale of equity securities		8,478	16,251
Loss on valuation of equity securities		(7,232)	(2,613)
Loss on sale of equity securities		(14,834)	(8,097)
		(3,743)	20,881
Gold/silver:			
Gain on valuation of gold/silver deposits		2,089	9,316
Gain on sale of gold/silver deposits		3,535	3,937
Loss on valuation of gold/silver deposits		(38,997)	(26,224)
Loss on sale of gold/silver deposits		(810)	(446)
		(34,183)	(13,417)
Loans at FVTPL			
Gain on valuation of loans		170	12,239
Gain on sale of loans		12,182	14,698
Loss on valuation of loans		(9,024)	(3,252)
Loss on sale of loans		(3,640)	(3,163)
		(312)	20,522
		(46,778)	183,308
Derivatives			
Foreign currency related:			
Gain on valuation and transaction		14,782,237	8,054,862
Loss on valuation and transaction		(14,978,921)	(7,907,112)
		(196,684)	147,750
Interest rates related:			
Gain on valuation and transaction		1,446,536	753,398
Loss on valuation and transaction		(1,216,572)	(733,805)
		229,964	19,593
Equity related:			
Gain on valuation and transaction		29,314	10,988
Loss on valuation and transaction		(12,006)	(17,511)
		17,308	(6,523)
Commodity related:			
Gain on valuation and transaction		39,358	8,752
Loss on valuation and transaction		(31,741)	(18,388)
		7,617	(9,636)
		58,205	151,184
Net gain on financial instruments at FVTPL	₩	11,427	334,492

(In millions of Korean won)

33. General and administrative expenses

General and administrative expenses for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Employee benefits:			
Short and long term employee benefits	₩	2,071,028	1,936,091
Post-employee defined benefits		117,609	126,904
Post-employee defined contributions		529	426
Termination benefits		133,580	128,534
		2,322,746	2,191,955
Amortization:			
Depreciation		152,661	123,208
Amortization of intangible assets		75,893	59,625
Depreciation of right-to-use assets		208,222	229,384
		436,776	412,217
Other general and administrative expenses:			
Rent		63,790	57,384
Service contract expenses		302,935	259,213
Taxes and dues		121,873	92,601
Advertising		159,579	98,364
Electronic data processing expenses		69,403	61,221
Others		225,190	188,078
		942,770	756,861
	₩	3,702,292	3,361,033

34. Share-based payments

(a) Equity-settled share-based payments

i) Equity-settled share-based payments as of December 31, 2022 are as follows:

	Contents
Type	Equity-settled share-based payment(*)
Service period	Upon appointment and promotion since January 1, 2014 (Within 1 year from grant date)
Performance conditions	Linked to relative stock price (20.0%) and management index for 4 years (80.0%)

(*) The Group granted shares of Shinhan Financial Group. According to the commitment, the amount that the Group pays to the Shinhan Financial Group is recognized as liabilities, and the difference between the amount recognized as liabilities and the compensation cost based on equity-settled share-based payments is recognized in equity.

(In millions of Korean won)

34. Share-based payments (continued)

(b) Equity-settled share-based payments (continued)

ii) Granted shares and the fair value of grant date as of December 31, 2022 are as follows:

Grant date	Grant shares	Fair value (*1) (in won)	Estimated shares (*2)
January 1, 2017	217,300	45,300	9,366
January 23, 2017	2,700	45,600	2,536
March 7, 2017	17,400	46,950	14,300
January 1, 2018	225,070	49,400	27,349
January 24, 2018	1,275	52,700	992
January 1, 2019	296,226	39,600	254,973
March 26, 2019	23,410	42,750	16,725
April 1, 2019	3,696	43,750	2,583
June 1, 2019	2,839	44,450	1,487
July 4, 2019	7,392	44,450	3,406
July 8, 2019	3,696	43,650	1,666
	801,004		335,383

(*1) The fair value per share is evaluated based on the closing price of Shinhan Financial Group at each grant date. As of December 31, 2022, the fair value per share data evaluated by Shinhan Financial Group amounted to ₩35,200.
(*2) Grant shares at grant date were adjusted pursuant to increase rate of stock price(20.0%) and achievement of target ROE(80.0%) based on standard quantity applicable to the days of service among specified period of service, which allows the determination of acquired quantity at the end of the operation period.

(In millions of Korean won, except for fair value per share)

34. Share-based payments (continued)

(c) Details of performance-based stock compensation as of December 31, 2022 are as follows:

	Expired	Not expired
Type	Cash-settled share-based payment	
Performance conditions	Relative stock price linked (20.0%), management index (60.0%), and prudential index (20.0%)	
Exercising period	4 years from the commencement date of the year to which the grant date belongs	
Grant shares	973,960	
Estimated number of shares vested at December 31, 2022	-	877,393
Fair value per share in Korean won(*)	35,200	

(*) Based on performance-based stock compensation, the reference stock price (the arithmetic average of the weighted average share price of transaction volume for the past two month, the previous one month, and the past one week) of four years after the commencement of the grant year is paid in cash, and the fair value of the reference stock to be paid in the future is assessed as the closing price of the settlement.

(d) Stock compensation costs calculated for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Compensation costs recorded for the year	₩	11,427	13,232

(e) Accrued expenses of the stock compensation costs and residual compensation costs as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Accrued expenses	₩	42,341	39,630

(In millions of Korean won)

35. Net other operating expenses

Net other operating expenses for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Other operating income			
Gain on sale of assets:			
Loans at amortized cost	₩	16,014	14,195
Loans written off		1,062	-
		17,076	14,195
Others:			
Gain on hedge activity from hedged items		776,107	289,733
Gain on hedge activity from hedging instruments		82,361	16,421
Reversal of other allowance		410	-
Others		56,866	111,385
		915,744	417,539
		932,820	431,734
Other operating expense			
Loss on sale of assets:			
Loans at amortized cost		4,041	255
Others:			
Loss on hedge activity from hedged items		75,233	19,359
Loss on hedge activity from hedging instruments		819,618	296,661
Provision for allowance for acceptances and guarantee		-	3,701
Provision for other allowance		11,706	4,894
Contribution to fund		430,814	388,790
Deposit insurance fee		423,909	403,566
Others		292,298	224,415
		2,053,578	1,341,386
		2,057,619	1,341,641
Net other operating expenses	₩	(1,124,799)	(909,907)

(In millions of Korean won)

36. Net non-operating income (expenses)

Net non-operating income for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Non-operating income			
Gain on sale of assets:			
Property and equipment	₩	714	444
Intangible assets		273	4
Investment property		-	108
Non-current assets held for sale		4,990	16,976
		5,977	17,532
Investments in associates:			
Dividend income		6	-
Gain from disposal		1,113	1,924
		1,119	1,924
Others:			
Rental income on investment property		26,737	24,244
Others		32,415	34,353
		59,152	58,597
		66,248	78,053
Non-operating expenses			
Loss on sale of assets:			
Property and equipment		193	261
Intangible assets		91	10
Investment property		-	2,111
Non-current assets held for sale		150	1,186
Assets for non-business		114	-
		548	3,568
Investments in associates:			
Loss from disposal		696	2,087
Others:			
Investment properties depreciation		12,465	12,255
Donations		41,150	42,693
Impairment loss on intangible assets		66	1,124
Others		88,748	280,547
		142,429	336,619
		143,673	342,274
Net non-operating expenses	₩	(77,425)	(264,221)

(In millions of Korean won)

37. Income tax expense and deferred tax

(a) Details of income tax expense for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Current income tax expense	₩	1,023,291	754,373
Deferred taxes arising from changes in temporary differences(*)		(234,008)	(18,987)
Deferred taxes arising from utilization of expired unused tax losses(*)		42,329	14,522
Tax adjustment charged or credited directly to equity(*)		230,282	103,094
Income tax expense	₩	1,061,894	853,002

(*) The tax rate was changed due to amendments of the tax law at the end of 2022, reflecting the effect of changing the tax rate on deferred tax assets (liabilities) expected to be realized after 2023.

(b) The income tax expense calculated by applying statutory tax rates to the Group's taxable income differs from the actual tax expense in the consolidated statements of income for the years ended December 31, 2022 and 2021 for the following reasons:

		December 31, 2022	December 31, 2021
Profit before income tax	₩	4,107,626	3,347,896
Statutory tax rate		27.50%	27.50%
Income tax expense at statutory tax rates		1,119,235	910,309
Adjustments:			
Non-taxable income		(679)	(475)
Non-deductible expense		7,462	6,855
Decrease resulting from consolidated corporate tax system		(45,223)	(34,142)
Income tax paid(refund)		(629)	6,281
Others(impact of tax rate change, etc.)		(18,272)	(35,826)
Income tax expense	₩	1,061,894	853,002
Effective tax rate		25.85%	25.48%

(In millions of Korean won)

37. Income tax expense and deferred tax

(c) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Beginning balance	Decreases	Increases	Ending balance(*1)(*4)
Accrued income	₩	(191,515)	(17,911)	-	(209,426)
Accounts receivable		(26,659)	2,887	-	(23,772)
Securities at FVTPL		118,472	2,923	-	121,395
Investments in associates and subsidiaries		(351,280)	(94,047)	6,600	(438,727)
Deferred loan origination costs and fees		(149,624)	283,311	-	133,687
Revaluation and depreciation on property and equipment		(113,764)	6,853	-	(106,911)
Derivative liabilities		(84,920)	36,126	-	(48,794)
Deposits		24,430	12,617	-	37,047
Accrued expenses		64,954	52,059	-	117,013
Defined benefit obligations		406,345	15,359	(81,798)	339,906
Plan assets		(468,370)	(17,525)	7,432	(478,463)
Other provisions		89,046	(11,579)	-	77,467
Allowance for guarantees and acceptance		22,340	(1,969)	-	20,371
Allowance for advanced depreciation		(48,712)	1,775	-	(46,937)
Allowance for expensing depreciation		(274)	72	-	(202)
Net change in fair value of securities at FVTOCI		82,308	(3,993)	296,731	375,046
Donation payables		36,114	925	-	37,039
Allowance and bad debt		71,718	12,790	-	84,508
Compensation expenses associated with stock option		21	-	-	21
Fictitious dividends		16,613	455	-	17,068
Others		121,462	(362,966)	1,317	(240,187)
	₩	(381,295)	(81,838)	230,282	(232,851)
Expired unused tax losses					
Appropriation by extinctive prescription of deposit	₩	251,364	(42,329)	-	209,035
Temporary differences not qualified for deferred tax assets or liabilities					
Investments in associates and Subsidiaries (*2)(*3)		(364,697)	(82,768)		(447,465)
	₩	234,766	(41,399)	230,282	423,649

(*1) Deferred tax assets of overseas subsidiaries have decreased by ₩2,797 million due to foreign currency exchange rate changes.
(*2) The effect of income taxes by the valuation of equity method is reasonably estimated based on the both plausibility and the applicable amount of deferred income tax belonging to each associate investee.
(*3) The temporary difference in deferred tax assets not recognized in relation to investment assets in associates is ₩192,508 million and ₩203,473 million for the years ended December 31, 2022 and 2021, respectively. And the temporary difference in deferred tax liabilities not recognized in relation to investment assets in associates is ₩ 1,881,053 million and ₩ 1,529,644 million for the years ended December 31, 2022 and 2021, respectively.
(*4) The tax rate was changed due to amendments of the tax law at the end of 2022, Income tax rate was changed, and accordingly, 26.5% of deferred tax assets (liabilities) expected to be realized after 2023 were applied.

(In millions of Korean won)

37. Income tax expense (continued)

(c) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021			
		Beginning balance	Decreases	Increases	Ending balance(*1)
Accrued income	₩	(179,125)	(12,390)	-	(191,515)
Accounts receivable		(29,158)	2,499	-	(26,659)
Securities at FVTPL		138,498	(20,026)	-	118,472
Investments in associates and subsidiaries		(232,470)	(117,175)	(1,635)	(351,280)
Deferred loan origination costs and fees		(137,608)	(12,016)	-	(149,624)
Revaluation and depreciation on property and equipment		(113,002)	(762)	-	(113,764)
Derivative liabilities		(27,404)	(57,516)	-	(84,920)
Deposits		27,632	(3,202)	-	24,430
Accrued expenses		70,366	(5,412)	-	64,954
Defined benefit obligations		402,461	24,196	(20,312)	406,345
Plan assets		(429,598)	(46,204)	7,432	(468,370)
Other provisions		73,334	15,712	-	89,046
Allowance for guarantees and acceptance		21,897	443	-	22,340
Allowance for advanced depreciation		(48,712)	-	-	(48,712)
Allowance for expensing depreciation		(337)	63	-	(274)
Net change in fair value of securities at FVTOCI		(33,129)	80	115,357	82,308
Donation payables		16,562	19,552	-	36,114
Allowance and bad debt		196,628	(124,910)	-	71,718
Compensation expenses associated with stock option		22	(1)	-	21
Fictitious dividends		16,168	445	-	16,613
Others		(16,673)	135,883	2,252	121,462
	₩	(283,648)	(200,741)	103,094	(381,295)
Expired unused tax losses					
Appropriation by extinctive prescription of deposit	₩	265,886	(14,522)	-	251,364
Temporary differences not qualified for deferred tax assets or liabilities					
Investments in associates and Subsidiaries (*2)		(247,123)	(117,574)	-	(364,697)
	₩	229,361	(97,689)	103,094	234,766

(*1) Deferred tax assets of overseas subsidiaries have increased by ₩939 million due to foreign currency exchange rate changes.
(*2) The effect of income taxes by the valuation of equity method is reasonably estimated based on the both plausibility and the applicable amount of deferred income tax belonging to each associate investee.

(In millions of Korean won)

37. Income tax expense (continued)

(d) Changes in tax effects that are directly charged or credited to equity for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021		
		Amount before tax	Tax effects	Amount before tax	Tax effects	Changes in tax effects
Net change in fair value of securities at FVTOCI	₩	(1,415,270)	385,417	(299,304)	88,687	296,730
Share of other comprehensive income (loss) of associates		(10,793)	2,861	5,993	(3,738)	6,599
Foreign currency translation differences for foreign operations		(157,263)	(4,980)	(202,514)	(5,525)	545
Remeasurements of defined benefit plans		(83,612)	22,814	(353,203)	97,180	(74,366)
Capital adjustments		2,373	(629)	5,106	(1,403)	774
	₩	(1,664,565)	405,483	(843,922)	175,201	230,282

		December 31, 2022		December 31, 2021		
		Amount before tax	Tax effects	Amount before tax	Tax effects	Changes in tax effects
Net change in fair value of securities at FVTOCI	₩	(299,304)	88,687	120,468	(26,670)	115,357
Share of other comprehensive income (loss) of associates		5,993	(3,738)	7,223	(2,103)	(1,635)
Foreign currency translation differences for foreign operations		(202,514)	(5,525)	(483,974)	(6,246)	721
Remeasurements of defined benefit plans		(353,203)	97,180	(400,082)	110,060	(12,880)
Capital adjustments		5,106	(1,403)	10,683	(2,934)	1,531
	₩	(843,922)	175,201	(745,682)	72,107	103,094

(e) The current tax assets and liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Current tax assets:			
Prepaid income taxes	₩	31,780	27,018
Current tax liabilities:			
Payable due to consolidated tax system	₩	426,134	270,804
Income taxes payables		52,590	40,740
	₩	478,724	311,544

(In millions of Korean won, except for earnings per share)

37. Income tax expense (continued)

(f) The deferred tax assets (liabilities) and current tax assets (liabilities) presented on a gross basis prior to any offsetting as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Deferred tax assets	₩	3,150,339	2,265,667
Deferred tax liabilities		2,726,690	2,030,901
Current tax assets		457,452	364,157
Current tax liabilities		904,396	648,683

38. Earnings per share

(a) Earnings per share

Earnings per share for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Profit for the year	₩	3,045,012	2,494,375
Less: dividends on hybrid bonds		(64,269)	(55,248)
Profit available for common stock	₩	2,980,743	2,439,127
Weighted average number of common shares outstanding		1,585,615,506 shares	1,585,615,506 shares
Basic and diluted earnings per share in won	₩	1,880	1,538

Considering that the Group had no dilutive potential common shares and that stock options were not included in the calculation of diluted earnings per share because they were anti-dilutive for the reporting periods presented, diluted earnings per share equal to basic earnings per share for the years ended December 31, 2022 and 2021.

(b) Weighted average number of common shares outstanding

Weighted average number of common shares outstanding as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares
Weight	365/365	365/365
Weighted average number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(In millions of Korean won)

39. Commitments and contingencies

(a) Guarantees, acceptances and credit commitments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Guarantees:			
Guarantee outstanding	₩	12,041,886	10,494,647
Contingent guarantees		4,565,184	4,670,080
ABS and ABCP purchase commitments		1,378,603	1,373,703
		17,985,673	16,538,430
Commitments to extend credit:			
Loan commitments in Korean won		81,413,452	80,185,878
Loan commitments in foreign currencies		25,145,440	19,896,985
Others		4,551,882	3,074,886
		111,110,774	103,157,749
Endorsed bills:			
Secured endorsed bills		10,025	8,199
Unsecured endorsed bills		7,046,806	7,683,165
		7,056,831	7,691,364
	₩	136,153,278	127,387,543

(b) Provision for acceptances and guarantees

Provision for acceptances and guarantees, as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Guarantees outstanding	₩	12,041,886	10,494,647
Contingent guarantees		4,565,184	4,670,080
ABS and ABCP purchase commitments		1,378,603	1,373,703
Secured endorsed bills		10,025	8,199
	₩	17,995,698	16,546,629
Provision for acceptances and guarantees	₩	76,872	81,237
Ratio (%)		0.43	0.49

(In millions of Korean won)

39. Commitments and contingencies (continued)

(c) Legal contingencies

Pending litigations in which the Group was involved as a defendant as of December 31, 2022 and 2021 are as follows:

December 31, 2022					
Case	Number of claim		Claim amount	Description	Status
Deposit return	1	₩	4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second instance and the third instance is ongoing as of December 31, 2022.
Cheque return	1		2,000	The plaintiff presented a total of nine checks (₩2 billion in total) to the Group. However, the payment was rejected due to the accident report caused by defraudation from the Group. Therefore, the plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The first instance is ongoing as of December 31, 2022.
Return of unjust earning	1		33,096	The plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first instance is ongoing as of December 31, 2022.
Others	166		75,629	It includes various cases, such as compensation for loss claim.	
	169	₩	115,331		

(In millions of Korean won)

39. Commitments and contingencies (continued)

(c) Legal contingencies (continued)

Pending litigations in which the Group was involved as a defendant as of December 31, 2022 and 2021 are as follows: (continued)

December 31, 2021					
Case	Number of claim		Claim amount	Description	Status
Deposit return	1	₩	4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second instance and the third instance is ongoing as of December 31, 2021.
Cheque return	1		9,000	The plaintiff presented a total of nine checks (₩ 9 billion in total) to the Group. However, the payment was rejected due to the accident report (lost of check) from the Group. Therefore, the Plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The first instance is ongoing as of December 31, 2021.
Return of unjust earning	1		33,096	The plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first instance is ongoing as of December 31, 2021.
Others	167		75,559	It includes various cases, such as compensation for loss claim.	
	170	₩	122,261		

As of December 31, 2022 and 2021, the Group recorded a provision of ₩4,247 million and ₩3,113 million for litigation for certain of the above lawsuits. Additional losses may be incurred from these legal actions besides the current provision established by the Group, but the amount of loss is not expected to have a material adverse effect on the Group's consolidated financial statements.

(d) Others
The Group recognized ₩339.9 billion and ₩289.9 billion, respectively, in the estimated amount of damages, which is likely to be paid to fulfill its obligations as of December 31, 2022 and 2021, as provisions, for customer losses expected due to delayed redemption of Lime CI funds, etc. according to the Financial Dispute Mediation Committee of the Financial Supervisory Service and Resolution of Board of Directors. In this regard, the amount paid in advance for liquidity supply and the amount compensated through fact-checking is ₩326.8 billion and ₩217.4 billion as of December 31, 2022 and 2021.

(In millions of Korean won)

40. Statements of cash flows

(a) Cash and cash equivalents reported in the accompanying consolidated statements of cash flows as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Cash	₩	2,259,832	4,152,634
Reserve deposits		8,477,472	9,624,230
Other deposits		11,832,578	9,003,263
Cash and due from banks		22,569,882	22,780,127
Less: Restricted due from banks(*)		(293,956)	(703,566)
Less: Due with original maturities of more than three months		(896,004)	(838,244)
	₩	21,379,922	21,238,317

(*) Items which meets the definition of cash in K-IFRS No. 1007 'Statements of Cash Flows' is excluded.

(b) Significant non-cash activities for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Debt-equity swap	₩	-	32,239
Accounts payable for purchase of property and equipment		(3,797)	3,797
Accounts payable for purchase of intangible assets		(117,743)	(137,058)
Recognition of right-of-use assets		256,704	190,465
Recognition of lease liabilities		216,931	172,346

(c) Changes in liabilities resulting from financing activities for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Derivative assets	Borrowings	Debentures	Lease liabilities	Total
Beginning balance	₩	(9,449)	20,962,239	37,625,738	414,416	58,992,944
Changes in cash flows		56	2,872,249	(3,589,574)	(185,244)	(902,513)
Amortization		-	(2,495)	(104)	8,134	5,535
Net foreign currencies transaction gain (loss)		-	380,799	(167,956)	(18,864)	231,707
Changes in fair value of hedged items		-	-	(681,924)	-	(681,924)
Others		716,577	-	-	141,081	857,658
Ending balance	₩	707,184	24,212,792	33,186,180	397,251	58,503,407

		December 31, 2021				
		Derivative assets	Borrowings	Debentures	Lease liabilities	Total
Beginning balance	₩	(252,187)	20,554,982	34,516,305	438,936	55,258,036
Changes in cash flows		1,652	(169,958)	2,862,735	(213,509)	2,480,920
Amortization		-	314	1,560	6,852	8,726
Net foreign currencies transaction loss		-	576,901	480,132	16,236	1,073,269
Changes in fair value of hedged items		-	-	(234,993)	-	(234,993)
Others		241,086	-	-	165,901	406,987
Ending balance	₩	(9,449)	20,962,239	37,625,739	414,416	58,992,945

(In millions of Korean won)

41. Related party transactions

(a) Significant balances with the related parties as of December 31, 2022 and 2021 are as follows:

Related party	Account		December 31, 2022	December 31, 2021
The parent company				
Shinhan Financial Group	Current tax assets	₩	1,814	2,510
	Deposits		2,188	3,964
	Current tax liabilities		426,134	270,804
	Other liabilities		55,204	53,484
Entities under common control				
Shinhan Card Co., Ltd.	Derivative assets		785	3,175
	Loans		494,622	96,164
	Allowance for loan loss		(852)	(441)
	Other assets(*1)		9,573	7,449
	Deposits		123,259	36,318
	Derivative liabilities		46,340	23,185
	Provisions		451	493
	Other liabilities		30,462	32,684
Shinhan Securities Co., Ltd.	Financial assets designated at FVTPL(*3)		4,142	4,640
	Derivative assets		18,875	4,492
	Loans		23,634	192,413
	Allowance for loan loss		(187)	(236)
	Other assets(*1)		1,942	24,645
	Deposits		1,121,312	637,566
	Debentures		-	19,074
	Derivative liabilities		1,153	3,939
	Provisions		133	492
	Other liabilities(*4)		40,172	38,166
Shinhan Life Insurance	Derivative assets		15,465	25,027
	Loans		33	13
	Other assets		49	4
	Deposits		71,611	170,054
	Derivative liabilities		31,956	4,728
	Provisions		31	34
	Other liabilities(*5)		15,412	32,413
Shinhan Capital Co., Ltd.	Deposits		1,923	1,893
	Allowance for loan loss		16	18
	Other liabilities		13,152	13,170
Jeju Bank	Loans		1,906	2,060
	Allowance for loan loss		(2)	(2)
	Deposits		2,833	2,704
	Other liabilities		2,139	2,139
Shinhan Asset Management Co., Ltd.	Financial assets designated at FVTPL (*3)		26,205	26,702
	Other assets		-	1
	Deposits		27,476	130,040
	Other liabilities		480	751
Shinhan DS	Loans		10	7
	Other assets		20,350	15,151
	Deposits		9,363	2,242
	Other liabilities		8,295	7,367
Shinhan Savings Bank	Other liabilities		8,987	9,126
Shinhan Aitas	Deposits		9,878	18,308
	Other liabilities		58	18
Shinhan AI	Other assets		28	28
	Deposits		-	7
	Other liabilities		1,575	2,090

(In millions of Korean won)

41. Related party transactions (continued)

(a) Significant balances with the related parties as of December 31, 2022 and 2021 are as follows: (continued)

Related party	Account	December 31, 2022	December 31, 2021
Entities under common control (continued)			
Shinhan REITs Management	Deposits	3,331	443
	Other liabilities	8	-
Shinhan Asset Trust Co., Ltd.	Loans	3,982	3,235
	Deposits	310,233	226,576
	Other liabilities	592	377
Shinhan Venture Investment Co., Ltd.	Deposits	11,003	6,496
	Other liabilities	10	-
Shinhan EZ General Insurance, Ltd.(*6)	Deposits	4	-
One-Shinhan Connect Fund 1	Deposits	22,009	63,557
One-Shinhan Connect Fund 2	Deposits	28,983	-
IMM Long-term Solutions Private Equity Fund	Deposits	619	-
	Other liabilities	7	-
SH Global Private Real Estate Investment Trust No.5	Derivative assets	-	3,043
	Derivative liabilities	5,837	-
SH US Nevada Photovoltaic Private Special Asset Investment Trust	Derivative assets	333	2,180
Shinhan AIM Real Estate Fund No.15	Derivative assets	-	16
	Derivative liabilities	93	-
Shinhan AIM Fund of Fund 4	Derivative assets	38	12
	Derivative liabilities	511	148
SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Derivative liabilities	454	-
Shinhan AIM Real Estate Fund No.22-A	Derivative assets	-	680
	Derivative liabilities	768	-
SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Derivative assets	29	1
	Derivative liabilities	23	117
Shinhan Dollar Income Private Security Investment Trust No.2	Derivative assets	1,579	-
Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Derivative assets	-	400
	Derivative liabilities	173	-
Investments in associates and associates of entities under common control			
BNP Paribas Cardif Life Insurance	Deposits	18,745	14,870
Co., Ltd.	Deposits		
BNP Paribas Cardif General Insurance(*6)	Deposits	-	1,455
Dream High Fund III(*2)	Deposits	-	4
Partners 4th Growth Investment Fund	Deposits	742	10,096
Snowball Venture Fund II(*2)	Deposits	-	350
ICSF (The Korea's Information	Deposits	2	16
Center for Savings & Finance)	Loans		
KOREA FINANCE SECURITY	Deposits	415	457
Hermes Private Equity Fund	Deposits	218	246
Korea Credit Bureau	Deposits	721	1,394
Goduck Gangil1 PFV Co., Ltd.	Loans	6,825	12,000
	Allowance for loan loss	(20)	(52)
	Deposits	3	-
SBC PFV Co., Ltd.	Deposits	21,163	33,278

(In millions of Korean won)

41. Related party transactions (continued)

(a) Significant balances with the related parties as of December 31, 2022 and 2021 are as follows: (continued)

Related party	Account	December 31, 2022	December 31, 2021
Sprott Global Renewable Private Equity Fund I	Deposits	100	176
IMM Investment Co., Ltd.	Loans	800	800
	Allowance for loan loss	(3)	(3)
	Deposits	14,824	21,543
Goduck Gangil10 PFV Co., Ltd.	Loans	3,100	7,600
	Allowance for loan loss	(9)	(24)
	Deposits	26,880	72,740
Shinhan Global Healthcare Fund II	Deposits	1	1
IMM Special Situation Private Equity Fund(the number two of one)	Deposits	151	23
NV Station Private Equity Fund	Deposits	21	41
Korea Digital Asset Custody	Deposits	153	526
SW-S Fund	Deposits	112	115
WaveTechnology Co., Ltd.	Deposits	41	99
iPIXEL Co., Ltd.	Loans	-	55
	Deposits	225	651
CJL No.1 Private Equity Fund	Deposits	603	779
EDNCENTRAL Co., Ltd.	Deposits	-	1
Nova New Technology Investment Fund No.1	Deposits	215	357
DS Power Semicon Private Equity Fund	Deposits	100	-
Genesis No.1 Private Equity Fund	Deposits	19	-
DDI LVC Master Real Estate Investment Trust Co., Ltd.	Deposits	59	-
Newlake Growth Capital Partners2 PEF	Deposits	353	-
Logisvalley Shinhan REIT Co., Ltd.	Loans	43,000	-
	Allowance for loan loss	(28)	-
	Deposits	1,421	-
Shinhan-Albatross Tech Investment Fund	Deposits	3,402	-
Shinhan Global Active REIT Co., Ltd.	Deposits	393	-
SEOKWANG T&I	Deposits	1	-
Shinhan Time 1st Investment fund	Deposits	238	-
DeepBlue No.1 Private Equity Fund	Deposits	400	-
Key management personnel			
	Loans	6,563	6,150
	Allowance for loan loss	(2)	(1)
	Provisions	-	1

(*1) Includes right-of-use assets.
(*2) It has been removed from the related party as of December 31, 2022.
(*3) It includes the amount related to investments in structured entities.
(*4) As of December 31, 2022 and 2021, the amount of non-controlling interests classified as liabilities for structured entities included in the consolidation is ₩1,529 million and ₩1,560 million, respectively.
(*5) As of December 31, 2022 and 2021, the amount of non-controlling interests classified as liabilities for structured entities included in the consolidation is ₩2,086 million and ₩1,802 million, respectively.
(*6) During the year, it has changed to entities under common control from an associate or an associate of entity under common control.

(In millions of Korean won)

41. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2022 and 2021 are as follows:

Related party	Account		December 31, 2022	December 31, 2021
The parent company				
Shinhan Financial Group	Fees and commission income	₩	3	-
	Other operating income		1,886	1,099
	Interest expense		(221)	(123)
	Fees and commission expense		(41,682)	(38,435)
	Other operating expense		(584)	(4,364)
Entities under common control				
Shinhan Card Co., Ltd.	Interest income		8,484	3,755
	Fees and commission income		165,870	172,909
	Gain related to derivatives		10,653	14,499
	Other operating income		5,728	5,236
	Interest expense		(428)	(254)
	Fees and commission expense		(9,482)	(11,007)
	Loss related to derivatives		(38,349)	(56,740)
	Reversal of (provision for) allowance		(412)	(441)
	Other operating expense		(21)	(1,064)
Shinhan Investment Corp.	Interest income		1,723	2,052
	Fees and commission income		4,893	6,780
	Financial assets measured at FVTPL(*1)		(26)	1,121
	Gain related to derivatives		81,994	16,943
	Other operating income		7,318	6,953
	Interest expense(*2)		(6,732)	(1,854)
	Fees and commission expense		(22)	-
	Loss related to derivatives		(68,511)	(30,004)
	Reversal of (provision for) allowance		49	(227)
	Other operating expense		(637)	(1,294)
Shinhan Life Insurance Co., Ltd.	Interest income		-	34
	Fees and commission income		9,658	6,409
	Gain related to derivatives		54,710	43,515
	Other operating income		3,814	2,639
	Interest expense(*3)		(2,261)	(879)
	Fees and commission expense		(569)	(1,235)
	Loss related to derivatives		(53,308)	(9,035)
	Other operating expense		-	(23)
Shinhan Capital Co., Ltd.	Fees and commission income		26	24
	Other operating income		920	827
	Interest expense		(236)	(123)
Jeju Bank	Interest income		2	14
	Other operating income		589	527
	Interest expense		(38)	(19)
	Reversal of (provision for) allowance		-	3

(In millions of Korean won)

41. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2022 and 2021 are as follows: (continued)

Related party	Account		December 31, 2022	December 31, 2021
Entities under common control				
Shinhan Asset Management Co., Ltd.	Financial assets measured at FVTPL(*1)	₩	5,799	610
	Fees and commission income		47	43
	Other operating income		139	127
	Interest expense		(864)	(737)
	Fees and commission expense		(1,409)	(2,029)
Shinhan DS	Fees and commission income		-	1
	Other operating income		899	904
	Interest expense		(240)	(122)
	Other operating expense		(83,743)	(64,034)
Shinhan Savings Bank	Fees and commission income		1,520	1,249
	Other operating income		774	661
	Interest expense		(186)	(77)
Shinhan Aitas	Fees and commission income		47	40
	Other operating income		160	149
	Interest expense		(165)	(90)
Shinhan REITs Management	Interest expense		(40)	(26)
Shinhan AI	Other operating income		100	85
	Fees and commission expense		(6,921)	(7,248)
Asia Trust Co., Ltd.	Interest income		(2,070)	(1,878)
	Fees and commission income		24	15
	Interest expense		(2,095)	(808)
	Fees and commission expense		(340)	(449)
Shinhan BNPP Investment Trust No. 1 in Special Private Equity Investment for Future Energy	Fees and commission income		1	1
Shinhan Venture Investment Co., Ltd.	Interest expense		(199)	(4)
Shinhan EZ General Insurance, Ltd.(*4)	Fees and commission income		2	-
	Interest expense		(1)	-
One-Shinhan Connect Fund 1	Interest expense		(44)	-
One-Shinhan Connect Fund 2	Interest expense		(18)	-
IMM Long-term Solutions Private Equity Fund	Interest expense		(10)	-
SH Global Private Real Estate Investment Trust No.5	Gain related to derivatives		-	3,043
	Loss related to derivatives		(5,837)	-
SH US Nevada Photovoltaic Private Special Asset Investment Trust	Gain related to derivatives		333	2,180
Shinhan AIM Real Estate Fund No.15	Gain related to derivatives		-	16
	Loss related to derivatives		(93)	-
Shinhan AIM Fund of Fund 4	Gain related to derivatives		38	12
	Loss related to derivatives		(511)	(148)
SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Loss related to derivatives		(454)	-
Shinhan AIM Real Estate Fund No.22-A	Gain related to derivatives		-	680
	Loss related to derivatives		(768)	-
SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Gain related to derivatives		29	1
	Loss related to derivatives		(23)	(117)
Shinhan Dollar Income Private Security Investment Trust No.2	Gain related to derivatives		1,579	-
Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Gain related to derivatives		-	400
	Loss related to derivatives		(173)	-

(In millions of Korean won)

41. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2021 and 2021 are as follows: (continued)

Related party	Account		December 31, 2022	December 31, 2021
Investments in associates and associates of entities under common control				
BNP Paribas Cardif Life Insurance Co., Ltd.	Fees and commission income	₩	1,283	2,177
	Interest expense		(52)	(13)
BNP Paribas Cardif General Insurance(*4)	Fees and commission income		1	6
	Interest expense		(1)	(1)
Partners 4th Growth Investment Fund	Interest expense		(12)	(11)
KOREA FINANCE SECURITY	Fees and commission income		6	8
	Interest expense		-	(1)
Korea Credit Bureau	Fees and commission income		13	14
	Interest expense		-	(9)
Goduck Gangil1 PFV Co., Ltd	Interest income		377	754
	Reversal of (provision for) allowance		31	20
SBC PFV Co., Ltd	Fees and commission income		808	776
	Interest expense		(23)	(14)
IMM Investment Co., Ltd.	Interest income		29	23
	Interest expense		(274)	(49)
	Reversal of (provision for) allowance		-	(1)
Goduck Gangil10 PFV Co., Ltd	Interest income		171	283
	Interest expense		(738)	(78)
	Reversal of (provision for) allowance		14	(4)
COSPEC BIM tech	Interest income		-	41
	Reversal of (provision for) allowance		-	95
Korea Digital Asset Custody	Interest expense		-	(2)
CJL No.1 Private Equity Fund	Interest expense		(7)	(2)
iPIXEL Co., Ltd.	Interest income		1	2
Hermes Private Investment Equity Fund	Interest expense		-	(1)
DDI LVC Master Real Estate Investment Trust Co., Ltd.	Interest expense		(1)	-
Logisvalley Shinhan REIT Co., Ltd.	Interest income		1,018	-
	Interest expense		(1)	-
	Reversal of (provision for) allowance		(28)	-
Shinhan-Albatross Tech Investment Fund	Interest expense		(7)	-
Newlake Growth Capital Partners2 PEF	Interest expense		(1)	-
Shinhan Global Active REIT Co., Ltd.	Interest expense		(1)	-
DeepBlue No.1 Private Equity Fund	Interest expense		(2)	-
Key management personnel				
	Interest income	₩	205	122

(*1) Excluded from associates under common control for the year ended December 31, 2022.
(*2) The amount includes ₩7 million of gain or loss on non-controlling interests of structured entities that are subject to the consolidation.
(*3) The amount includes ₩29 million of gain or loss on non-controlling interests of structured entities that are subject to the consolidation.
(*4) During the year, it has changed to entities under common control from an associate or an associate of entity under common control.

(In millions of Korean won)

41. Related party transactions (continued)

(c) Details of transactions with key management for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Short and long-term employee benefits	₩	11,742	11,237
Post-employment benefits		395	408
Share-based payment transactions		4,345	5,535
	₩	16,482	17,180

(d) Payment guarantees of related parties

i) The guarantees provided between the related parties as of December 31, 2022 and 2021 are as follows:

		Amount of guarantees		
Guaranteed parties		December 31, 2022	December 31, 2021	Account
Shinhan Securities Co., Ltd.	₩	19,000	19,000	Purchase note agreement
		382,713	305,130	Unused credit
Shinhan Card Co., Ltd.		342,356	542,030	Unused credit
		36,878	16,715	Financial guarantee (Letter of credit method)
Shinhan Life Insurance Co., Ltd.		400,070	130,018	Unused credit
Shinhan Capital Co., Ltd.		40,000	40,000	Unused credit
BNP Paribas Cardif Life Insurance Co., Ltd.		10,000	10,000	Unused credit
Shinhan DS		17	9	Unused credit
		-	26	Payment guarantee
Structured entities		649,432	422,041	Securities acquisition agreement(*)
Key management personnel		2,143	1,607	Unused credit limit
	₩	1,882,609	1,486,576	

(*) The amount is for subsidiaries and associates, which are structured entities, under common control.

ii) As of December 31, 2022 and 2021, the Group has received a purchase guarantee (VND 200,000 million) of private equity bonds issued by Vietnam Electrical Equipment JSC from Shinhan Securities Co., Ltd.

(In millions of Korean won)

41. Related party transactions (continued)

(e) Collaterals provided to the related parties

i) Details of collaterals provided to the related parties as of December 31, 2022 and 2021 are as follows:

				December 31, 2022		December 31, 2021	
	Related party	Pledged assets		Carrying amounts	Amounts collateralized	Carrying amounts	Amounts collateralized
Entities under common control	Shinhan Life Insurance Co., Ltd.	Securities	₩	10,055	10,055	10,101	10,101

ii) Details of collaterals provided by the related parties as of December 31, 2022 and 2021 are as follows:

	Related party	Pledged assets		December 31, 2022	December 31, 2021
Entities under common control	Shinhan Securities Co., Ltd.	Deposits	₩	266,600	245,700
		Real estate		-	151,974
	Jeju Bank	Government bonds		40,000	20,000
	Shinhan Life Insurance Co., Ltd.	Government bonds		378,000	49,000
	Shinhan Credit Information Co., Ltd.	Deposits		180	180
	Shinhan Card Co., Ltd.	Bonds		520,000	-
Investments in associates	BNP Paribas Cardif Life Insurance Co., Ltd.	Government bonds		12,400	12,000
	iPIXEL Co., Ltd.	Electronic credit guarantee		190	190
	Logisvalley Shinhan REIT Co., Ltd.	Mortgage trust		51,600	-
		Real estate		8,073	10,012
		Deposits		1,306	2,011
Key management personnel					
		guarantee		3,092	375
			₩	1,281,441	491,442

(In millions of Korean won)

41. Related party transactions (continued)

(f) Transactions with related parties

(i) Loan transactions with related parties for the years ended December 31, 2022 and 2021 are as follows:

			December 31, 2022			
	Related party		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩	7	16	(13)	10
	Shinhan Card Co., Ltd.		96,164	535,117	(136,659)	494,622
	Jeju Bank		2,060	3,893	(4,047)	1,906
	Shinhan Securities Co., Ltd.		192,413	72,765	(241,544)	23,634
	Shinhan Life Insurance Co., Ltd.		13	37	(17)	33
Investments in associates and associates of entities under common control	Goduck Gangil1 PFV Co., Ltd.		12,000	-	(5,175)	6,825
	IMM Investment Co., Ltd.		800	-	-	800
	Goduck Gangil10 PFV Co., Ltd.		7,600	-	(4,500)	3,100
	iPIXEL Co., Ltd.		55	-	(55)	-
	Logisvalley Shinhan REIT Co., Ltd.		-	43,000	-	43,000
Key management personnel			6,150	4,590	(4,177)	6,563
		₩	317,262	659,418	(396,187)	580,493

(*1) The amount is before deducting allowance.
(*2) Some of the limit loans are shown in net amount.

			December 31, 2021			
	Related party		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩	6	14	(13)	7
	Shinhan Card Co., Ltd.		99,581	77,999	(81,416)	96,164
	Jeju Bank		8,894	4,359	(11,193)	2,060
	Shinhan Securities Co., Ltd.		56,386	137,111	(1,084)	192,413
	Shinhan Life Insurance Co., Ltd.		-	25	(12)	13
Investments in associates and associates of entities under common control	Goduck Gangil1 PFV Co., Ltd.		24,000	-	(12,000)	12,000
	IMM Investment Co., Ltd.		800	-	-	800
	Goduck Gangil10 PFV Co., Ltd.		9,400	600	(2,400)	7,600
	iPIXEL Co., Ltd.		-	71	(16)	55
	COSPEC BIM tech		151	-	(151)	-
Key management personnel			5,146	5,315	(4,311)	6,150
		₩	204,364	225,494	(112,596)	317,262

(*1) The amount is before deducting allowance.
(*2) Some of the limit loans are shown in net amount.

(In millions of Korean won)

41. Related party transactions (continued)

(f) Transactions with related parties (continued)

(ii) Borrowing transactions with related parties for the years ended December 31, 2022 and 2021 are as follows:

				December 31, 2022			
	Related party	Account		Beginning	Loans	Collections	Ending
Entities under common control	Shinhan Securities Co., Ltd.(*2)	Debenture	₩	19,100	1,389,588	(1,408,688)	-
	Shinhan Securities Co., Ltd.	Deposit(*1)		143,563	358,717	-	502,280
	Shinhan Card Co., Ltd.	Deposit(*1)		3,212	1,019	(2,437)	1,794
	Shinhan Asset Management Co., Ltd.	Deposit(*1)		78,911	9,968	(78,538)	10,341
	Shinhan Aitas	Deposit(*1)		12,000	10,000	(17,000)	5,000
	Shinhan DS	Deposit(*1)		825	5,961	-	6,786
	Shinhan Asset Trust Co., Ltd.	Deposit(*1)		180,000	50,000	(130,000)	100,000
	Shinhan Life Insurance Co., Ltd.	Deposit(*1)		20,903	12,445	(2,250)	31,098
	Shinhan REITs Management	Deposit(*1)		-	3,000	-	3,000
	Shinhan Venture Investment Co., Ltd.	Deposit(*1)		-	12,000	(1,500)	10,500
	IMM Long-term Solutions Private Equity Fund	Deposit(*1)		-	609	-	609
Associate of entity under joint control.	IMM Investment Co., Ltd.	Deposit(*1)		-	10,000	-	10,000
	CJL No.1 Private Equity Fund	Deposit(*1)		-	603	-	603
	DeepBlue No.1 Private Equity Fund	Deposit(*1)		-	400	-	400
			₩	458,514	1,864,310	(1,640,413)	682,411

(*1) The details of settlements among related parties' depository liabilities that can be deposited and withdrawn on demand, are excluded.
(*2) It includes private equity bonds of general investors that Shinhan Securities Co., Ltd. brokered and sold.

				December 31, 2021			
	Related party	Account		Beginning	Loans	Collections	Ending
Entities under common control	Shinhan Securities Co., Ltd. (*2)	Debenture	₩	11,450	1,284,672	(1,277,022)	19,100
	Jeju Bank	Borrowing		-	17,003	(17,003)	-
	Shinhan Securities Co., Ltd.	Deposit(*1)		140,413	175,396	(172,246)	143,563
	Shinhan Credit Information Co., Ltd.	Deposit(*1)		2,390	-	-	2,390
	Shinhan Card Co., Ltd.	Deposit(*1)		1,857	817	(1,852)	822
	Shinhan Asset Management Co., Ltd.	Deposit(*1)		70,373	12,876	(4,338)	78,911
	Shinhan Aitas	Deposit(*1)		10,000	5,000	(3,000)	12,000
	Shinhan DS	Deposit(*1)		735	856	(766)	825
	Asia Trust Co., Ltd.	Deposit(*1)		150,000	30,000	-	180,000
	Shinhan Life Insurance Co., Ltd.	Deposit(*1)		3,610	48,561	(31,268)	20,903
	Shinhan REITs Management Co., Ltd.	Deposit(*1)		-	5,000	(5,000)	-
			₩	390,828	1,580,181	(1,512,495)	458,514

(*1) The details of settlements among related parties' depository liabilities that can be deposited and withdrawn on demand, are excluded.
(*2) It includes private equity bonds of general investors sold through Shinhan Securities Co., Ltd.

(In millions of Korean won)

41. Related party transactions (continued)

(g) Major commitments related to derivatives

As of December 31, 2022 and 2021, the significant commitments related to derivative assets and liabilities with related parties are as follows:

	Related party	Classification of commitments		December 31, 2022	December 31, 2021
Entities under common control	Shinhan Life Insurance Co., Ltd.	Derivatives	₩	1,001,557	835,382
	Shinhan Card Co., Ltd.	Derivatives		1,037,409	1,251,098
	Shinhan Securities Co., Ltd.	Derivatives		581,315	1,424,228
	SH Global Private Real Estate Investment Trust No.5	Derivatives		194,657	91,046
	SH US Nevada Photovoltaic Private Special Asset Investment Trust	Derivatives		47,524	44,456
	Shinhan AIM Real Estate Fund No.15	Derivatives		2,128	1,440
	Shinhan AIM Fund of Fund 4	Derivatives		30,904	28,040
	SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Derivatives		27,609	-
	Shinhan AIM Real Estate Fund No.22-A	Derivatives		24,575	20,951
	SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Derivatives		11,706	5,568
	Shinhan Dollar Income Private Security Investment Trust No.2	Derivatives		37,639	-
	Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Derivatives		8,390	8,140
			₩	3,005,413	3,710,349

(In millions of Korean won)

41. Related party transactions (continued)

(h) Major investment and collection transactions

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows:

	December 31, 2022			
	Related party		Investment	Collection
Investments in associates	Shinhan-Albatross Technology Investment Fund	₩	-	1,200
	Shinhan-Neoplux Energy Newbiz Fund		-	288
	Korea Digital Asset Custody		-	-
	Newlake Growth Capital Partners2 PEF		-	136
	Neoplux Technology Valuation Investment Fund		-	598
	Stassets-DA Value Healthcare Fund I		-	107
	KST-SH Laboratory Investment Fund No.1		500	-
	Partners 4th Growth Investment Fund		-	1,714
	One Shinhan Connect Fund 1		11,100	12,163
	One Shinhan Connect Fund 2		15,000	-
	Shinhan SKS Corporate Recovery Private Equity Fund		4,965	-
	Shinhan VC Tomorrow Venture Fund 1		10,000	-
	One Shinhan Futures Fund 1		-	794
	One Shinhan Futures Fund 3		598	-
	DDI LVC Master Real Estate Investment Trust Co., Ltd.		6,625	-
	Logisvalley Shinhan REIT Co., Ltd.(*)		9,800	-
	BTS 2nd Private Equity Fund		3,026	-
	Shinhan Global Flagship Venture Fund1		18,000	-
Entities under common control and investments in associates under common control	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	1,519
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		-	720
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1		-	4,223
	Shinhan AIM Social Enterprise Investment Fund I		-	659
	SHINHAN NPS RENEWABLE FUND NO.1		8,927	34
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2		3,500	3,457
	Shinhan AIM Social Enterprise Investment Fund II		324	-
	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1		1,151	-
	Shinhan AIM FoF Fund 6		12,673	-
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3		10,500	-
	SHBNPP Ongoing Peace TDF 2040 Security Investment Trust(H)[Equity Balanced-FoF]		-	1,247
	SH BNPP Startup Venture Alpha Specialized Investment Private Equity Mixed Asset Trust No.1		525	-
	Shinhan AIM Investment Finance Specialized Investment Trust No. 1		5,396	-
	Shinhan ESG Bond Specialized Investment Trust No. 1		-	70,678
	Shinhan AIM Social Enterprise Investment Fund III		1,775	-
	SH Venture Professional Investment Type Private Investment Trust No.4		21,000	-
	SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3		8,234	-
	SH Startup Venture Alpha Private Equity Mixed Asset Trust No.2		1,575	-
	Shinhan Digital New Deal Private Mixed Asset		4,007	-
	Shinhan Subway Line No.9 Private Mixed Asset		115,457	5,112
	Shinhan AIM FoF Fund 9-C		9,560	-
	SH Venture Private Investment Trust No.5		21,000	-
	Shinhan Greenway Corporate Investment FUND NO.1		7,300	-

(In millions of Korean won)

41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	December 31, 2022			
	Related party		Investment	Collection
Entities under common control and investments in associates under common control	Shinhan Dollar Income Private No.2 Fund	₩	38,019	-
	Shinhan Corporate Investment Type Private No.15 Fund		50,000	-
	SH BGT Private Special Asset Investment Trust No.2		3,995	-
	SH-KT Logistics Investment Type Private Real Estate Investment Trust No.1[FoFs]		11,600	-
	Aone Mezzanine Opportunity Private Mixed Investment		-	2,600
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Tru No.3		9,200	669
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investme Trust No.3		-	201
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investmer Trust No.2		-	3,474
	SHBNPP Sangju YC Expressway Professional Investment Type Private Special Ass Investment Trust		5	-
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No.2		-	4,361
	Mastern Opportunity Seeking Real Estate Fund II		-	2,366
	SHBNPP BNCT Professional Investment Type Private Mixed Asset		-	16,452
	SH Estate Loan Private Investment No.2		29,458	1,531
	SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust		247	-
	Pacific Private Investment Trust No.49-1		10,000	-
	Shinhan Digital Healthcare New Technology Investment Fund 1		-	587
	Truston Global Professional Investment Type Private Special Asset Investment Trust No.3		-	409
	IMM Long-term Solutions Private Equity Fund		19,434	-
	Synergy-Turnaround 18th New Technology Fund		1,000	-
	Genesis No.1 Private Equity Fund		238	-
	T&F 2020 SS Private Equity Fund Specializing in Start-up and Venture Business		-	842
	SHINHAN-NEO Core Industrial Technology Fund		1,160	-
	SHINHAN-NEO Market-Frontier 2nd Fund		3,000	-
	Synergy-Turnaround 13th New Technology Fund		-	1,374
	J& Moorim Jade Investment Fund		-	131
	Gyeonggi-Neoplux Superman Fund		-	248
	SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2		4,732	418
	Genesis Eco No.1 PEF		97	-
	Daishin Newgen New Technology Investment Fund 1st		-	854
	KTB Newlake Global Healthcare PEF		6,283	10,187
	NH-Brain EV Fund		10,000	-
	IGEN2022 No.1 Private Equity Fund		4,000	237
	IP-LD 2022 No.1 Fund		1,000	-
	NH-J&-IBKC Label Technology Fund		5,000	-
	History 2022 Fintech Fund		1,100	-
	NH-Daishin-Kyobo Healthcare No.1 Fund		3,000	-
	IBKC-BEHIGH Fund 1st		1,500	-
	ON No.1 Private Equity Fund		2,000	-
		₩	528,586	151,590

(*) It includes investment without voting rights.

(In millions of Korean won)

41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	Related party		Investment	Collection
Subsidiaries Investments in associates	Shinhan-Albatross Technology Investment Fund	₩	-	6,000
	Shinhan-Neoplux Energy Newbiz Fund		1,400	1,050
	Korea Digital Asset Custody		505	-
	Newlake Growth Capital Partners2 PEF		10,000	-
	Neoplux Technology Valuation Investment Fund		-	10,897
	Korea Credit Bureau		-	45
	One-Shinhan Future's New Technology Investment Fund 2		1,170	-
	KST-SH Laboratory Investment Fund No.1		500	-
	Partners 4th Growth Investment Fund		-	16,143
	One Shinhan Connect New Technology Investment Fund 1		72,000	-
	SBC PFV Co., Ltd.		6,250	-
	Shinhan SKS Corporate Recovery Private Equity Fund		4,015	-
	Shinhan VC Tomorrow Venture Fund 1		5,000	-
Entities under common control and entities under common control	SHBNPP Konkuk University Dormitory Private Speical Asset Fund 1		-	1,766
	SHBNPP Future Energy Professional Investment Type Private Special Asset Investment Trust No.1		-	7,037
	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	1,273
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		7,500	7,204
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1		2,800	-
	Shinhan AIM Social Enterprise Investment Fund I		860	-
	Shinhan Energy Specialized Investment Trust No. 1		1,926	1,870
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2		14,000	-
	SHBNPP Lifetime Income TIF Mixed Asset Investment Trust		1,000	-
	Shinhan AIM Social Enterprise Investment Fund II		804	-
	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1		5,857	-
	Shinhan AIM FoF Fund 6		11,902	-
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3		31,500	-
	SHBNPP Startup Venture Alpha Specialized Private Equity Fund 1st		2,625	-
	Shinhan BNPP Global NextG EMP Securities Investment Trust		1,100	-
	Shinhan AIM Investment Finance Specialized Investment Trust No. 1		3,190	-
	Shinhan ESG Bond Specialized Investment Trust No. 1		100,000	-
	Shinhan AIM Social Enterprise Investment Fund III		1,485	-
	GVA KONEX High Yield IPO-I Professional Investors		5,000	-
	SHBNPP Corporate Professional Investment Type Private Security Investment Trust No.45		-	80,245
	SHBNPP Venture Professional Investment Type Private Investment Trust No.4		21,000	-
	SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3		14,158	-

(In millions of Korean won)

41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	Related party		Investment	Collection
Entities under common control and investments in associates under common control	Shinhan Global Carbon Neutral Solution Security Investment Trust	₩	2,500	-
	Shinhan Global Mega Trend Alpha Security Investment Trust		1,575	-
	SH Digital New Deal BTL General Type Private Mixed Asset Investment Trust No.3		1,032	-
	Shinhan Mezzanine General Private Investment Trust No. 3		5,000	-
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Trust No.3		17,500	-
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.3		-	28,379
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.2		-	2,181
	SHBNPP Sangju YC Expressway Professional Investment Type Private Special Asset Investment Trust		6	-
	SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust		4,052	19,806
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No. 2		-	10,501
	Mastern Opportunity Seeking Real Estate Fund II		238	-
	IGIS GLIP Professional Investment Type Private Real Estate Investment Trust No. 1-1		533	-
	IGIS GLIP Professional Investment Type Private Real Estate Investment Trust No. 1-2		533	-
	SHBNPP BNCT Professional Investment Type Private Special Asset Investment Trust		-	7,838
	PHAROS DK FUND		2,000	-
	SH Real Estate Loan Investment Type Private Real Estate Investment Trust No.2		14,128	-
	Shinhan JigaeNamsan Road Private Special Asset Investment Trust		32,562	-
	Shinhan Digital Healthcare New Technology Investment Fund 1		-	422
	KST-SH Laboratory Investment Fund No.1		500	-
	Truston Global Professional Investment Type Private Special Asset Investment Trust No.3		-	2,105
	One Shinhan Future's Fund 2		1,170	-
	Neoplux Technology Valuation Investment Fund		-	7,824
	One-Shinhan Connect New Technology Investment Fund 1		72,000	-
	Shinhan SKS Corporate Recovery Private Equity Fund		4,015	-
	Shinhan Nautic No.1 Private Equity Fund		3,000	1,434
	T Core Industrial Technology No.1 Venture Private Equity Fund		1,500	-
	Hermes Private Investment Equity Fund		-	704
	Partner One Value up No.1 Private Equity Fund		-	734
	Genesis No.1 Private Equity Fund		226	-
	KIWOOM PRIVATE EQUITY GIANT PRIVATE EQUITY FUND		-	306
	Macquarie Korea Opportunities Joint Investment & Private Investment Corporation No. 1		-	608
	Shinhan-Neo Component Equipment Investment Association		1,160	-
	SHINHAN-NEO Market-Frontier 2nd Fund		7,500	-

(In millions of Korean won)

41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	Related party		Investment	Collection
Entities under common control and investments in associates under common control	Synergy-Turnaround 13th New Technology Fund	₩	1,000	-
	NH-Synergy Core Industrial New Technology Fund		3,500	-
	J& Moorim Jade Investment Fund		1,500	-
	Gyeonggi-Neoflux Superman Investment Association		-	610
	SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2		11,975	233
	Genesis Eco No.1 PEF		5,903	-
	AIP Semiconductor-M3X Venture Fund No.1		2,000	-
	NH Kyobo AI Solution New Technology Investment Fund		2,000	-
	Daishin Newgen New Technology Investment Fund 1st		3,000	-
	META ESG Private Equity Fund I		3,000	-
	SWFV New Technology FUND-1		4,700	-
		₩	538,855	217,215

(i) The main types of transactions between the Group and related parties include deposit transactions, loan transactions, credit offering transactions by local subsidiaries due to the acquisition of L/C opened by the Bank, overdraft transactions related to credit card funds settlement and CLS payment service agreement transactions.

(j) For the years ended December 31, 2022 and 2021, the Group purchased bonds through Shinhan Securities Co., Ltd. at ₩ 4,497,237 million and ₩ 5,419,050 million, respectively, while the amount sold is ₩ 2,428,750 million and ₩ 5,307,469 million, respectively.

(k) As of December 31, 2022 and 2021, the plan assets deposited in the DB type retirement pension managed by Shinhan Life Insurance are ₩99,992 million and ₩156,326 million, respectively.

(l) As of December 31, 2022 and 2021, the limitation contract amount provided by Shinhan Card, a related party, is ₩66,900 million and ₩67,572 million, respectively.

(In millions of Korean won)

42. Investments in subsidiaries

(a) Condensed statements of financial positions for the Bank (separate) and its subsidiaries as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			December 31, 2021		
	Total assets	Total liabilities	Total equity	Total assets	Total liabilities	Total equity
Shinhan Bank	₩ 454,842,498	425,703,758	29,138,740	432,515,895	404,942,232	27,573,663
Shinhan Bank America	2,414,659	2,152,709	261,950	2,316,397	2,068,072	248,325
Shinhan Bank Canada	850,852	763,728	87,124	809,954	727,350	82,604
Shinhan Bank Europe GmbH	1,188,733	1,095,161	93,572	808,260	720,133	88,127
Shinhan Bank China Limited	6,198,889	5,619,181	579,708	6,222,433	5,668,667	553,766
Shinhan Kazakhstan Bank Limited	346,739	291,682	55,057	214,216	169,099	45,117
Shinhan Bank Cambodia	1,071,860	869,359	202,501	854,201	686,474	167,727
Shinhan Bank Japan	12,313,754	11,456,039	857,715	11,422,258	10,612,219	810,039
Shinhan Bank Vietnam Ltd.(*)	9,926,850	8,586,360	1,340,490	8,032,621	6,906,834	1,125,787
Shinhan Bank Mexico	326,518	224,579	101,939	256,174	169,662	86,512
Shinhan Bank Indonesia(*)	1,844,950	1,467,028	377,922	1,452,840	1,075,629	377,211
Structured entities	8,791,239	8,884,512	(93,273)	8,840,192	8,820,196	19,996

(*) Fair value adjustments at the time of business combination have reflected.

(In millions of Korean won)

42. Investments in subsidiaries (continued)

(b) Condensed statements of comprehensive income for the Bank (separate) and its subsidiaries for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022			December 31, 2021		
	Operating income	Profit for the year	Total comprehensive income (loss) for the year	Operating income	Profit for the year	Total Comprehensive income for the year
Shinhan Bank	₩ 33,807,522	2,631,873	2,027,693	22,197,037	2,152,934	1,875,321
Shinhan Bank America	93,782	7,201	13,625	77,865	2,054	21,012
Shinhan Bank Canada	35,959	4,344	4,521	20,919	2,416	9,120
Shinhan Bank Europe GmbH	21,941	4,885	5,445	12,961	3,775	4,002
Shinhan Bank China Limited	312,557	45,703	25,942	233,152	13,938	74,968
Shinhan Kazakhstan Bank Limited	35,940	9,357	9,940	16,425	3,462	5,634
Shinhan Bank Cambodia	69,408	23,638	34,774	48,977	20,149	32,956
Shinhan Bank Japan	281,448	116,735	47,676	247,699	81,380	63,940
Shinhan Bank Vietnam Ltd.(*)	632,162	197,766	214,702	441,102	129,167	226,380
Shinhan Bank Mexico	17,977	4,740	15,427	9,567	392	5,150
Shinhan Bank Indonesia(*)	92,666	12,548	712	74,028	71	24,507
Structured entities	319,026	(106,273)	(105,925)	273,838	28,035	27,220

(*) Fair value adjustments at the time of business combination are applied.

43. Interests in unconsolidated structured entities

(a) The nature and extent of interests in unconsolidated structured entities

The Group is involved in structured entities through investments in asset-backed securities, structured finance, and investment funds. The main characteristics of the structured entities are as follows:

	Description
Assets-backed securitization	Securitization vehicles are established to buy assets from originators and issue asset-backed securities in order to facilitate the originators' funding activities and enhance their financial soundness. The Group is involved in the securitization vehicles by purchasing (or committing to purchase) the asset-backed securities issued and/or providing other forms of credit enhancement. The Group does not consolidate a securitization vehicle if (i) the Group is unable to make or approve decisions as to the modification of the terms and conditions of the securities issued by such vehicle or disposal of such vehicles' assets, (ii) (even if the Group is able to do so) if the Group does not have the exclusive or primary power to do so, or (iii) if the Group does not have exposure, or right, to a significant amount of variable returns from such entity due to the purchase (or commitment to purchase) of asset-backed securities issued or subordinated obligations or by providing other forms of credit support.
Structured financing	Structured entities for project financing are established to raise funds and invest in a specific project such as M&A (Mergers and Acquisitions), BTL (Build-Transfer-Lease), shipping finance, etc. The Group is involved in the structured entities by originating loans, investing in equity, or providing credit enhancement.
Investment fund	Investment fund is a type of financial assets where investment funds raise funds from the general public to invest in a group of assets such as stocks or bonds and distribute their income and capital gains to their investors The Group manages assets on behalf of other investors, such as investing in equity in investment funds, collective investment companies, and business members.

(In millions of Korean won)

43. Interests in unconsolidated structured entities (continued)

(a) The nature and extent of interests in unconsolidated structured entities (continued)

The size of unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	109,297,670	223,632,461	222,486,034	555,416,165

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	112,156,163	169,291,695	177,417,905	458,865,763

(b) Nature of risk associated with interests in unconsolidated structured entities

i) The carrying amounts of the assets and liabilities recognized relating to its interests in unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	382,894	7,023,732	85,772	7,492,398
Loans at FVTPL		-	46,626	-	46,626
Securities at FVTPL		2,023,694	54,789	6,022,521	8,101,004
Derivative assets		4,432	-	-	4,432
Securities at FVTOCI		1,106,404	175,366	-	1,281,770
Securities at amortized cost		4,082,846	-	-	4,082,846
	₩	7,600,270	7,300,513	6,108,293	21,009,076
Liabilities:					
Derivative liabilities	₩	24,902	91	-	24,993

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	186,821	6,335,639	114,300	6,636,760
Loans at FVTPL		-	129,079	67,097	196,176
Securities at FVTPL		3,518,434	123,061	6,876,699	10,518,194
Derivative assets		4,343	16,560	-	20,903
Securities at FVTOCI		1,797,443	209,667	-	2,007,110
Securities at amortized cost		3,914,914	-	-	3,914,914
Others		-	1,450	-	1,450
	₩	9,421,955	6,815,456	7,058,096	23,295,507
Liabilities:					
Derivative liabilities	₩	3,817	48	-	3,865

(In millions of Korean won)

43. Interests in unconsolidated structured entities (continued)

(b) Nature of risk associated with interests in unconsolidated structured entities (continued)

ii) Exposure to risk relating to interests in unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets owned	₩	7,600,270	7,300,513	6,108,293	21,009,076
Purchase commitments		891,860	91,858	472,954	1,456,672
Providing unused credit		407,839	251,909	-	659,748
	₩	8,899,969	7,644,280	6,581,247	23,125,496

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets owned	₩	9,421,955	6,815,456	7,058,096	23,295,507
Purchase commitments		843,209	2,210	1,195,977	2,041,396
Providing unused credit		426,565	252,027	-	678,592
Guarantee contracts		-	5,550	-	5,550
Others		-	18,758	-	18,758
	₩	10,691,729	7,094,001	8,254,073	26,039,803

(In millions of Korean won)

44. Information of trust business

(a) Total assets with trust business as of December 31, 2022 and 2021 and operating revenue for the years ended December 31, 2022 and 2021 are as follows:

		Total assets		Operating revenue	
		December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Consolidated	₩	3,764,132	4,363,636	112,993	137,447
Unconsolidated		91,944,641	87,663,477	1,303,281	1,230,398
	₩	95,708,773	92,027,113	1,416,274	1,367,845

(b) Significant balances with trust business as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Borrowings from trust accounts	₩	6,563,116	5,189,455
Deposits		30,094	30,744
Accrued revenues from asset management fee from trust accounts		22,809	11,314
Accrued interest expenses		7,977	1,702

(c) Significant transactions with trust business for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Asset management fee from trust accounts	₩	177,579	183,765
Termination fee		1,056	9,713
Interest expense for deposits		552	275
Interest on borrowings from trust accounts		99,313	20,522

Independent Auditor's Report

To the Shareholder and Board of Directors of Shinhan Bank
(A wholly owned subsidiary of Shinhan Financial Group Inc.)

Opinion
We have audited the accompanying consolidated financial statements of Shinhan Bank and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2021 and 2020, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2021 and 2020, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion
We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Emphasis of Matters
Without modifying our opinion, we draw attention to the followings of the consolidated financial statements.

(1) The spread of the COVID-19 epidemic
As explained in Note 2, the rapid spread of the COVID-19 epidemic has had a negative impact on the global economy, which can result in an increase in expected credit losses, potential impairment of assets, and negatively affecting the Group's ability to generate revenue.

(2) Financial statements restatement
As explained in Note 27, the Group decided to provision an additional regulatory reserve for loan loss to enhance loss absorbing capacity based on measures to extend COVID-19 financial support, and restated the consolidated financial statements for the year ended December 31, 2021.

Other Matters
The attached consolidated financial statements for the year ended December 31, 2021 have been restated by the Group to reflect the adjustments explained in the above Emphasis of Matters (2), and the restated consolidated financial statements were approved by the Board of Directors on March 11, 2022. This differs

from the consolidated financial statements approved by the Board of Directors on February 8, 2022. We have reissued this audit report with respect to the consolidated financial statements including the adjustments. Accordingly, the audit report we issued on March 3, 2022 is no longer valid and cannot be used in relation to the Group's 2021 consolidated financial statements.
Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance Korean IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Korean Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control.

- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

/s/ Samil PricewaterhouseCoopers

March 3, 2022
(Except for those explained in the above Emphasis of Matters (2))
March 14, 2022
(The date of completion of the audit procedure performed limited to the contents explained in the above Emphasis of Matters (2))
Seoul, Korea

This report is effective as of March 14, 2022, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Financial Position
As of December 31, 2021 and 2020

(In millions of Korean won)	Notes		2021	2020
Assets				
Cash and due from banks	3,6,9,39,40	₩	22,780,127	27,575,748
Securities at fair value through profit or loss	3,7,40,42		24,173,996	21,819,280
Derivative assets	3,8,40,42		3,001,440	4,575,560
Loans at amortized cost	3,9,18,40,42		325,933,496	297,904,732
Loans at fair value through profit or loss	3,9		894,160	844,469
Securities at fair value through other comprehensive income	3,10,18,42		48,300,820	39,359,666
Securities at amortized cost	3,10,18,42		21,325,243	20,178,443
Property and equipment	5,11,12,17,18		2,487,385	2,449,865
Intangible assets	5,13		543,126	539,841
Investments in associates	14		211,914	123,234
Investment properties	5,15		606,277	610,239
Defined benefit assets	23		108,591	7,844
Current tax assets	36		27,018	15,605
Deferred tax assets	36		252,983	248,237
Other assets	3,9,16,40,43		16,757,931	11,381,257
Non-current assets held for sale	17		30,706	41,083
Total assets		₩	467,435,213	427,675,103
Liabilities				
Deposits	3,19,40	₩	354,937,624	317,555,592
Financial liabilities at fair value through profit or loss	3,20		583,662	539,564
Derivative liabilities	3,8,40,42		2,852,513	4,194,694
Borrowings	3,21,39,40		20,962,239	20,554,982
Debt securities issued	3,22,39		37,625,739	34,516,305
Provisions	24,38,40		405,041	346,295
Current tax liabilities	36		311,544	255,286
Deferred tax liabilities	36		18,217	18,876
Other liabilities	3,12,25,40,43		20,502,996	22,027,995
Total liabilities			438,199,575	400,009,589
Equity				
Capital stock	26		7,928,078	7,928,078
Hybrid bonds	26		1,586,662	1,586,662
Capital surplus	26		403,164	403,164
Capital adjustments	26,36		2,742	4,198
Accumulated other comprehensive loss	26,36		(607,040)	(541,411)
Retained earnings	26,27		19,914,560	18,278,434
(Reserve for loan loss)			(2,342,070)	(2,242,861)
(Required amount of loan loss)			(289,920)	(99,209)
(Expected amount of loan loss)			(289,920)	(99,209)
Total equity attributable to equity holder of Shinhan Bank			29,228,166	27,659,125
Non-controlling interests	26		7,472	6,389
Total equity			29,235,638	27,665,514
Total liabilities and equity		₩	467,435,213	427,675,103

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Comprehensive Income

For the years ended December 31, 2021 and 2020

(In millions of Korean won)	Notes		2021	2020
Interest income		₩	9,445,471	9,615,782
Financial instruments at fair value through profit or loss			217,825	264,448
Financial instruments at fair value through other comprehensive income and amortized cost			9,227,646	9,351,334
Interest expense			2,833,713	3,688,249
Net interest income	3,5,28,40,42		6,611,758	5,927,533
Fees and commission income			1,273,750	1,264,981
Fees and commission expense			295,945	277,410
Net fees and commission income	3,5,29,40,42		977,805	987,571
Dividend income	30,42		18,571	17,877
Net gain on financial assets at fair value through profit or loss	31		334,492	168,581
Net foreign currencies transaction gain			201,022	391,903
Net gain on disposal of financial assets at fair value through other comprehensive income	10		67,065	207,955
Net loss on disposal of financial assets at amortized cost	10		(310)	-
Provision for credit loss allowance	3,9,40		352,746	677,404
General and administrative expenses	32,40		3,361,033	3,202,946
Net other operating expenses	5,34,40		(909,907)	(907,424)
Operating income			3,586,717	2,913,646
Net non-operating expenses	5,35		264,221	129,394
Share of gain(loss) of associates	5,14		25,400	811
Profit before income taxes	5		3,347,896	2,783,441
Income tax expense	5,36		853,002	705,209
Profit for the year	5,27		2,494,894	2,078,232

(Adjusted profit after reflection of reserve for loan loss
For the year ended December 31, 2021:
2,204,974 million won
For the year ended December 31, 2020:
1,979,023 million won

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Comprehensive Income (Continued)

For the years ended December 31, 2021 and 2020

(In millions of Korean won, except for earnings per share)	Notes		2021	2020
Other comprehensive income (loss) for the year:				
Items that are or may be reclassified subsequently to profit or loss				
Foreign currency translation differences for foreign operations			208,223	(135,000)
Unrealized net change in fair value of financial assets at fair value through other comprehensive income			(354,697)	(41,715)
Share of other comprehensive income (loss) of associates			(2,866)	(3,043)
			(149,340)	(179,758)
Items that will not be reclassified subsequently to profit or loss				
Remeasurements of defined benefit plans			33,997	15,125
Unrealized net change in fair value of financial assets at fair value through other comprehensive income			17,277	(2,024)
			51,274	13,101
Other comprehensive income for the year, net of income tax	3,26,36		(98,066)	(166,657)
Total comprehensive income for the year		₩	2,396,828	1,911,575
Profit attributable to:	5			
Equity holder of Shinhan Bank		₩	2,494,375	2,077,793
Non-controlling interests			519	439
Profit for the year		₩	2,494,894	2,078,232
Total comprehensive income attributable to:				
Equity holder of Shinhan Bank		₩	2,395,745	1,911,588
Non-controlling interests			1,083	(13)
Total comprehensive income for the year		₩	2,396,828	1,911,575
Earnings per share:	37			
Basic and diluted earnings per share in won		₩	1,538	1,282

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Changes in Equity

For the year ended December 31, 2020

(In millions of Korean won)

		Attributable to equity holder of Shinhan Bank								
		Capital stock	Hybrid bonds	Capital surplus	Capital adjustments	Accumulated other comprehensive income (loss)	Retained earnings	Sub-total	Non-controlling interests	Total
Balance at January 1, 2020	₩	7,928,078	997,987	403,164	(2,480)	(403,031)	17,162,995	26,086,713	6,402	26,093,115
Total comprehensive income (loss), net of income tax										
Profit for the year		-	-	-	-	-	2,077,793	2,077,793	439	2,078,232
Foreign currency translation differences for foreign operations		-	-	-	-	(134,529)	-	(134,529)	(471)	(135,000)
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income		-	-	-	-	(15,935)	(27,825)	(43,760)	21	(43,739)
Share of other comprehensive income of associates		-	-	-	-	(3,043)	-	(3,043)	-	(3,043)
Remeasurements of defined benefit plans		-	-	-	-	15,127	-	15,127	(2)	15,125
Total comprehensive income for the year		-	-	-	-	(138,380)	2,049,968	1,911,588	(13)	1,911,575
Transactions with owners, recognized directly in equity										
Annual dividends to equity holder		-	-	-	-	-	(890,000)	(890,000)	-	(890,000)
Dividends to hybrid bond holders		-	-	-	-	-	(44,529)	(44,529)	-	(44,529)
Issuance of hybrid bonds		-	588,675	-	-	-	-	588,675	-	588,675
Share-based payment transactions		-	-	-	6,678	-	-	6,678	-	6,678
Total transactions with owners		-	588,675	-	6,678	-	(934,529)	(339,176)	-	(339,176)
Balance at December 31, 2020	₩	7,928,078	1,586,662	403,164	4,198	(541,411)	18,278,434	27,659,125	6,389	27,665,514

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Changes in Equity (Continued)

For the year ended December 31, 2021

(In millions of Korean won)		Attributable to equity holder of Shinhan Bank								
		Capital stock	**Hybrid bonds**	**Capital surplus**	**Capital adjustments**	**Accumulated other comprehensive income (loss)**	**Retained earnings**	**Sub-total**	**Non-controlling interests**	**Total**
Balance at January 1, 2021	₩	7,928,078	1,586,662	403,164	4,198	(541,411)	18,278,434	27,659,125	6,389	27,665,514
Total comprehensive income (loss), net of income tax										
Profit for the year		-	-	-	-	-	2,494,375	2,494,375	519	2,494,894
Foreign currency translation differences for foreign operations		-	-	-	-	207,655	-	207,655	568	208,223
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income		-	-	-	-	(304,415)	(33,001)	(337,416)	(4)	(337,420)
Share of other comprehensive income of associates		-	-	-	-	(2,866)	-	(2,866)	-	(2,866)
Remeasurements of defined benefit plans		-	-	-	-	33,997	-	33,997	-	33,997
Total comprehensive income for the year		-	-	-	-	(65,629)	2,461,374	2,395,745	1,083	2,396,828
Transactions with owners, recognized directly in equity										
Annual dividends to equity holder		-	-	-	-	-	(770,000)	(770,000)	-	(770,000)
Dividends to hybrid bond holders		-	-	-	-	-	(55,248)	(55,248)	-	(55,248)
Share-based payment transactions		-	-	-	(1,456)	-	-	(1,456)	-	(1,456)
Total transactions with owners		-	-	-	(1,456)	-	(825,248)	(826,704)	-	(826,704)
Balance at December 31, 2021	₩	7,928,078	1,586,662	403,164	2,742	(607,040)	19,914,560	29,228,166	7,472	29,235,638

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Cash Flows
For the years ended December 31, 2021 and 2020

(In millions of Korean won)		2021	2020
Cash flows from operating activities			
Profit before income tax	₩	3,347,896	2,783,441
Adjustments for:			
Interest income		(9,445,471)	(9,615,782)
Interest expense		2,833,713	3,688,249
Dividend income		(18,571)	(17,877)
		(6,630,329)	(5,945,410)
Income items without cash outflow:			
Net gain on financial assets at fair value through profit or loss		(18,307)	(42,721)
Net non-cash foreign currencies transaction gain (loss)		102,851	(134,015)
Net gain on sale of financial assets at fair value through other comprehensive income		(67,065)	(207,955)
Net loss on disposal of securities at amortized cost		310	-
Provision for credit loss allowance		352,746	677,404
Non-cash employee benefits		140,136	145,135
Depreciation and amortization		412,217	411,017
Net non-cash other operating expenses		113,247	129,788
Share of loss(gain) of associates		(25,400)	811
Net non-cash non-operating expenses		204,468	118
		1,215,203	979,582
Changes in assets and liabilities:			
Deposits at amortized cost		9,004,738	(4,241,460)
Securities at fair value through profit or loss		(1,732,229)	(1,982,043)
Derivative assets		4,850,344	1,801,573
Loans at amortized cost		(26,590,607)	(31,263,920)
Loans at fair value through profit or loss		(40,704)	29,435
Other assets		(5,367,414)	2,191,452
Deposits		35,993,806	31,528,184
Financial liabilities at fair value through profit or loss		19,672	(45,874)
Derivative liabilities		(4,919,338)	(1,771,697)
Defined benefit liabilities		(181,115)	(181,802)
Provisions		(21,631)	58,826
Other liabilities		(1,532,249)	2,393,349
		9,483,273	(1,483,977)
Income tax paid		(698,820)	(839,462)
Interest received		9,590,406	9,998,207
Interest paid		(2,898,122)	(4,090,937)
Dividends received		33,524	20,834
Net cash inflow from operating activities	₩	13,443,031	1,422,278

Consolidated Statements of Cash Flows (Continued)

For the years ended December 31, 2021 and 2020

(In millions of Korean won)		2021	2020
Cash flows from investing activities			
Net cash flows of derivative instruments for hedging	₩	(1,206)	(20,921)
Proceeds from decrease of securities at fair value through profit or loss		1,866,642	1,289,230
Acquisition of securities at fair value through profit or loss		(2,419,739)	(2,257,474)
Proceeds from decrease of securities at fair value through other comprehensive income		23,388,064	43,305,845
Acquisition of securities at fair value through other comprehensive income		(32,571,172)	(42,860,357)
Proceeds from decrease of securities at amortized cost		4,765,154	5,641,002
Acquisition of securities at amortized cost		(5,824,562)	(5,743,726)
Proceeds from disposal of property and equipment		682	34,072
Acquisition of property and equipment		(188,051)	(168,078)
Proceeds from disposal of intangible assets		17	139
Acquisition of intangible assets		(336,653)	(239,485)
Proceeds from disposal of investments in associates		20,842	16,322
Acquisition of investments in associates		(100,840)	(10,600)
Proceeds from disposal of investment properties		276	148
Acquisition of investment properties		(8,292)	(4,262)
Proceeds from sale of non-current assets held for sale		47,792	2,048
Decreases in other assets		627,525	705,459
Acquisition of other assets		(566,510)	(670,875)
Net cash outflow from investing activities		(11,300,031)	(981,513)
Cash flows from financing activities			
Net cash flows of derivative instruments for hedging		1,652	359
Proceeds from borrowings, net		(169,958)	3,206,675
Proceeds from issuance of debt securities		16,782,492	9,900,931
Repayment of debt securities		(13,919,757)	(13,477,808)
Dividends paid		(825,248)	(934,529)
Issuance of hybrid bonds		-	588,675
Acquisition of other liabilities		122,556	727,330
Proceeds from sale of other liabilities		(345,894)	(969,081)
Net cash inflow (outflow) from financing activities		1,645,843	(957,448)
Effect of exchange rate fluctuations on cash and cash equivalents held		22,859	41,780
Net increase (decrease) in cash and cash equivalents		3,811,702	(474,903)
Cash and cash equivalents at beginning of the year (Note 39)		6,635,614	7,110,517
Cash and cash equivalents at end of the year (Note 39)	₩	10,447,316	6,635,614

See accompanying notes to the consolidated financial statements.

1. Reporting entity

(a) Overview

Shinhan Bank Co., Ltd., the controlling company (hereinafter referred to as the "Bank") has its headquarters at 20 Sejong-daero 9-gil, Jung-gu, Seoul. The consolidated financial statements for the reporting period ended on December 31, 2021 consist of shares in the Bank and its subsidiaries (hereinafter collectively referred to as the "Group"), and its associates and joint ventures.

The Bank is established with a new merger (October 1, 1943, bank named Choheung Bank Co., Ltd.) of Hansung Bank established on February 19, 1897 and Dongil Bank established on August 8, 1906.

The Bank acquired Chungbuk Bank and Kangwon Bank in 1999 and the former Shinhan Bank on April 1, 2006, and subsequently changed its name to Shinhan Bank. As of December 31, 2020, the Bank has 1,585,615,506 outstanding common shares with par value of ₩7,928,078 million which is 100% owned by Shinhan Financial Group Co., Ltd. ("Shinhan Financial Group"). As of December 31, 2021, the Bank operates through 657 domestic branches, 127 depository offices, 29 premises and 14 overseas branches.

(b) Subsidiaries included in consolidation (structured entities excluded)

Details of ownerships in subsidiaries as of December 31, 2021 and 2020 are as follows:

Controlling company	Name of subsidiary	Location	Closing month	Sectors	Ownership (%) December 31, 2021	Ownership (%) December 31, 2020
Shinhan Bank	Shinhan America	U.S.A	December 31	Bank	100.00	100.00
	Shinhan Europe	Germany	December 31	Bank	100.00	100.00
	Shinhan Cambodia	Cambodia	December 31	Bank	97.50	97.50
	Shinhan Kazakhstan	Kazakhstan	December 31	Bank	100.00	100.00
	Shinhan Canada	Canada	December 31	Bank	100.00	100.00
	Shinhan China	China	December 31	Bank	100.00	100.00
	Shinhan Japan	Japan	March 31	Bank	100.00	100.00
	Shinhan Vietnam	Vietnam	December 31	Bank	100.00	100.00
	Shinhan Mexico	Mexico	December 31	Bank	99.99	99.99
	Shinhan Indonesia	Indonesia	December 31	Bank	99.00	99.00
Shinhan Bank Japan	SBJ DNX	Japan	March 31	Computer Service	100.00	100.00

i) Shinhan Asia Ltd.

Shinhan Bank America ("Shinhan America") is established through the merger of Chohung Bank of New York and California Chohung Bank. Shinhan America's capital stock amounted to USD 173 million as of December 31, 2021.

ii) Shinhan Bank Europe GmbH

Shinhan Bank Europe GmbH ("Shinhan Europe") is established in 1994. As of December 31, 2021, Shinhan Europe's capital stock amounted to EUR 63 million through a bonus issue during the year ended December 31, 2020.

iii) Shinhan Bank Cambodia

Shinhan Bank Cambodia("Shinhan Cambodia") is established on October 15, 2007. Shinhan Bank Cambodia was renamed from Shinhan Khmer Bank PLC during the year ended December 31, 2018. Shinhan Cambodia's capital stock amounted to USD 75 million as of December 31, 2021.

1. **Reporting entity (continued)**

(b) Subsidiaries included in consolidation (structured entities excluded) (continued)

iv) Shinhan Bank Kazakhstan Limited

Shinhan Bank Kazakhstan Limited ("Shinhan Kazakhstan") is established on December 16, 2008. As of December 31, 2021, Shinhan Kazakhstan's capital stock amounted to KZT 10,029 million.

v) Shinhan Bank Canada

Shinhan Bank Canada ("Shinhan Canada") is established on March 9, 2009. As of December 31, 2021, Shinhan Canada's capital stock amounted to CAD 80 million.

vi) Shinhan Bank China Limited

The local branch of the Group has been incorporated as the entity on May 12, 2008. As of December 31, 2021, Shinhan China's capital stock amounted to CNY 2,000 million.

vii) Shinhan Bank Japan

The local branch of the Group has been incorporated as the entity on September 14, 2009. Shinhan Japan's capital stock amounted to JPY 17,500 million as of December 31, 2021.

viii) Shinhan Bank Vietnam Ltd.

The local branch of the Group has been incorporated as the entity on November 16, 2009 and merged with Shinhan Vina Bank on November 28, 2011. On December 17, 2017, Shinhan Vietnam acquired the retail business of ANZ Vietnam. As of December 31, 2021, Shinhan Vietnam's capital stock amounted to VND 5,709,900 million.

ix) Banco Shinhan de Mexico

Banco Shinhan de Mexico ("Shinhan Mexico") is established on October 12, 2015 for obtaining the authorization of banking business. As of December 31, 2021, Shinhan Mexico's capital stock amounted to MXN 1,583 million.

x) PT Bank Shinhan Indonesia

On November 30, 2015, the Bank obtained the control of PT Bank Metro Express, which is established on September 8, 1967 and is engaged in the banking business. PT Bank Metro Express is renamed as PT Bank Shinhan Indonesia ("Shinhan Indonesia") in 2016 and merged PT Centratama Nasional Bank, a former subsidiary of the Bank, on December 6, 2016. As of December 31, 2021, Shinhan Indonesia's s capital stock amounted to IDR 944,278 million.

xi) SBJ DNX

It is established on April 1, 2020 for the purpose of operating the computer service business, and as of December 31, 2021, and SBJ DNX's capital stock amounted to JPY 50 million.

1. **Reporting entity (continued)**

(c) Structured entities included in consolidation (continued)

In addition, structured entities included in consolidation as of December 31, 2021 are as follows:

Structured entities	Location	Closing month	Sectors
MPC Yulchon Green 1st	Korea	3/6/9/12	Other financial business
MPC Yulchon 2nd	Korea	3/6/9/12	Other financial business
MPC Yulchon 1st	Korea	3/6/9/12	Other financial business
Shinhan-S-Russell Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan-Daesung Contents Fund	Korea	12	Others
Tiger Eyes 3rd Co., Ltd.	Korea	12	Other financial business
Tiger Eyes 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
Sunny solution 4th Co., Ltd	Korea	3/6/9/12	Other financial business
GIB portfolio a 3rd Co., Ltd.	Korea	1/4/7/10	Other financial business
S-redefine 3rd Co., Ltd.	Korea	7	Other financial business
Richgate 9th corp.	Korea	3/6/9/12	Other financial business
Richgate 11th corp.	Korea	3/6/9/12	Other financial business
Sunny Financial 10th Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB sol 1st corp.	Korea	2/5/8/11	Other financial business
Rich gate 8th corp.	Korea	3/6/9/12	Other financial business
Rich gate 12th corp.	Korea	1/4/7/10	Other financial business
Maestro ER Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB DM Co., Ltd.	Korea	3/6/9/12	Other financial business
Richgate 14th corp.	Korea	3/6/9/12	Other financial business
MAESTROST CO.,LTD.	Korea	12	Other financial business
GIB time 1st	Korea	1/4/7/10	Other financial business
AR plus 1st	Korea	3/6/9/12	Other financial business
MAESTROSP CO.,LTD.	Korea	1/4/7/10	Other financial business
MAESTRO BIZON CO.,LTD.	Korea	2/5/8/11	Other financial business
S-Tiger 5th Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO S.I CO.,LTD.	Korea	2/5/8/11	Other financial business
S-redefine 10th Co., Ltd.	Korea	1/4/7/10	Other financial business
Maestrogongdeok Co.,LTD.	Korea	3/6/9/12	Other financial business
MaestroLEC Co.,LTD.	Korea	3/6/9/12	Other financial business
GIBDAEMYUNG 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger 8th Co., Ltd.	Korea	1/4/7/10	Other financial business
MAESTRO S.A Co., Ltd.	Korea	1/4/7/10	Other financial business
GIBLAB 2nd CO.,LTD.	Korea	9	Other financial business
Hana micron 2nd Co.LTD.	Korea	1/4/7/10	Other financial business
Shinhan Display 3rd Co., Ltd.	Korea	1/4/7/11	Other financial business
MAESTRO H CO.,LTD.	Korea	1/4/7/10	Other financial business
MaestroDcube Co.,Ltd.	Korea	2/5/8/11	Other financial business
GIB Porter 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO byeolnae CO.,LTD.	Korea	1/4/7/10	Other financial business
SH ROAD No.1 CO.,LTD.	Korea	1/4/7/10	Other financial business
MAESTRO landmark CO.,LTD.	Korea	2/5/8/11	Other financial business
MAESTRO DS CO.,LTD.	Korea	3/6/9/12	Other financial business

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities	Location	Closing month	Sectors
GIB ST Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO H No.2 CO.,LTD.	Korea	3/6/9/12	Other financial business
GIB Kaps	Korea	1/4/7/10	Other financial business
S-Tiger 10th Co., Ltd.	Korea	3/6/9/12	Other financial business
Rich gate 3rd corp.	Korea	2/5/8/11	Other financial business
GIB JDT CO.,LTD.	Korea	2/5/8/11	Other financial business
GIB Mobility 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
S-Force 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mighty 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate Songpa corp.	Korea	3/6/9/12	Other financial business
Shinhan SPOS Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB YB CO.,LTD.	Korea	3/6/9/12	Other financial business
S-Force 2nd Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO aero Co.,LTD.	Korea	3/6/9/12	Other financial business
MAESTRO YS CO.,LTD.	Korea	3/6/9/12	Other financial business
S-Bright 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Games Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO Iksan co.ltd	Korea	1/4/7/10	Other financial business
S TIGER LIP CO., LTD.	Korea	1/4/7/10	Other financial business
S-Tiger Chemical Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Loex Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB CHUNGJU CO., LTD.	Korea	1/4/7/10	Other financial business
GIB Haan Co.,Ltd	Korea	2/5/8/11	Other financial business
GIB HwangGeum Co., Ltd.	Korea	3/6/9/12	Other financial business
S-tiger seomyun	Korea	3/6/9/12	Other financial business
S-bright Hongdae	Korea	3/6/9/12	Other financial business
BRIGHT WOONJEONG CO., LTD.	Korea	2/5/8/11	Other financial business
S BRIGHT CHEONHO CO., LTD.	Korea	2/5/8/11	Other financial business
GIB County 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mokpo Co.,Ltd	Korea	3/6/9/12	Other financial business
S-Tiger Tech Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB SungSan Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan GIB Mami Co., Ltd.	Korea	3/6/9/12	Other financial business
S BRIGHT PANGYO CO., LTD.	Korea	3/6/9/12	Other financial business
S-Tiger K Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Energy Co., Ltd.	Korea	1/4/7/10	Other financial business
Shinhan-GIB-SKL CO., LTD.	Korea	1/4/7/10	Other financial business
Rich gate Yongsan corp.	Korea	1/4/7/10	Other financial business
Rich gate Shinseol corp.	Korea	3/6/9/12	Other financial business
S BRIGHT ENERGY CO., LTD.	Korea	2/5/8/11	Other financial business
S BRIGHT IKSAN CO., LTD.	Korea	1/4/7/10	Other financial business
S-Tiger Jeju Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Makok Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Saha Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB hc 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Munjung Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan GIB Rozen Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger First Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB rb 1st Co., Ltd.	Korea	7	Other financial business
Rich gate Box corp.	Korea	2/5/8/11	Other financial business
GIB EMT Co., Ltd.	Korea	1/4/7/10	Other financial business

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities	Location	Closing month	Sectors
GIB Hakjam Co., Ltd.	Korea	1/4/7/10	Other financial business
S BRIGHT LDC CO., LTD.	Korea	2/5/8/11	Other financial business
GIB chiowol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Gyeongju Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Duwol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 2nd Co., Ltd.	Korea	11	Other financial business
GIB Konkuk Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB ST 2nd Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Haeundae Co., Ltd.	Korea	12	Other financial business
Development Trust	Korea	12	Trust
Non-specified Money Trust	Korea	12	Trust
Old-age Living Pension Trust	Korea	12	Trust
New-Personal Pension Trust	Korea	12	Trust
Personal Pension Trust	Korea	12	Trust
Retirement Trust	Korea	12	Trust
New Old-age Living Pension Trust	Korea	12	Trust
Pension Trust	Korea	12	Trust
Household Money Trust (Shinhan)	Korea	12	Trust
Corporation Money Trust (Shinhan)	Korea	12	Trust
Shinhan BNPP Private Corporate 25th	Korea	1	Beneficiary certificate
SHBNPP SGrail Professional Investment Type Private Special Asset Investment Trust No. 2	Korea	1/4/7/11	Beneficiary certificate
Shinhan AIM Private Real Estate Investment Trust No.31	Korea	6/12	Beneficiary certificate

The Group consolidates a structured entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to most significantly affect those returns through its power over the structured entity based on the terms in the agreement relating to the establishment of the structured entity. For consolidated structured entities, the Group recognizes non-controlling interests related to the structured entity as liabilities in the consolidated statement of financial position.

As of December 31, 2021, the Group provides credit guarantees (ABCP purchase agreement, etc.) amounting to ₩4,199,413 million to the structured entities described above.

1. Reporting entity (continued)

(d) Changes in subsidiaries

Subsidiaries newly included or excluded during the year ended December 31, 2021 are as follows:

	Subsidiaries
Newly included subsidiaries for the year ended December 31, 2021	S-Force 2nd Co., Ltd. MAESTRO aero Co.,LTD MAESTRO YS CO.,LTD S-Bright 1st Co., Ltd. S-Tiger Games Co., Ltd. MAESTRO Iksan co.ltd S TIGER LIP CO., LTD. S-Tiger Chemical Co., Ltd. S-Tiger Loex Co., Ltd. GIB CHUNGJU CO., LTD. GIB Haan Co.,Ltd GIB HwangGeum Co., Ltd. S-tiger seomyun S-bright Hongdae BRIGHT WOONJEONG CO., LTD. S-Bright Chunho Co., Ltd. GIB County 1st Co., Ltd. GIB Mokpo Co.,Ltd S-Tiger Tech Co., Ltd. GIB SungSan Co., Ltd. Shinhan GIB Mami Co., Ltd. S BRIGHT PANGYO CO., LTD. SH SGrail Professional Investment Type Private Special Asset Investment Trust No. 2 Shinhan AIM Private Real Estate Investment Trust No.31 S-Tiger K Co., Ltd. S-Tiger Energy Co., Ltd. Shinhan-GIB-SKL CO., LTD. Rich gate Yongsan corp. Rich gate Shinseol corp. S BRIGHT ENERGY CO., LTD. S BRIGHT IKSAN CO., LTD. S-Tiger Jeju Co., Ltd. GIB Makok Co., Ltd. GIB Saha Co., Ltd. GIB hc 1st Co., Ltd. GIB Munjung Co., Ltd. Shinhan GIB Rozen Co., Ltd. S-Tiger First Co., Ltd. GIB rb 1st Co., Ltd. Rich gate Box corp. GIB EMT Co., Ltd. GIB Hakjam Co., Ltd. S BRIGHT LCT CO., LTD. GIB chiowol Co., Ltd. GIB Gyeongju Co., Ltd. GIB Duwol Co., Ltd. GIB Mighty 2nd Co., Ltd. GIB Konkuk Co., Ltd. GIB ST 2nd Co., Ltd. GIB Haeundae Co., Ltd.

1. Reporting entity (continued)

(d) Changes in subsidiaries (continued)

Subsidiaries newly included or excluded during the year ended December 31, 2021 are as follows (continued):

	Subsidiaries
Excluded subsidiaries for the year ended December 31, 2021	GIB AF CO.,LTD Richgate 1st corp. Sunny solution 3rd Co., Ltd. GIB hoban 1st G.I.B.han 1st corp. GIB Palace 2nd CO.,LTD GIB Palace 1st CO.,LTD Sunny More 5th Co., Ltd. SHINHAN DISPLAY 2ND CO.,LTD Redefine Unjung Co., Ltd. GIB portfolio a 1st Co., Ltd. Maestro werye Co., Ltd. Rich gate 13th corp. GIB CSI Co., Ltd. Maestro mirae Co., Ltd. GIB Yongsan 1st CO.,LTD GIB Yongsan 2nd CO.,LTD Sunny solution 10th Co., Ltd S-Tiger 2nd Co., Ltd. GIB portfolio a 4th Co., Ltd. Sunny Smart 5th Co., Ltd. S-solution 2nd Co., Ltd. GIB AIR CO.,LTD S-Tiger 6th Co., Ltd. SH inno 1st Co., Ltd. Sunny solution 2nd Co., Ltd. Grand bene Co., Ltd. RICHGATE YEONSEUNG Co.,Ltd.

2. Significant accounting policies

The significant accounting policies applied by the Group are as follows :

(a) Basis of financial statements preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS), which prescribed in the Act on External Audit of Stock Companies. The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

(b) Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis except for the following material items in the consolidated statements of financial position:

- derivative financial instruments are measured at fair value
- financial instruments at fair value through profit or loss (“FVTPL”) are measured at fair value
- financial instruments at fair value through other comprehensive income (“FVOCI”) are measured at fair value
- share-based payment arrangements are initially measured at fair value on grant date
- changes in fair value attributable to the risk being hedged for financial instruments designated as hedged items in qualifying fair value hedge relationships are recognized in profit or loss
- liabilities for defined benefit plans are recognized as net of the total present value of defined benefit obligations less the fair value of plan assets

(c) Functional and presentation currency

The respective financial statements of the Group entities are prepared in the functional currency of the respective operation. These consolidated financial statements are presented in Korean won, which is the Bank’s functional currency and the currency of the primary economic environment in which the Group operates. Subsidiaries whose functional currency is not Korean won are as follows:

Functional currency	Subsidiaries
USD	Shinhan America, Shinhan Cambodia
EUR	Shinhan Europe
KZT	Shinhan Kazakhstan
CAD	Shinhan Canada
CNY	Shinhan China
JPY	Shinhan Japan, SBJ DNX
VND	Shinhan Vietnam
MXN	Shinhan Mexico
IDR	Shinhan Indonesia

2. Significant accounting policies (continued)

(d) Use of estimates and judgements

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Actual results may differ from these estimates.

Estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Information about significant areas of estimation uncertainty and critical judgements in applying accounting policies that have the significant effect on the amount recognized in the consolidated financial statements is described in Note 4.

The Group recognizes credit loss allowance for expected credit losses on debt instruments, loans and receivables that are measured at amortized cost or at FVOCI, loan commitments and financial guarantee contracts upon adoption of K-IFRS No.1109, *'Financial Instruments'*. The measurement of such allowance is determined by techniques, assumptions and input variables used by the Group to measure expected future cash flows of individual financial instruments and to measure expected credit losses in a collective manner. The details of techniques, assumptions and input variables used to measure the credit loss allowance for expected credit losses as of December 31, 2021 are described in Note 4.

The rapid spread of the COVID-19 epidemic is having a negative impact on the global economy. The Group uses forward-looking information to estimate expected credit loss in accordance with K-IFRS No. 1109 *'Financial Instruments'*. The default rate forecast as of December 31, 2021 is re-estimated using the updated forward-looking information on the economic growth rate, private consumption growth rate, and KOSPI, which are major macroeconomic variables for calculating the default rate forecast. The Group will continue to monitor the economic effects of the COVID-19.

(e) Changes in accounting policies

The Group has applied the following new accounting standards and interpretations for the first time for their annual reporting period commencing January 1, 2021.

i) K-IFRS No.1109, 'Financial Instruments' and K-IFRS No.1039, 'Financial Instruments: Recognition and Measurement' and K-IFRS No.1107, 'Financial Instruments: Disclosures' and K-IFRS No.1104, 'Insurance Contracts' K-IFRS No.1116, 'Leases' amended – Interest rate benchmark reform

In relation to interest rate benchmark reform, the amendments provide exceptions including adjust effective interest rate instead of carrying amounts when interest rate benchmark of financial instruments at amortized costs is replaced, and apply hedge accounting without discontinuance although the interest rate benchmark is replaced in hedging relationship. The amendment does not have a significant impact on the consolidated financial statements.

2. Significant accounting policies (continued)

(e) Changes in accounting policies (continued)

ii) Amendments to K-IFRS No.1116 'Lease' - The practical expedient to COVID-19 related rent exception, discount or deferral

The International Accounting Standards Board amended this Standard in March 2021. According to the amendment, the International Accounting Standards Board has extended the application of the practical expedient for reduction in lease payments where lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification, by one year. A lessee who chose to apply the application of the practical expedient will account consistently for changes in lease fees that not a lease change due to rent concession, in the manner prescribed by the amendments. However, no practical expedient under this amendment is provided to lessors. The practical expedient in this amendment applies only to rent concessions occurring as a direct consequence of the COVID-19 pandemic and only if all of the following conditions are met:

- The change in lease payments results in revised consideration for the lease that is substantially the same as, or less than, the consideration for the lease immediately preceding the change
- Any reduction in lease payments affects only payments originally due on or before June 30, 2022; and
- There is no substantive change to other terms and conditions of the lease.

The effect of the amendment to the lease Standard is illustrated in Note 12.

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2021 reporting periods and have not been early adopted by the Group.

i) K-IFRS No. 1103 'Business combination' amended – Reference to the Conceptual Framework

The amendments update a reference of definition of assets and liabilities to be recognized in a business combination in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of Korea IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets, and Korean IFRS 2121 Levies. The amendments also clarifies that contingent assets should not be recognized at the acquisition date. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted.

(ii) K-IFRS No. 1037, 'Provisions, Contingent Liabilities and Contingent Assets' amended - Onerous Contracts: Cost of Fulfilling a Contract

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments should be applied for annual periods beginning on or after January 1, 2022, and earlier application is permitted.

(iii) Annual Improvements to K-IFRSs 2018-2020 Cycle

For Annual Improvements to K-IFRSs 2018-2020 Cycle, the amendments will take effect for annual periods beginning after January 1, 2022 and are permitted for early application. The amendments will not have a significant impact on the consolidated financial statements.

- K-IFRS No.1101, *''First-time Adoption of K-IFRS'*-First-time adopter subsidiaries
- K-IFRS No.1109*, 'Financial Instruments'* -10% test-related fee for financial liabilities removal
- K-IFRS No.1116*, 'Leases'* -Lease incentives

2. Significant accounting policies (continued)

(f) Approval of consolidated financial statements

The consolidated financial statements of the Group were approved by the Board of Directors on February 8, 2022. In addition, the adjustment to the reserve loan-loss that is explained in Note 27 was approved by the Board of Directors on March 11, 2022 and will be finally approved at the general shareholders' meeting on March 23, 2022.

(g) Basis of consolidation

i) Subsidiaries

Subsidiaries are investees controlled by the Group. The Group controls an investee when it is exposed to, or has rights to, variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. The financial statements of subsidiaries are included in the consolidated financial statements from the date that control commences until the date that control ceases.

If a member of the Group uses accounting policies other than those adopted in the consolidated financial statements for the same transactions and events in similar circumstances, appropriate adjustments are made to its financial statements in preparing the consolidated financial statements.

There is no non-controlling interest in structured entities because the ownership interests in structured entities are shown as liabilities of the Group.

ii) Intra-group transactions eliminated on consolidation

Intra-group balances, transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Intra-group losses are recognized as expense if intra-group losses indicate an impairment that requires recognition in the consolidated financial statements.

iii) Non-controlling interests

Non-controlling interests in a subsidiary are accounted for separately from the parent’s ownership interests in a subsidiary. Each component of net profit or loss and other comprehensive income is attributed to the owners of the parent and non-controlling interest holders, even when the allocation reduces the non-controlling interests balance below zero.

2. Significant accounting policies (continued)

(h) Business combinations

i) Business combinations

A business combination is accounted for by applying the acquisition method, unless it is a combination involving entities or businesses under common control.

Each identifiable asset and liability is measured at its acquisition-date fair value except for below:

- Leases and insurance contracts are required to be classified on the basis of the contractual terms and other factors
- Only those contingent liabilities assumed in a business combination that are a present obligation and can be measured reliably are recognized
- Deferred tax assets or liabilities are recognized and measured in accordance with K-IFRS No.1012, '*Income Taxes'*
- Employee benefit arrangements are recognized and measured in accordance with K-IFRS No.1019, '*Employee Benefits'*
- Indemnification assets are recognized and measured on the same basis as the indemnified liability or asset
- Reacquired rights are measured in accordance with special provisions
- Liabilities or equity instruments related to share-based payment transactions are measured in accordance with the method in K-IFRS No.1102, '*Share-based Payment'*
- Non-current assets held for sale are measured at fair value less costs to sell in accordance with K-IFRS No.1105, '*Non-current Assets Held for Sale and Discontinued Operations'*

As of the acquisition date, non-controlling interests in the acquiree are measured as the non-controlling interests' proportionate share of the acquiree's identifiable net assets.

The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the acquirer, the liabilities incurred by the acquirer to former owners of the acquiree and the equity interests issued by the acquirer. However, any portion of the acquirer's share-based payment awards exchanged for awards held by the acquiree's employee that is included in consideration transferred in the business combination shall be measured in accordance with the method described above rather than at fair value.

Acquisition-related costs are costs the acquirer incurs to effect a business combination. Those costs include finder's fees; advisory, legal, accounting, valuation and other professional or consulting fees; general administrative costs, including the costs of maintaining an internal acquisitions department; and costs of registering and issuing debt and equity securities. Acquisition-related costs, other than those associated with the issue of debt or equity securities, which are recognized in accordance with K-IFRS No.1032, *'Financial Instruments: Presentation'* and K-IFRS No.1109, *'Financial Instruments'*, are expensed in the periods in which the costs are incurred and the services are received.

2. <u>Significant accounting policies (continued)</u>

(h) Business combinations (continued)

ii) Goodwill

The Group measures goodwill at the acquisition date as:
the fair value of the consideration transferred; plus
the recognized amount of any non-controlling interests in the acquiree; plus
if the business combination is achieved in stages, the fair value of the pre-existing equity interest in the acquiree; less the net recognized amount (generally fair value) of the identifiable assets acquired and liabilities assumed.

When the excess is negative, a bargain purchase gain is recognized immediately in profit or loss.

When the Group additionally acquires non-controlling interest, the Group does not recognize goodwill since the transaction is regarded as equity transaction.

As part of its transition to K-IFRS, the Group elected to restate only those business combinations which occurred on or after January 1, 2010 in accordance with K-IFRS. In respect of acquisitions prior to January 1, 2010, goodwill is included on the basis of its deemed cost, which represents the amount recorded under previous Generally Accepted Accounting Principles ("GAAP").

(i) Investments in associates

An associate is an entity in which the Group has significant influence, but not control, over the entity's financial and operating policies. Significant influence is presumed to exist when the Group holds between 20 and 50 percent of the voting power of another entity.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

The investment in an associate and a joint venture is initially recognized at cost, and the carrying amount is increased or decreased to recognize the Group's share of the profit or loss and changes in equity of the associate and the joint venture after the date of acquisition. Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Intra-group losses are recognized as expense if intra-group losses indicate an impairment that requires recognition in the consolidated financial statements.

If an associate or a joint venture uses accounting policies different from those of the Group for like transactions and events in similar circumstances, appropriate adjustments are made to its financial statements in applying the equity method.

When the Group's share of losses exceeds its interest in an equity accounted investee, the carrying amount of that interest, including any long-term investments, is reduced to nil and the recognition of further losses is discontinued except to the extent that the Group has an obligation or has to make payments on behalf of the investee for further losses.

2. Significant accounting policies (continued)

(j) Operating segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components, whose operating results are reviewed regularly by the chief operating decision maker to make decisions about resources allocated to each segment and assess its performance, and for which discrete financial information is available.

The segment reporting to a chief executive officer includes items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items comprise mainly general expenses and income tax assets and liabilities. The Group considers the Chief Executive Officer ("CEO") of the Bank as the chief operating decision maker.

(k) Foreign currencies

i) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of the Group at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the end of the reporting period are retranslated to the functional currency using the exchange rate at the end of the reporting period. The foreign currency gain or loss on monetary items is the difference between amortized cost in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the amortized cost in foreign currency translated at the exchange rate at the end of the reporting period. Translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

Foreign currency differences arising on retranslation are recognized in profit or loss, except for differences arising on the retranslation of available-for-sale equity instruments, a financial liability designated as a hedging instrument of the net investment in a foreign operation or a qualifying cash flow hedge, which are recognized in other comprehensive income Translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

ii) Foreign operations

If the presentation currency of the Group is different from a foreign operation's functional currency, the financial statements of the foreign operation are translated into the presentation currency using the following methods:

The assets and liabilities of foreign operations, whose functional currency is not the currency of a hyperinflationary economy, are translated to presentation currency at exchange rates at the end of the reporting period. The income and expenses of foreign operations are translated to functional currency at exchange rates at the dates of the transactions. Foreign currency differences are recognized in other comprehensive income.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation are treated as assets and liabilities of the foreign operation and are translated using the exchange rate at the end of the reporting period.

2. Significant accounting policies (continued)

(k) Foreign currencies (continued)

When a foreign operation is disposed of, the relevant amount in the translation is transferred to profit or loss as part of the profit or loss on disposal. On the partial disposal of a subsidiary that includes a foreign operation, the relevant proportion of such cumulative amount is reattributed to non-controlling interest. In any other partial disposal of a foreign operation, the relevant proportion is reclassified to profit or loss.

iii) Net investment in a foreign operation

If the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, then foreign currency differences arising on the item form part of the net investment in the foreign operation and are recognized in other comprehensive income and reclassified from equity to profit or loss on disposal of the net investment.

(l) Cash and cash equivalents

Cash and cash equivalents comprise cash balances and call deposits with original maturities of three months or less from the acquisition date that are subject to an insignificant risk of changes in their fair value, and are used by the Group in the management of its short-term commitments. Equity instruments are excluded from cash equivalents unless they are, in substance, cash equivalents, for example in the case of preferred shares acquired within a short period of their maturity and with a specified redemption date. However, the Group's account overdraft is included in borrowings.

(m) Non-derivative financial assets

Financial assets are recognized when the Group becomes a party to the contractual provisions of the instrument. In addition, a regular way purchase or sale (a purchase or sale of a financial asset under a contract whose terms require delivery of the asset within the time frame established generally by regulation or convention in the market concerned) is recognized on the trade date.

A financial asset is measured initially at its fair value plus, for an item not at FVTPL, transaction costs that are directly attributable to its acquisition of the financial asset. Transaction costs on the financial assets at FVTPL that are directly attributable to the acquisition are recognized in profit or loss as incurred.

i) Financial assets designated at FVTPL

Financial assets can be irrevocably designated as measured at FVTPL despite of classification standards stated below, if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains or losses on them on different bases. However, once the financial assets are designated at FVTPL, it is irrevocable.

2. Significant accounting policies (continued)

(m) Non-derivative financial assets (continued)

ii) Equity instruments

For the equity instruments that are not held for trading, at initial recognition, the Group may make an irrevocable election to present subsequent changes in fair value in other comprehensive income. Equity instruments that are not classified as financial assets at FVOCI are classified as financial assets at FVTPL.

The Group subsequently measures all equity investments at fair value. Valuation gains or losses of the equity instruments that are classified as financial assets at FVOCI previously recognized as other comprehensive income is not reclassified as profit or loss on derecognition. The Group recognizes dividends in profit or loss when the Group's right to receive payments of the dividend is established.

Valuation gains or losses due to changes in fair value of the financial assets at FVTPL are recognized as gains or losses on financial assets at FVTPL. Impairment loss (reversal) on equity instruments at FVOCI is not recognized separately.

iii) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model in which the asset is managed and the contractual cash flow characteristics of the asset. Debt instruments are classified as financial assets at amortized cost, at FVOCI, or at FVTPL. Debt instruments are reclassified only when the Group's business model changes.

ⓐ Financial assets at amortized cost

Assets that are held within a business model whose objective is to hold assets to collect contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. Impairment losses, and gains or losses on derecognition of the financial assets at amortized cost are recognized in profit or loss. Interest income on the effective interest method is included in the 'Interest income' in the consolidated statement of comprehensive income.

ⓑ Financial assets at FVOCI

Assets that are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVOCI. Other than impairment losses, interest income amortized using effective interest method and foreign exchange differences, gains or losses of the financial assets at FVOCI are recognized as other comprehensive income in equity. On derecognition, gains or losses accumulated in other comprehensive income are reclassified to profit or loss. The interest income on the effective interest method is included in the 'Interest income' in the consolidated statement of comprehensive income. Foreign exchange differences and impairment losses are included in the 'Net foreign currency transaction gain' and 'Impairment loss on financial assets' in the consolidated statement of comprehensive income, respectively.

ⓒ Financial assets at FVTPL

Debt securities other than financial assets at amortized costs or FVOCI are classified at FVTPL. Unless hedge accounting is applied, gains or losses from financial assets at FVTPL are recognized as profit or loss and are included in 'Net gain on financial assets at fair value through profit or loss' in the consolidated statement of comprehensive income.

2. Significant accounting policies (continued)

(m) Non-derivative financial assets (continued)

iv) Embedded derivatives

Financial assets with embedded derivatives are classified regarding the entire hybrid contract, and the embedded derivatives are not separately recognized. The entire hybrid contract is considered when it is determined whether the contractual cash flows represent solely payments of principal and interest.

v) Derecognition of financial assets

The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. Any interest in transferred financial assets that is created or retained by the Group is recognized as a separate asset or liability.

If the Group retains substantially all the risks and rewards of ownership of the transferred financial assets, the Group continues to recognize the transferred financial assets and recognizes financial liabilities for the consideration received.

vi) Offsetting

Financial assets and financial liabilities are offset and the net amount is presented in the consolidated statement of financial position only when the Group currently has a legally enforceable right to set off the recognized amounts, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

2. Significant accounting policies (continued)

(n) Expected credit loss on financial assets

As for financial assets at amortized cost and financial assets at FVOCI, the expected credit loss is evaluated at the end of each period and recognized as loss allowances.

Since initial recognition, a loss allowance shall be measured by the three stages in the table below depending on the extent of significant increase in credit risk.

Stage	Category	Description
Stage 1	Credit risk has not increased significantly since initial recognition	12 month expected credit losses: Expected credit loss resulting from potential default of financial instruments occurring over 12 months from the end of reporting period
Stage 2	Credit risk has increased significantly since initial recognition	Lifetime expected credit losses: Expected credit loss resulting from all potential default of financial instruments occurring over the expected life
Stage 3	Credit-impaired financial assets	

However, as for the financial assets whose credit is impaired at the initial recognition, only the cumulative change in the lifetime expected credit loss is recognized as the loss allowance.

The 'lifetime' refers to the expected life to the contractual maturity of the financial asset.

i) Forward looking information

The Group determines a material increase on credit risk and estimates the expected credit loss on a forward looking basis.

The measuring factors of the expected credit loss are assumed to have certain relationship with the economic cycle. Through relationship analysis between the macroeconomic variables and the credit risk measuring factors, the forward looking information is reflected in the expected credit loss estimation.

ii) Financial assets at amortized cost

The expected credit loss on the financial assets at amortized cost is recognized as the difference between the present value of the contractual cash flow and the present value of the expected cash flow. The expected cash flow is estimated separately for the individually material financial assets.

For the financial assets which are not individually material, they are included in a group of assets with a similar credit risk and expected credit loss is estimated collectively.

The expected credit losses of financial assets measured as amortized cost are presented net of loss allowance, and the allowance is derecognized together with the asset when it is determined to be unrecoverable. When the loan previously written-off is subsequently collected, it is recognized as an increase in loss allowance. At the end of the reporting period, the Group recognizes in profit or loss the amount of the change in loss allownace.

iii) Financial assets at FVOCI

The expected credit loss on the financial assets at FVOCI is calculated using the same method as that on the financial assets at amortized cost, however the changes in loss allowance are recognized as other comprehensive income. As for disposal and repayment, the loss allowance is reclassified from other comprehensive income to profit or loss.

2. Significant accounting policies (continued)

(o) Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequent to initial recognition, derivatives are measured at fair value at the end of every reporting period, and changes therein are accounted for as described below.

i) Hedge accounting

The Group holds forward exchange contracts, interest rate swaps, currency swaps and other derivative contracts to manage interest rate risk and foreign exchange risk. The Group designated derivatives as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge), and foreign currency risk of net investment in foreign operation (net investment hedges).

On initial designation of the hedge, the Group formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction, together with the methods that will be used to assess the effectiveness of the hedging relationship.

ii) Fair value hedges

Changes in the fair value of a derivative hedging instrument designated as a fair value hedge are recognized in profit or loss. The gain or loss from remeasuring the hedging instrument at fair value and the gain or loss on the hedged item attributable to the hedged risk are recognized in profit or loss in the same line item of the consolidated statement of comprehensive income.

The Group discontinues fair value hedge accounting if the hedging instrument expires or is sold, terminated or exercised, or if the hedge no longer meets the criteria for hedge accounting. Any adjustment arising from gain or loss on the hedged item attributable to the hedged risk is amortized to profit or loss from the date the hedge accounting is discontinued.

2. Significant accounting policies (continued)

(o) Derivative financial instruments (continued)

iii) Cash flow hedges

When a derivative is designated as the hedging instrument in a hedge of the variability in cash flows attributable to a particular risk associated with a recognized asset or liability or a highly probable forecasted transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income and presented in the hedging reserve in equity. The amount recognized in other comprehensive income is removed and included in profit or loss in the same period as the hedged cash flows affect profit or loss under the same line item in the consolidated statements of comprehensive income as the hedged item. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss.

Once hedge accounting is discontinued, any cumulative gain or loss existing in equity at that time and is recognized over the period the forecast transaction occurs as profit or loss. However, when a forecast transaction is no longer expected to occur, the cumulative gain or loss recognized in equity is immediately recognized in the profit or loss.

If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss previously recognized in other comprehensive income and presented in the hedging reserve in equity remains there until the forecasted transaction affects profit or loss. When the hedged item is a non-financial asset, the amount recognized in other comprehensive income is transferred to the carrying amount of the asset when the asset is recognized. If the forecasted transaction is no longer expected to occur, then the balance in other comprehensive income is recognized immediately in profit or loss. In other cases the amount recognized in other comprehensive income is transferred to profit or loss in the same period that the hedged item affects profit or loss.

iv) Hedge of net investment

Foreign currency differences arising on the retranslation of a financial liability designated as a hedge of a net investment in a foreign operation are recognized in other comprehensive income to the extent that the hedge is effective. To the extent that the hedge is ineffective, such differences are recognized in profit or loss. When the hedged part of a net investment is disposed of, the relevant amount in the accumulated other comprehensive income is transferred to profit or loss as part of the profit or loss on disposal in accordance with K-IFRS No.1021, *'The Effects of Changes in Foreign Exchange Rates'*.

v) Embedded derivatives

If a hybrid contract contains a host that is not an financial asset, embedded derivatives are separated from the host contract and accounted for separately only if the economic characteristics and risks of the host contract and the embedded derivative are not closely related; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the combined instrument is not designated at FVTPL. Changes in the fair value of separable embedded derivatives are recognized immediately in profit or loss.

vi) Derivative financial instruments held for trading

Changes in the fair value of derivative financial instruments not designated as a hedging instrument are recognized immediately in profit or loss.

2. Significant accounting policies (continued)

(o) Derivative financial instruments (continued)

vii) Day one profit or loss

If the Group uses a valuation technique that incorporates data not obtained from observable markets for the fair value at initial recognition of financial instruments, there may be a difference between the transaction price and the amount determined using that valuation technique. As for these circumstances, the difference between the fair value at the initial recognition and the transaction price is not recognized as profit or loss but deferred. The deferred difference is amortized by using straight line method over the life of the financial instruments.

(p) Property and equipment

Property and equipment are initially measured at cost and after initial recognition. The cost of property and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Property and equipment are carried at cost less accumulated depreciation and accumulated impairment losses. Certain land and buildings are measured at fair value at the date of transition to K-IFRS, which is deemed cost, in accordance with K-IFRS No.1101, *'First-time Adoption of K-IFRS'*. Dividend from relevant revaluation surplus is prohibited in accordance with the resolution of the board of directors.

The Group recognizes in the carrying amount of an item of property and equipment the cost of replacing part of property and equipment when that cost is incurred if it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of those parts that are replaced is derecognized. The costs of the day-to-day servicing of property and equipment are recognized in profit or loss as incurred.

Land is not depreciated. Other property and equipment are depreciated on a straight-line basis over the estimated useful lives, which most closely reflect the expected pattern of consumption of the future economic benefits embodied in the asset. Leased assets under finance leases are depreciated over the shorter of the lease term and their useful lives. The estimated useful lives for the current and comparative periods are as follows:

Descriptions	Useful lives
Buildings	40 years
Other properties	4~5 years

The gain or loss arising from the derecognition of an item of property and equipment, which is included in profit or loss, is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

Depreciation methods, useful lives and residual values are reassessed at each fiscal year-end and any adjustment is accounted for as a change in accounting estimate.

2. Significant accounting policies (continued)

(q) Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets as below from the date that they are available for use. The residual value of intangible assets is zero. However, as there are no foreseeable limits to the periods over which club memberships are expected to be available for use, this intangible asset is determined as having indefinite useful lives and not amortized.

Descriptions	Useful lives
Software and capitalized development cost	5 years
Capitalized development cost	5 years
Other intangible assets	5 years or contract periods

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

Expenditures on research activities, undertaken with the prospect of gaining new technical knowledge and understanding, are recognized in profit or loss as incurred.Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

(r) Investment properties

Investment property is property held either to earn rental income or for capital appreciation or both. An investment property is initially recognized at cost including any directly attributable expenditure. Subsequent to initial recognition, the asset is measured at cost less accumulated depreciation and accumulated impairment losses, if any.

The depreciation method and the estimated useful lives for the current and comparative periods are as follows:

Descriptions	Depreciation method	Useful lives
Buildings	Straight-line	40 years

Subsequent costs are recognized in the carrying amount of investment property at cost or, if appropriate, as separate items if it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing are recognized in profit or loss as incurred.

Depreciation methods, useful lives and residual values are reviewed at the end of each reporting period and adjusted, if appropriate. The change is accounted for as changes in accounting estimates.

2. Significant accounting policies (continued)

(s) Leases

The Group leases various tangible assets, such as real estate and vehicles, and the terms of the lease are negotiated individually and include a variety of terms and conditions. There are no other restrictions imposed by the lease contracts, except that the lease assets cannot be provided as collaterals for borrowings.

At the commencement date of the lease, the Group recognizes a right-of-use asset and a lease liability. The payment of each lease is allocated to the repayment of the liability and finance cost. The Group recognizes in profit or loss the amount calculated to produce a constant periodic rate of interest on the lease liability balance for each period as finance costs.

Right-of-use assets are depreciated using a straight-line method from the inception of the lease over the lease term of the right-of-use assets.

Lease liabilities are measured at present value of the lease payments that are not paid at the commencement date of the lease agreement, and included in other liabilities. Lease payments included in the measurement of the lease liabilities consist of the following:

- Fixed lease payments (including in-substance fixed payments, less any lease incentives receivable)
- Variable lease payments depending on an index or a rate
- Amounts expected to be paid by the lessee under a residual value guarantee
- The exercise price under a purchase option that the lessee is reasonably certain to exercise extended lease payments in an optional renewal period if the lessee is reasonably certain to that they will exercise the extension option
- Payments of penalties for early terminating a lease unless the lessee is reasonably certain not to terminate early

If the implicit interest rate in the lease can be readily determined, the lease payments shall be discounted using that rate, and if that rate cannot be readily determined, the lessee shall use the lessee’s incremental borrowing rate.

The right-of-use asset is initially at cost, which comprises:

- The amount of the initial measurement of the lease liability
- Any lease payments made at or before the commencement date, less any lease incentives received
- Any initial direct costs incurred by the lessee
- An estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease

The Group includes right-of-use assets within the same line item as that within which the corresponding underlying assets would be presented if they are owned. Any right-of-use asset that meets the definition of investment property is presented as investment property. Lease payments associated with short-term leases or leases of low-value assets are recognized as an expense on a straight line basis over the lease term.

Additional considerations for the Group's accounting as a lessee include:

- Extension options and termination options are generally included in multiple real estate lease contracts.
- When estimating the lease term, the Bank considers all relevant facts and circumstances that create an economic incentive to exercise the option to extend the lease, or not to exercise the option to terminate the lease.
- Period covered by an extension option (or period covered by termination option) is included in lease term only if the lessee is reasonably certain to exercise (or not to exercise) the option.
- If the lessee and the lessor have the right to terminate without the consent of the other parties, the termination period shall be determined in consideration of the economic disadvantages incurred in terminating the contract.
- When significant events occur or there are significant changes in circumstances that have affected the lessee's control and the lease term before, the parties reassess whether they are quite certain to exercise the option of extension (or not).

2. Significant accounting policies (continued)

(t) Non-current assets held for sale

Assets, or disposal groups comprising assets and liabilities, that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. In order to be classified as held for sale, the asset (or disposal group) must be available for immediate sale in its present condition and its sale must be highly probable. The assets or disposal group that are classified as assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

The Group recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal group) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized.

An asset that is classified as held for sale or part of a disposal group classified as held for sale is not depreciated (or amortized).

(u) Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets, other than assets arising from employee benefits, deferred tax assets and non-current assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

The Group estimates the recoverable amount of an individual asset, if it is impossible to measure the individual recoverable amount of an asset, then the Group estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or group of assets. The recoverable amount of an asset or a CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or the CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or the CGU.

An impairment loss is recognized if the carrying amount of an asset or a CGU exceeds its recoverable amount. Impairment losses are recognized in profit or loss.

Goodwill acquired in a business combination is allocated to each CGU that is expected to benefit from the synergies arising from the goodwill acquired. Any impairment identified at the CGU level will first reduce the carrying value of goodwill and then be used to reduce the carrying amount of the other assets in the CGU on a pro rata basis. Except for impairment losses in respect of goodwill which are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

2. Significant accounting policies (continued)

(v) Non-derivative financial liabilities

The Group recognizes financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the financial liability in accordance with the substance of the contractual arrangement and the definitions of financial liabilities.

Transaction costs on the financial liabilities at FVTPL are recognized in profit or loss as incurred.

i) Financial liabilities designated at FVTPL

Financial liabilities can be irrevocably designated as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases, or a group of financial instruments is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy. The amount of change in the fair value of the financial liabilities designated at FVTPL that is attributable to changes in the credit risk of that liabilities shall be presented in other comprehensive income.

ii) Financial liabilities at FVTPL

Since initial recognition, financial liabilities at FVTPL is measured at fair value, and changes in the fair value are recognized as profit or loss.

iii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities, and other financial liabilities include deposits, borrowings, debentures and etc. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequent to initial recognition, other financial liabilities are measured at amortized cost using the effective interest method.

The Group derecognizes a financial liability from the consolidated statement of financial position when it is extinguished (i.e. when the obligation specified in the contract is discharged, cancelled or expires).

(w) Equity capital

i) Capital stock

Capital stock is classified as equity. Incremental costs directly attributable to the transaction of stock are deducted from equity, net of any tax effects.

ii) Hybrid bonds

The Group classifies an issued financial instrument, or its component parts, as a financial liability or an equity instrument depending on the substance of the contractual arrangement of such financial instrument. Hybrid bonds where the Group has an unconditional right to avoid delivering cash or another financial asset to settle a contractual obligation are classified as an equity instrument and presented in equity.

iii) Non-controlling interests

Non-controlling interests, which represent the equity in a subsidiary not attributable, directly or indirectly, to a parent's ownership interests, consist of the amount of those non-controlling interests at the date of the original combination calculated in accordance with K-IFRS No.1103, '*Business Combinations'* and the non-controlling interests share of changes in equity since the date of the combination.

2. Significant accounting policies (continued)

(x) Employee benefits

i) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled within 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service.

ii) Other long-term employee benefits

The Group's net obligation in respect of other long-term employee benefits that are not expected to be settled wholly before 12 months after the end of the annual reporting period in which the employees render the related service, is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognized in profit or loss in the period in which they arise.

iii) Retirement benefits: defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method.

The discount rate is the yield at the end of the reporting period on high-quality corporate bonds that have maturity dates approximating the terms of the Group's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Group recognizes service cost and net interest on the net defined benefit liability (asset) in profit or loss and remeasurements of the net defined benefit liability (asset) in other comprehensive income.

iv) Retirement benefits: defined contribution plans

The Group recognizes the contribution expense as an account of severance payments in profit or loss in the period according to the defined contribution plans.

v) Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognizes costs for a restructuring. If benefits are not expected to be wholly settled within 12 months of the end of the reporting period, then they are discounted.

2. Significant accounting policies (continued)

(y) Share-based payment transactions

The grant date fair value of share-based payment awards granted to employees is recognized as an employee expense, with a corresponding increase in equity, over the period that the employees unconditionally become entitled to the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

The fair value of the amount payable to employees in respect of share appreciation rights, which are settled in cash, is recognized as an expense with a corresponding increase in liabilities, over the period that the employees unconditionally become entitled to payment. The liability is remeasured at the end of the each reporting period and at settlement date. Any changes in the fair value of the liability are recognized as personnel expense in profit or loss.

The Group has granted share-based payment based on Shinhan Financial Group's share to the employees. In accordance with a repayment arrangement with Shinhan Financial Group, the Group is required to pay Shinhan Financial Group for the provision of the share-based payments. The Group recognizes the costs as expenses and accrued expenses in liabilities for the service period. When vesting conditions are not satisfied because of death, retirement or dismissal of employees during the specified service period, no amount is recognized for goods or services received on a cumulative basis. Share-based payment arrangements are accounted for as equity-settled share-based payment transactions, regardless of the repayment arrangement with Shinhan Financial Group. The share-based compensation agreement that the Group has given to its executives and employees is measured in cash-settled.

(z) Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

Provisions shall be used only for expenditures for which the provisions are originally recognized.

2. Significant accounting policies (continued)

(aa) Financial guarantee contract

A financial guarantee contract is a contract that requires the Group to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument.

Financial guarantee contracts are recognized initially at their fair value, and the initial fair value is amortized over the life of the financial guarantee contract. The financial guarantee liability is subsequently measured at the higher of the amount of the best estimate of the expenditure required to settle the present obligation at the end of reporting period; and the amount initially recognized less, cumulative amortization recognized on a straight-line basis over the guarantee period. Financial guarantee liabilities are included within guaranteed payment liabilities.

After initial recognition, financial guarantee contracts are measured at the higher of:
- Loss allowance in accordance with K-IFRS No.1109, '*Financial Instruments*'
- The amount initially recognized less, when appropriate, the cumulative amount of income recognized in accordance with the principles of K-IFRS No.1115, '*Revenue from Contracts with Customers*'

(ab) Recognition of revenues and expenses

The Group's revenues are recognized using five-step revenue recognition model as follows: ① 'Identifying the contract' → ② 'Identifying performance obligations' → ③ 'Determining the transaction price' → ④ 'Allocating the transaction price to performance obligations' → ⑤ 'Recognizing the revenue by satisfying performance obligations'.

i) Interest income and expense

Interest income and expense are recognized in profit or loss using the effective interest method. The effective interest rate is the rate that exactly discounts the estimated future cash payments and receipts through the expected life of the financial asset or liability or, where appropriate, a shorter period to the net carrying amount of the financial asset or liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument, but does not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, and all other premiums or discounts. When it is not possible to estimate reliably the cash flows or the expected life of a financial instrument, the Group uses the contractual cash flows over the full contractual term of the financial instrument.

Once a financial asset or a group of similar financial assets has been written down as a result of an impairment loss, interest income is thereafter recognized using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

ii) Fees and commission

The recognition of revenue for financial service fees depends on the purposes for which the fees are assessed and the basis of accounting for any associated financial instrument.

2. Significant accounting policies (continued)

(ab) Recognition of revenues and expenses (continued)

ⓐ Fees that are an integral part of the effective interest rate of a financial instrument

Such fees are generally treated as an adjustment to the effective interest rate. Such fees may include compensation for activities such as evaluating the borrower's financial condition, evaluating and recording guarantees, collateral and other security arrangements, preparing and processing documents, closing the transaction and the origination fees received on issuing financial liabilities. However, when the financial instrument is measured at fair value with the change in fair value recognized in profit or loss, the fees are recognized as revenue when the instrument is initially recognized.

ⓑ Fees earned as services are provided

Fees and commission income, including investment management fees, sales commission, and account servicing fees, are recognized as revenue when the related service as a performance obligation is provided.

ⓒ Fees that are earned on the execution of a significant act

The fees that are earned on the execution of a significant act including commission on the allotment of shares or other securities to a client, placement fee for arranging a loan between a borrower and an investor and sales commission, are recognized as revenue when the significant act as a performance obligation has been completed.

iii) Dividends

Dividends income is recognized when the shareholder's right to receive payment is established. Usually this is the ex-dividend date for equity securities.

(ac) Income tax

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

Shinhan Financial Group, the parent company, files its national income tax return with the Korean tax authorities under the consolidated corporate tax system, which allows it to make national income tax payments based on the consolidated profits or losses of the Shinhan Financial Group and its wholly owned domestic subsidiaries including the Bank. Deferred taxes are measured based on the future tax benefits expected to be realized in consideration of the expected profits or losses of eligible companies in accordance with the consolidated corporate tax system. Consolidated corporate tax amounts, once determined, are allocated to each of the subsidiaries and are used as a basis for the income taxes to be recorded in their stand-alone financial statements.

The Group recognizes deferred tax liabilities for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Group recognizes deferred tax assets for all deductible temporary differences arising from investments in subsidiaries and associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

2. Significant accounting policies (continued)

(ac) Income tax (continued)

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

The carrying amount of a deferred tax asset is reviewed at the end of each reporting period and reduced the carrying amount to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred tax asset to be utilized.

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.

If any additional income tax expense exists by payment of dividends, the Group recognizes it when the liability relating to the payment is recognized.

Because of the tax positions taken by the Group, tax uncertainties arise from the complexity of transactions and differences in tax law interpretation. Also, uncertainty arises from a tax refund suit, tax investigation, or a refund suit against the tax authorities' assessed tax amount. For the tax amount paid to the tax authorities, in accordance with K-IFRS No.2123, it will be recognized as the corporate tax assets if a refund in the future is probable. In addition, the amount expected to be paid as a result of the tax investigation is recognized as the tax liability.

(ad) Accounting for trust accounts

The Group accounts for trust accounts separately from its bank accounts under *the Financial Investment Services and Capital Markets Act* and thus the trust accounts are not included in the accompanying consolidated financial statements. Borrowings from trust accounts are included in other liabilities. Trust fees and commissions in relation to the service provided to trust accounts by the Group are recognized as fees and commission income.

(ae) Earnings per share

The Group presents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to the ordinary shareholder of the Bank by the weighted average number of common shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of ordinary shares outstanding, adjusted for own shares held, for the effects of all dilutive potential ordinary shares, which comprise share options granted to employees.

3. Financial risk management

3-1. Credit risk

Credit risk is the risk of financial loss of the Group if a customer or counterparty fails to meet its contractual obligation. Credit risk is classified as the most important risk to be managed in the Group's business activities, and management carefully manages the maximum credit risk exposure. Credit exposure arises principally from due from banks, the lending process related to loans, investment activities in debt securities and off balance sheet items including loan commitments, etc.

(a) Credit risk management

The Group's basic policy on credit risk management is determined by the Risk Policy Committee. The Risk Policy Committee consists of the Chief Risk Officer(CRO) as the chairman, the Chief Credit Officer (CCO), the head of the business group, and the head of the risk management department, and decides the credit risk management plan and the direction of the loan policy for the entire bank. Apart from the Risk Policy Committee, the Credit Review Committee is established to separate credit monitoring, such as large loans and limit approval, and is composed of chairman, the CCO, CRO and the head of the group in charge of the credit-related business group, the head of the credit planning department, and the senior examination team to enhance the credit quality of the loan and profitability of operation.

The risk management of the asset is primarily carried out by all operating units that hold and manage the asset subject to credit risk, and the credit risk management department, such as the risk management department and the credit risk management department, is in charge of the credit risk management of the bank as a whole. The risk management department and the risk engineering department manage credit portfolio management by managing credit risk limits set by the Risk Policy Committee and credit maximum exposure limits for the same parties, affiliates, industries, and countries. The Group also measures and manages risk components such as Probability of Default (PD), LGD (Loss Given Default), and EAD (Exposure at Default) through the operation of the credit rating system and collateral management system. As an organization for supporting and checking loan decisions, the Credit Planning Department manages the credit policy and system of the entire bank, and the Credit Review Department conducts independent credit rating and loan decision making. Also, the Credit Supervision Department conducts individual credit supervision on large loans.

Each of the Group’s borrowers is assigned a credit rating, which is based on a comprehensive internal credit evaluation system that considers a variety of criteria. For retail borrowers, the credit rating takes into account the borrower’s individual information, past dealings with the Group and external credit rating information. For corporate borrowers, the credit rating takes into account financial indicators as well as non-financial indicators such as industry risk, operational risk and management risk, among others. The credit rating, once assigned, serves as the fundamental instrument in the Group’s credit risk management, and is applied in a wide range of credit risk management processes, including credit approval, credit limit management, loan pricing and computation of allowance for credit loss.

The Group's credit rating system reflects the requirements of Basel III, ACE (Automatic Credit Evaluation), retail SOHO credit rating system with a maximum exposure of 500 million or less, and Advanced Internal Rating System (AIRS).

The credit decision for companies is based on a collective decision-making system, making objective and prudent decisions. In the case of a general credit, the credit is approved by agreement between the branch's RM (Relationship Manager) and each business division's headquarter. In the case of a large or important credit, the credit is approved by a screening body. In particular, the credit deliberation committee, which is the highest decision-making body of loans, examines important loans, such as large loans that exceed the limit. The individual credit is evaluated by the individual credit evaluation system based on objective statistical methods and an automated credit scoring system (CSS) based on the Bank's credit policy.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(a) Credit risk management (continued)

The Bank operates a regular monitoring system for the regular management of individual loans. The review team and RM are required to conduct Loan Reviews by automatically searching for non-performing companies among the corporate loan clients, and the credit supervision department, which is independent from the business group, determines the adequacy of Loan Review results and requests credit rating adjustment for the relevant company as necessary. In accordance with these procedures, a company is classified as an early warning company, an observer company, and a normal company, and discriminatory management is carried out in accordance with the management guidelines for each risk stage to prevent the insolvency of the loans at an early stage. The financial analysis support system affiliated with a professional credit rating agency supports credit screening and management, and the credit planning department calculates and manages industrial grades,and analyzes and provides industry trends and company information.

(b) Risk management and risk mitigation policy

In order to control the credit risk of the Group at an appropriate level, the following risk management system is established and operated.

- Credit risk limits are set and managed by business sector, customer, product, industry, etc. based on credit VaR (Value at Risk) and maximum exposure amount.
- The risk department establishes and manages limits for credit VaR, and maximum exposure limits. The credit planning department and the credit assessment department conduct maximum exposure limits.
- The risk engineering department and risk engineering department establishes a credit risk limit operation plan for the entire bank at least once a year, and commits it to the risk policy committee.
- Each business unit monitors and adheres to credit risk limits assigned to each business unit.
- The risk is re-assessed on an annual basis or within the period if deemed necessary, and the limit of risk is set and managed for each sector, such as by the person, industry and country.
- The maximum exposure for each borrower, including institutions, is managed by low level limits that are individually set for accounts in the consolidated financial statements and off-balance sheet accounts, and risk limits for daily transactions related to commodity trading including foreign currency forward trading, are also determined.
- Actual maximum exposure limits is managed on a daily basis.
- Maximum credit risk exposure is managed in the process of analyzing the interest and principal repayment ability of the borrower, and if necessary, changes the loan limit in the process.

Other risk management measures are as follows.

i) Collateral

The Group has adopted policies and procedures to mitigate credit risk. In connection with credit risk, collateral bond is generally used, and the Group has adopted a policy for pledging certain types of assets. The main types of collateral are as follows:

- Mortgage
- Real estate, inventories, accounts receivable, etc.
- Financial instruments such as debt securities and equity securities

3. Financial risk management (continued)

3-1. Credit risk (continued)

(b) Risk management and risk mitigation policy (continued)

Long-term loans are generally collateralized. On the other hand, revolving personal loans are generally unsecured. In addition, in order to minimize losses due to credit risk, the Group establishes additional collateral for the counterparty in the event of an indication of impairment of the asset.

Collateral for financial assets other than loans is subject to the nature of the products. Except for special cases such as Asset Backed Securities (ABS), unsecured securities are common in the case of debt securities.

ii) Derivative financial instruments

The Group maintains a credit limit on the amount and duration of derivative financial instruments that are in between the disposal agreements after purchase.

iii) Collective offsetting contracts

The Group limits its maximum exposure to credit losses by engaging in collective offsetting contracts with counterparties in executing significant number of transactions.

Collective offsetting contracts generally do not result from offsetting assets and liabilities in the consolidated financial statements, as transactions are usually set at a gross amount basis. However, when all amounts to the counterparty are set on a net basis, the credit risk associated with a favorable contract is reduced by collective offsetting contracts if losses are incurred.

The Group's overall maximum exposure to credit risk that is part of a collective offsetting contract can vary substantially within a short period of time because it is affected by each transaction.

iv) Credit related contracts

Warranties and credit guarantees have credit risks similar to credit. Credit (which guarantees credit on behalf of the customer by issuing a note to a third party for the amount requested under specific terms and conditions) is secured by the underlying commodities associated with them, it involves less risk. The credit enhancement arrangements represent the unused amount of the credit limit in the form of a credit, guarantee or letter of credit. In relation to the credit risk of a credit enhancement arrangement, the Group is potentially exposed to the same amount as the total unused arrangements. Long-term contracts generally have a greater degree of credit risk than short-term, and the Group monitors the maturity of credit arrangements.

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model)

i) Determining significant increases in credit risk since initial recognition

At the end of each reporting period, the Group assesses whether the credit risk on a financial instrument has increased significantly since initial recognition. When making the assessment, the Group uses the change in the risk of a default occurring over the expected life of the financial instrument instead of the change in the amount of expected credit losses. To make that assessment, the Group compares the risk of a default occurring on the financial instrument at the end of the reporting period with the risk of a default occurring on the financial instrument as at the date of initial recognition and consider reasonable and supportable information, that is available without undue cost or effort, that is indicative of significant increases in credit risk since initial recognition. The supportable information also includes historical default data held by the Group and the analysis by internal credit risk rating specialists.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

ⓐ Measuring the risk of default

The Group assigns an internal credit risk rating to each individual exposure based on observable data and historical experiences that have been found to have a reasonable correlation with the risk of default. The internal credit risk rating is determined by considering both qualitative and quantitative factors that indicate the risk of default, which may vary depending on the nature of the exposure and the type of borrower.

The internal credit risk rating based on the borrower's information related to each individual exposures on initial recognition, may change depending on the results of continuing monitoring and reviews.

ⓑ Measuring term structure of probability of default

The Group accumulates information after analyzing the information regarding exposure to credit risk and default information by the type of product and borrower and results of internal credit risk assessment. For some portfolios, the Group uses information obtained from external credit rating agencies when performing these analyses.

The Group applies statistical techniques to estimate the probability of default for the remaining life of the exposure from the accumulated data and to estimate changes in the estimated probability of default over time.

ⓒ Significant increases in credit risk

The Group uses the indicators defined as per portfolio to determine the significant increase in credit risk and such indicators generally consist of changes in the risk of default estimated from changes in the internal credit risk rating, qualitative factors, days of delinquency, and others. The method used to determine whether credit risk of financial instruments has significantly increased after the initial recognitions is summarized as follows:

Corporate exposures	Retail exposures
Significant change in credit ratings	Significant change in credit ratings
Continued past due more than 30 days	Continued past due more than 30 days
Loan classification of precautionary and below	Loan classification of precautionary and below
Borrower with early warning signals	Borrower with early warning signals
Negative net assets	Specific pool segment
Adverse audit opinion or disclaimer of opinion	Collective loans for housing for which the constructors are insolvent
Interest coverage ratio below 1 for a consecutive period of three years or negative cash flows from operating activities for a consecutive period of two years	Loans with identified indicators for significant increases in other credit risk
Loans with identified indicators for significant increases in other credit risk	

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued):

The Group considers the credit risk of financial instrument has been significantly increased since initial recognition if a specific exposure is past due more than 30 days. The Group counts the number of days past due from the earliest date on which the Group has not received the contractual payments in full from the borrower and does not consider the grace period granted to the borrower.

The Group regularly reviews the criteria for determining if there have been significant increases in credit risk from the following perspective.

- A significant increase in credit risk shall be identified prior to the occurrence of default.
- The criteria established to judge the significant increase in credit risk shall have a more predictive power than the criteria for days of delinquency.
- As a result of applying the judgment criteria, financial instruments shall not be to move too frequently between the 12-months expected credit losses measurement and the lifetime expected credit losses measurement.

ii) Modified financial assets

If the contractual cash flows on a financial asset have been renegotiated or modified and the financial asset is not derecognized, the Group assesses whether there has been a significant increase in the credit risk of the financial instrument by comparing the risk of a default occurring at initial recognition based on the original, unmodified contractual terms and the risk of a default occurring at end of the reporting period based on the modified contractual terms.

The Group may adjust the contractual cash flows of loans to customers who are in financial difficulties in order to manage the risk of default and enhance the collectability (hereinafter referred to as ‘debt restructuring’). These adjustments generally involve extension of maturity, changes in interest payment schedule, and changes in other contractual terms.

Debt restructuring is a qualitative indicator of a significant increase in credit risk and the Group recognizes lifetime expected credit losses for the exposure expected to be the subject of such adjustments. If a borrower faithfully makes payments of contractual cash flows that are modified in accordance with the debt restructuring or if the borrower's internal credit rating has recovered to the level prior to the recognition of the lifetime expected credit losses, the Group recognizes the 12-months expected credit losses for that exposure again.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued) :

iii) Risk of default

The Group considers a financial asset to be in default if it meets one or more of the following conditions:

- if a borrower is more than 90 days past due on its contractual payments
- if the Group judges that it is not possible to recover principal and interest without enforcing the collateral on a financial asset

The Group uses the following indicators when determining whether a borrower is in default:

- qualitative factors (e.g. breach of contract terms),
- quantitative factors (e.g. if the same borrower does not perform more than one payment obligations to the Group, the number of days past due per payment obligation. However, in the case of a specific portfolio, the Group uses the number of days past due for each financial instrument.)
- internal data and external data

The definition of default applied by the Group generally conforms to the definition of default defined for regulatory capital management purposes; however, depending on the situations, the information used to determine whether a default has incurred and the extent thereof may vary.

iv) Reflection of forward-looking information

The Group reflects future forward-looking information presented by a group of internal experts based on various information when measuring expected credit losses. The Group utilizes economic forecasts disclosed by domestic and foreign research institutes, governments, and public institutions to predict forward-looking information.

The Group reflects future macroeconomic conditions anticipated from a neutral standpoint that is free from bias in measuring expected credit losses. Expected credit losses in this respect reflect conditions that are most likely to occur and are based on the same assumptions that the Group used in its business plan and management strategy.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The Group analyzed the data experienced in the past, derived correlations between major macroeconomic variables and credit risks required for predicting credit risk and credit loss for each portfolio, and then reflected future forecast information through regression estimation. To reflect the COVID-19 economic situation, the Group has reviewed the 3 scenarios of upside, central and downside to reflect the final forward-looking information.

① Upside scenario

Major variables(*1)	Correlation	2021.4Q(*2)(*3)	2022(*3)			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	3.0	3.1	3.8	3.7
Private consumption index (YoY %)	(-)	6.3	5.1	2.5	3.7	3.8
Facility investment growth rate (YoY %)	(-)	4.1	0.5	1.2	5.0	5.1
Consumer price index growth rate (%)	(-)	3.6	2.6	2.4	2.0	2.0
Balance on current account (100 million dollars)	(-)	202.0	230.0	200.0	220.0	230.0
Government bond 3y yields (%)	-	1.87	1.90	1.90	2.00	2.00

② Central scenario

Major variables(*1)	Correlation	2021.4Q(*2)(*3)	2022(*3)			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	2.3	2.4	3.0	3.4
Private consumption index (YoY %)	(-)	6.3	4.4	1.8	2.9	3.5
Facility investment growth rate (YoY %)	(-)	4.1	0.2	0.8	4.5	4.9
Consumer price index growth rate (%)	(-)	3.6	2.7	2.5	2.2	2.0
Balance on current account (100 million dollars)	(-)	202.0	220.0	180.0	200.0	220.0
Government bond 3y yields (%)	-	1.87	1.80	1.80	1.90	1.90

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

③ Downside scenario

Major variables(*1)	Correlation	2021.4Q(*2)(*3)	2022(*3)			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	1.3	1.3	1.8	3.1
Private consumption index (YoY %)	(-)	6.3	3.4	0.7	1.8	3.1
Facility investment growth rate (YoY %)	(-)	4.1	(0.5)	0.3	4.3	4.5
Consumer price index growth rate (%)	(-)	3.6	3.2	3.0	3.0	2.8
Balance on current account (100 million dollars)	(-)	202.0	200.0	170.0	180.0	200.0
Government bond 3y yields (%)	-	1.87	2.00	2.00	2.20	2.40

(*1) As a result of reviewing the correlation of each variable, the GDP growth rates and private consumption index were applied among the major variables to reflect the final forward-looking information. The Group additionally selected the KOSPI forecast in addition to the table above.
(*2) Considering the forecast period of the company's bankruptcy, the Group reflected the future economic outlook.
(*3) The macroeconomic outlook figures are estimated by the Group for the purpose of calculating expected credit losses based on information from domestic and foreign research institutes. Therefore, it could be different from other institutions' estimates.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

① Upside scenario

Major variables(*1)	Correlation	2020.4Q(*2)(*3)	2021(*3)			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	(2.8)	0.0	3.9	3.0	4.3
Private consumption index (YoY %)	(-)	(4.8)	3.0	2.3	3.5	4.1
Facility investment growth rate (YoY %)	(-)	3.5	5.5	6.5	1.5	5.0
Consumer price index growth rate (%)	(-)	0.3	0.6	0.9	0.8	0.9
Balance on current account (100 million dollars)	(-)	170.0	130.0	160.0	190.0	180.0
Government bond 3y yields (%)	-	0.90	1.00	1.00	1.10	1.10

② Central scenario

Major variables(*1)	Correlation	2020.4Q(*2)(*3)	2021(*3)			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	(2.8)	(0.7)	3.6	2.5	3.7
Private consumption index (YoY %)	(-)	(4.8)	2.6	2.1	3.0	3.5
Facility investment growth rate (YoY %)	(-)	3.5	5.0	6.0	0.8	4.5
Consumer price index growth rate (%)	(-)	0.3	0.5	0.9	0.7	0.8
Balance on current account (100 million dollars)	(-)	170.0	120.0	150.0	180.0	170.0
Government bond 3y yields (%)	-	0.90	1.00	1.00	1.00	1.00

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

③ Downside scenario

Major variables(*1)	Correlation	2020.4Q(*2)(*3)	2021(*3)			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	(2.8)	(1.5)	2.3	1.7	3.0
Private consumption index (YoY %)	(-)	(4.8)	1.9	1.1	2.6	3.4
Facility investment growth rate (YoY %)	(-)	3.5	3.5	4.5	(1.0)	3.0
Consumer price index growth rate (%)	(-)	0.3	0.4	0.8	0.6	0.7
Balance on current account (100 million dollars)	(-)	170.0	110.0	140.0	170.0	160.0
Government bond 3y yields (%)	-	0.90	1.10	1.10	1.10	1.10

(*1) As a result of reviewing the correlation of each variable, the private consumption index and facility investment growth rate were applied among the major variables to reflect the final forward-looking information. The Group additionally selected the KOSPI forecast in addition to the table above.
(*2) Considering the forecast period of the company's bankruptcy, the Group reflected the future economic outlook.
(*3) The macroeconomic outlook figures are estimated by the Group for the purpose of calculating expected credit losses based on information from domestic and foreign research institutes. Therefore, it could be different from other institutions' estimates.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The predicted correlations between the macroeconomic variables and the risk of default, used by the Group, are derived based on long-term data over the past ten years.

The recent historical default rate is an important reference when estimating the default rate in consideration of the future economic outlook. Although the economy has slowed down by COVID-19 since 2020, the actual default rate of the Group has remained stable. The Group manages the credit risk through classifying loans in moratorium of interest payments and moratorium of repayment that is one of the financial relief programs into Stage2 and additional expected loss assessments to reflect the impact of potential insolvency.

As of December 31, 2021 and 2020, the exposure and provision of loans applied for moratorium of interest payments and moratorium of repayment in installments is as follows:

		December 31, 2021		December 31, 2020	
		Exposure	Provision	Exposure	Provision
Moratorium of interest payments	₩	224,449	27,460	242,794	18,874
Moratorium of repayment in installments		1,342,366	106,899	1,067,502	20,660
Moratorium of interest payments and moratorium of repayment in installments		65,773	8,459	80,581	2,166
	₩	1,632,588	142,818	1,390,877	41,700

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

If the sensitivity analysis of the impact on the Group's expected credit loss allowance if the weights of the upside or downside scenarios is assumed to be 100% while holding all other assumptions constant, the impact of sensitivity analysis on the Group's credit loss allowance is not significant.

v) Measurement of expected credit losses

Key variables used in measuring expected credit losses are as follows:

- Probability of default (PD)
- Loss given default (LGD)
- Exposure at default (EAD)

These variables have been estimated from historical experience data by using the statistical techniques developed internally by the Group and have been adjusted to reflect forward-looking information.

Estimates of PD over a specified period are estimated by reflecting characteristics of counterparties and their exposure, based on a statistical model at a specific point of time. The Group uses its own information to develop a statistical credit assessment model used for the estimation, and additional information observed in the market is considered for some portfolios such as a group of large corporates. When a counterparty or exposure is concentrated in specific grades, the method of measuring PD for that grades would be adjusted, and the PD by grade is estimated by considering contract expiration of the exposure.

3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

v) Measurement of expected credit losses (continued)

LGD refers to the expected loss if a borrower defaults. The Group calculates LGD based on the experience recovery rate measured from past default exposures. The model for measuring LGD is developed to reflect type of collateral, seniority of collateral, type of borrower, and cost of recovery. In particular, LGD for retail loan products uses loan to value (LTV) as a key variable. The recovery rate reflected in the LGD calculation is based on the present value of recovery amount, discounted at the effective interest rate.

EAD refers to the expected exposure at the time of default. The Group derives EAD reflecting a rate at which the current exposure is expected to be used additionally up to the point of default within the contractual limit. EAD of financial assets is equal to the total carrying amount of the asset, and EAD of loan commitments or financial guarantee contracts is calculated as the sum of the amount expected to be used in the future.

When measuring expected credit losses on financial assets, the Group reflects a period of used credit loss and expected credit loss measurement based on a contractual maturity. The Group takes into consideration of the extension rights held by a borrower when deciding the contractual maturity.

Risk factors such as PD, LGD and EAD are collectively estimated according to the following criteria:

- Type of products
- Internal credit risk rating
- Type of collateral
- Loan to value (LTV)
- Industry that the borrower belongs to
- Location of the borrower or collateral
- Days of delinquency

The criteria for classification of groups are periodically reviewed to maintain homogeneity of the group and adjusted if necessary. The Group uses external benchmark information to supplement internal information for a particular portfolio that did not have sufficient internal data accumulated from the past experience.

vi) Write-off of financial assets

The Group writes off a portion of or entire loan or debt security that is not expected to receive its principal and interest. In general, the Group conducts write-off when it is deemed that the borrower has no sufficient resources or income to repay the principal and interest. Such determination on write-off is carried out in accordance with the internal rules of the Group and is carried out with the approval of an external institution, if necessary. Apart from write-off, the Group may continue to exercise its right of collection under its own recovery policy even after the write-off of financial assets.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(d) Maximum exposure to credit risk

The Group's maximum exposure to credit risk of the financial assets held as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Due from banks (*1)(*2):			
Banks	₩	4,546,076	3,922,409
Governments		14,081,418	21,912,759
		18,627,494	25,835,168
Loans at amortized cost (*1)(*2):			
Banks		6,306,526	7,689,486
Retail			
Mortgage lending		55,230,898	51,364,425
Others		113,461,509	102,842,272
		168,692,407	154,206,697
Governments		457,738	2,437,962
Corporate			
Large enterprises		37,461,533	32,708,031
Small and medium-sized enterprises		103,411,737	92,232,815
Special finance		9,423,639	8,468,976
Others		262	810
		150,297,171	133,410,632
Credit cards		179,654	159,955
		325,933,496	297,904,732
Loans at FVTPL:			
Banks		-	29,997
Corporate			
Large enterprises		830,606	699,827
Small and medium-sized enterprises		63,554	114,645
		894,160	814,472
		894,160	844,469
Securities at FVTPL:			
Debt securities		23,894,803	21,468,195
Gold/silver deposits		83,691	188,338
		23,978,494	21,656,533
Securities at FVOCI (*1)		47,584,677	38,726,496
Securities at amortized cost (*1)		21,325,243	20,178,443
Derivative assets		3,001,440	4,575,560
Other financial assets (*1)(*3)		16,529,548	11,153,167
Off-balance sheet items:			
Financial guarantee contracts(*4)		5,200,208	4,354,052
Loan commitments and other liabilities for credit		103,157,749	101,649,789
		108,357,957	106,003,841
	₩	566,232,509	526,878,411

(*1) The maximum exposure amounts for due from banks, loans, securities and other financial assets are measured as the amount net of allowances.
(*2) Due from banks and loans are classified as similar credit risk group to be with consistent calculating capital adequacy ratio under New Basel Capital Accord (Basel III).
(*3) Other financial assets comprise accounts receivable, accrued income, guarantee deposits, domestic exchange settlements receivables, suspense receivables, etc.
(*4) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 11,346,421 million and ₩ 10,799,393 million as of December 31, 2021 and 2020, respectively.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of December 31, 2021 and 2020 is as follows:

	December 31, 2021								
	12-month expected loss		Lifetime expected loss						
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired	Total	Allowances	Net	Mitigation of credit risk due to collateral
Due from banks:									
Banks	₩ 3,428,533	1,125,709	-	434	-	4,554,676	(8,600)	4,546,076	-
Governments	13,394,476	694,415	-	257	-	14,089,148	(7,730)	14,081,418	-
	16,823,009	1,820,124	-	691	-	18,643,824	(16,330)	18,627,494	-
Loans at amortized cost:									
Banks	4,050,591	2,152,237	112,254	-	-	6,315,082	(8,556)	6,306,526	133,618
Retail	155,277,087	3,763,111	7,716,347	1,872,335	416,507	169,045,387	(352,980)	168,692,407	117,942,738
Residential real estate mortgage loan	52,547,947	254,012	1,733,914	632,584	83,069	55,251,526	(20,628)	55,230,898	51,981,686
Others	102,729,140	3,509,099	5,982,433	1,239,751	333,438	113,793,861	(332,352)	113,461,509	65,961,052
Governments	442,015	16,112	-	-	-	458,127	(389)	457,738	-
Corporate	87,007,370	38,637,418	9,859,018	15,490,432	610,697	151,604,935	(1,307,764)	150,297,171	86,189,513
Major company	23,033,770	9,100,770	2,675,305	2,910,251	132,475	37,852,571	(391,038)	37,461,533	9,649,855
Small business	61,630,453	22,607,642	7,161,189	12,426,271	478,222	104,303,777	(892,040)	103,411,737	72,445,216
Special finance	2,343,147	6,928,856	22,524	153,771	-	9,448,298	(24,659)	9,423,639	4,094,442
Others	-	150	-	139	-	289	(27)	262	-
Credit cards	4	177,499	2	3,737	5,140	186,382	(6,728)	179,654	43
	246,777,067	44,746,377	17,687,621	17,366,504	1,032,344	327,609,913	(1,676,417)	325,933,496	204,265,912
Securities at FVOCI(*)	39,979,252	7,452,639	-	152,786	-	47,584,677	-	47,584,677	-
Securities at amortized cost	19,693,141	1,605,335	-	36,290	-	21,334,766	(9,523)	21,325,243	-
	₩ 323,272,469	55,624,475	17,687,621	17,556,271	1,032,344	415,173,180	(1,702,270)	413,470,910	204,265,912

(*) Credit loss allowance recognized in other comprehensive income on securities at FVOCI default is ₩ 28,739 million.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of December 31, 2021 and 2020 are as follows (continued):

	December 31, 2020								
	12-month expected loss		Lifetime expected loss						
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired	Total	Allowances	Net	Mitigation of credit risk due to collateral
Due from banks:									
Banks	₩ 3,533,069	395,246	-	404	-	3,928,719	(6,310)	3,922,409	-
Governments	21,327,060	587,371	-	1,748	-	21,916,179	(3,420)	21,912,759	-
	24,860,129	982,617	-	2,152	-	25,844,898	(9,730)	25,835,168	-
Loans at amortized cost:									
Banks	5,998,449	1,601,292	87,084	9,623	-	7,696,448	(6,962)	7,689,486	29,994
Retail	139,299,745	5,538,574	5,897,285	3,407,902	441,035	154,584,541	(377,844)	154,206,697	83,169,264
Residential real estate mortgage loan	48,290,904	313,134	1,807,030	877,066	97,030	51,385,164	(20,739)	51,364,425	45,644,141
Others	91,008,841	5,225,440	4,090,255	2,530,836	344,005	103,199,377	(357,105)	102,842,272	37,525,123
Governments	2,191,017	247,542	-	-	-	2,438,559	(597)	2,437,962	-
Corporate	81,667,029	29,170,182	10,646,531	12,502,624	722,610	134,708,976	(1,298,344)	133,410,632	76,800,810
Major company	19,777,406	7,888,565	2,352,102	2,869,460	175,610	33,063,143	(355,112)	32,708,031	7,822,253
Small business	58,915,174	15,859,348	8,292,443	9,529,852	547,000	93,143,817	(911,002)	92,232,815	68,257,562
Special finance	2,974,449	5,421,558	1,986	103,172	-	8,501,165	(32,189)	8,468,976	720,995
Others	-	711	-	140	-	851	(41)	810	-
Credit cards	19	158,619	2	2,913	3,219	164,772	(4,817)	159,955	1,115
	229,156,259	36,716,209	16,630,902	15,923,062	1,166,864	299,593,296	(1,688,564)	297,904,732	160,001,183
Securities at FVOCI(*)	30,251,345	8,208,016	-	267,135	-	38,726,496	-	38,726,496	-
Securities at amortized cost	18,780,103	1,404,340	-	-	-	20,184,443	(6,000)	20,178,443	-
	₩ 303,047,836	47,311,182	16,630,902	16,192,349	1,166,864	384,349,133	(1,704,294)	382,644,839	160,001,183

(*) Credit loss allowance recognized in other comprehensive income on securities at FVOCI default is ₩16,977 million.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

ii) Credit risk exposure per credit grade of off-balance sheet items as of December 31, 2021 and 2020 is as follows:

		December 31, 2021			
		12-month expected credit loss	Lifetime expected credit loss	Impaired	Total
Financial guarantee: (*1)					
Grade 1	₩	3,261,690	335,874	-	3,597,564
Grade 2		1,398,261	203,917	-	1,602,178
Impaired		-	-	466	466
		4,659,951	539,791	466	5,200,208
Loan commitment and other credit line					
Grade 1		76,765,871	3,836,834	-	80,602,705
Grade 2		20,835,466	1,719,578	-	22,555,044
Impaired		-	-	-	-
		97,601,337	5,556,412	-	103,157,749
	₩	102,261,288	6,096,203	466	108,357,957

(*1) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 11,346,421 million as of December 31, 2021.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

ii) Credit risk exposure per credit grade of off-balance sheet items as of December 31, 2021 and 2020 is as follows (continued):

		December 31, 2020			
		12-month expected credit loss	Lifetime expected credit loss	Impaired	Total
Financial guarantee: (*1)					
Grade 1	₩	2,764,531	302,565	-	3,067,096
Grade 2		1,110,481	176,317	-	1,286,798
Impaired		-	-	158	158
		3,875,012	478,882	158	4,354,052
Loan commitment and other credit line					
Grade 1		78,980,557	3,187,592	-	82,168,149
Grade 2		17,870,207	1,611,433	-	19,481,640
Impaired		-	-	-	-
		96,850,764	4,799,025	-	101,649,789
	₩	100,725,776	5,277,907	158	106,003,841

(*1) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 10,799,393 million as of December 31, 2020.

iii) Credit risk exposure per collateral of financial instruments as of December 31, 2021 and 2020 is as follows:

		December 31, 2021			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantees	₩	60,808,960	8,287,776	192,950	69,289,686
Deposits and savings		1,812,844	241,588	1,516	2,055,948
Property and equipment		1,557,438	402,858	20,162	1,980,458
Real estate		120,655,956	13,258,933	226,544	134,141,433
	₩	184,835,198	22,191,155	441,172	207,467,525

		December 31, 2020			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantees	₩	35,411,506	5,877,251	172,647	41,461,404
Deposits and savings		933,379	282,426	368	1,216,173
Property and equipment		1,284,976	317,218	12,341	1,614,535
Real estate		103,335,607	13,000,974	262,595	116,599,176
	₩	140,965,468	19,477,869	447,951	160,891,288

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iv) Credit risk exposure per LTV of mortgage loans as of December 31, 2021 and 2020 is as follows:

		December 31, 2021					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Other	Total
Loans at amortized cost	₩	19,148,888	15,403,119	16,807,463	2,563,101	1,328,955	55,251,526
Less: allowance		(634)	(1,854)	(13,265)	(2,861)	(2,014)	(20,628)
	₩	19,148,254	15,401,265	16,794,198	2,560,240	1,326,941	55,230,898

		December 31, 2020					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Other	Total
Loans at amortized cost	₩	16,891,845	13,917,409	15,744,963	3,050,326	1,780,621	51,385,164
Less: allowance		(589)	(1,642)	(10,706)	(4,017)	(3,785)	(20,739)
	₩	16,891,256	13,915,767	15,734,257	3,046,309	1,776,836	51,364,425

v) Credit qualities are classified based on the internal credit rating as follows:

Type of Borrower	Grade 1	Grade 2
Retail	Pool of retail loans with probability of default of less than 2.25%	Pool of retail loans with probability of default of 2.25% or more
Governments	OECD sovereign credit rating of 6 or above	OECD sovereign credit rating of below 6
Banks and Corporations	Internal credit rating of BBB+ or above	Internal credit rating of below BBB+

(f) Nature and effect of modification in contractual cash flows

i) For the financial assets for which the loss allowances have been measured at amounts equal to the lifetime expected credit losses, and the contractual cash flows are modified for the years ended December 31, 2021 and 2020, the amortized costs before modification amounted to ₩16,192 million and ₩39,562 million, respectively, and the net losses resulting from the modification amounted to ₩2,908 million and ₩8,289 million, respectively.

ii) As of December 31, 2021 and 2020, the book value of financial asset, for which contractual cash flows have been modified while the loss allowance is measured at an amount equal to lifetime expected credit losses at initial recognition, and the loss allowance reverted to being measured at an amount equal to 12-month expected credit losses for the years ended December 31, 2021 and 2020 are ₩54,904 million and ₩600 million.

(g) The contractual amounts outstanding on financial assets that are written-off but are still subject to enforcement activity as of December 31, 2021 and 2020, are ₩6,342,146 million and ₩6,343,950 million, respectively.

(h) As of December 31, 2021 and 2020, there are no assets acquired by the execution of collateral.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location

An analysis of concentration by geographic location for financial instruments excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows:

		December 31, 2021								
Division(*1)		Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Other	Total
Due from banks:										
Banks	₩	425,254	1,377,998	26,441	333,980	447,317	413,816	843,735	677,535	4,546,076
Governments		10,653,635	796,405	-	1,279,012	217,773	248,301	462,308	423,984	14,081,418
		11,078,889	2,174,403	26,441	1,612,992	665,090	662,117	1,306,043	1,101,519	18,627,494
Loans at amortized cost:										
Banks		1,392,907	4,950	11,735	116,708	83,372	1,060,070	1,833,710	1,803,074	6,306,526
Retail		158,693,440	390,584	7,599	4,338,266	3,112	1,987,301	1,935,368	1,336,737	168,692,407
Residential real estate mortgage loan		47,752,200	277,827	4,573	4,304,160	1,372	580,191	1,284,732	1,025,843	55,230,898
Others		110,941,240	112,757	3,026	34,106	1,740	1,407,110	650,636	310,894	113,461,509
Governments		441,646	-	-	-	-	-	-	16,092	457,738
Corporate		130,715,725	3,321,195	211,955	4,364,436	94,186	2,897,955	2,947,629	5,744,090	150,297,171
Major company		30,225,627	1,702,446	84,477	510,934	43,479	1,459,418	1,341,534	2,093,618	37,461,533
Small business		93,752,872	831,446	44,270	3,019,992	50,707	1,325,959	1,606,095	2,780,396	103,411,737
Special finance		6,737,081	787,296	83,208	833,510	-	112,578	-	869,966	9,423,639
Others		145	7	-	-	-	-	-	110	262
Credit cards		7,343	1,582	85	45	17	169,506	84	992	179,654
		291,251,061	3,718,311	231,374	8,819,455	180,687	6,114,832	6,716,791	8,900,985	325,933,496
Loans at FVTPL										
Corporate		894,159	-	-	-	-	-	-	1	894,160
Major company		830,605	-	-	-	-	-	-	1	830,606
Small business		63,554	-	-	-	-	-	-	-	63,554
		894,159	-	-	-	-	-	-	1	894,160

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location (continued)

An analysis of concentration by geographic location for financial instruments excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows (continued):

	December 31, 2021								
Division(*1)	Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Other	Total
Securities at FVTPL									
Debt securities	23,098,304	326,107	8,396	50,503	19,048	-	9,041	383,404	23,894,803
Gold/silver deposits	-	-	83,691	-	-	-	-	-	83,691
	23,098,304	326,107	92,087	50,503	19,048	-	9,041	383,404	23,978,494
Securities at FVOCI	44,042,942	1,426,509	120,851	250,768	52,199	120,884	679,528	890,996	47,584,677
Securities at amortized cost	19,740,332	1,526	-	244,149	-	902,377	80,042	356,817	21,325,243
Off-balance accounts									
Guarantees(*2)	4,799,000	45,650	2,099	821	4,384	72,120	246,080	30,054	5,200,208
Loan commitments and other liabilities related credit	92,620,943	531,120	256,083	760,322	86,329	2,789,103	2,104,907	4,008,942	103,157,749
₩	487,525,630	8,223,626	728,935	11,739,010	1,007,737	10,661,433	11,142,432	15,672,718	546,701,521

(*1) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.
(*2) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 11,346,421 million as of December 31, 2021.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location (continued)

An analysis of concentration by geographic location for financial instruments excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows (continued):

		December 31, 2020								
Division(*1)		Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Other	Total
Due from banks:										
Banks	₩	282,653	621,144	107,136	534,868	253,297	201,009	1,404,189	518,113	3,922,409
Governments		18,380,443	952,215	-	1,418,805	121,663	209,395	441,863	388,375	21,912,759
		18,663,096	1,573,359	107,136	1,953,673	374,960	410,404	1,846,052	906,488	25,835,168
Loans at amortized cost:										
Banks		2,277,529	-	-	249,670	62,997	824,022	1,343,452	2,931,816	7,689,486
Retail		145,814,211	389,962	6,627	4,124,659	2,386	1,448,430	1,322,340	1,098,082	154,206,697
Residential real estate mortgage loan		44,718,121	277,807	4,249	4,084,949	1,015	431,020	1,027,101	820,163	51,364,425
Others		101,096,090	112,155	2,378	39,710	1,371	1,017,410	295,239	277,919	102,842,272
Governments		2,190,585	-	-	-	-	-	-	247,377	2,437,962
Corporate		115,401,335	2,992,056	103,197	3,784,158	103,483	2,228,822	3,038,360	5,759,221	133,410,632
Major company		26,119,572	1,501,629	38,028	631,230	33,737	881,051	1,155,694	2,347,090	32,708,031
Small business		83,343,950	784,652	41,500	2,428,883	69,746	1,187,265	1,882,666	2,494,153	92,232,815
Special finance		5,937,250	705,764	23,669	724,045	-	160,506	-	917,742	8,468,976
Others		563	11	-	-	-	-	-	236	810
Credit cards		6,767	1,010	84	40	14	151,045	61	934	159,955
		265,690,427	3,383,028	109,908	8,158,527	168,880	4,652,319	5,704,213	10,037,430	297,904,732
Loans at FVTPL										
Bank		29,997	-	-	-	-	-	-	-	29,997
Corporate		814,472	-	-	-	-	-	-	-	814,472
Major company		699,827	-	-	-	-	-	-	-	699,827
Small business		114,645	-	-	-	-	-	-	-	114,645
		844,469	-	-	-	-	-	-	-	844,469

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location (continued)

An analysis of concentration by geographic location for financial instruments excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows (continued):

		December 31, 2020								
Division(*1)		Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Other	Total
Securities at FVTPL										
Debt securities		20,861,279	202,000	5,115	19,040	4,486	-	151,988	224,288	21,468,196
Gold/silver deposits		-	-	188,339	-	-	-	-	-	188,339
		20,861,279	202,000	193,454	19,040	4,486	-	151,988	224,288	21,656,535
Securities at FVOCI		35,832,061	857,980	51,422	221,917	36,412	172,904	834,119	719,681	38,726,496
Securities at amortized cost		18,858,335	5,996	-	243,591	-	710,106	45,121	315,294	20,178,443
Off-balance accounts										
Guarantees(*2)		3,719,338	65,163	6,198	1,344	6,041	65,178	363,042	127,748	4,354,052
Loan commitments and other liabilities related credit		93,100,291	490,704	274,836	634,919	63,265	1,080,441	2,384,892	3,620,441	101,649,789
	₩	457,569,296	6,578,230	742,954	11,233,011	654,044	7,091,352	11,329,427	15,951,370	511,149,684

(*1) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.
(*2) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 10,799,393 million as of December 31, 2020.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector

i) An analysis of concentration by industry sector for financial assets excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows :

		December 31, 2021								
Division(*1)		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:										
Banks	₩	4,546,076	-	-	-	-	-	-	-	4,546,076
Governments		14,081,418	-	-	-	-	-	-	-	14,081,418
		18,627,494	-	-	-	-	-	-	-	18,627,494
Loans at amortized cost:										
Banks		5,587,847	-	-	-	-	-	718,679	-	6,306,526
Retail		-	-	-	-	-	-	-	168,692,407	168,692,407
Residential real estate mortgage loan		-	-	-	-	-	-	-	55,230,898	55,230,898
Others		-	-	-	-	-	-	-	113,461,509	113,461,509
Governments		451,406	-	-	-	-	-	6,332	-	457,738
Corporate		7,766,942	52,080,504	19,613,415	33,491,093	2,827,861	5,797,591	28,719,765	-	150,297,171
Major company		4,302,559	18,614,635	3,704,339	2,367,214	734,533	314,134	7,424,119	-	37,461,533
Small business		1,341,148	33,450,100	15,887,968	27,226,697	1,916,715	5,356,593	18,232,516	-	103,411,737
Special finance		2,123,235	15,721	21,084	3,897,181	176,613	126,861	3,062,944	-	9,423,639
Others		-	48	24	1	-	3	186	-	262
Credit cards		-	-	-	-	-	-	-	179,654	179,654
		13,806,195	52,080,504	19,613,415	33,491,093	2,827,861	5,797,591	29,444,776	168,872,061	325,933,496
Loans at FVTPL										
Corporate		368,872	461,752	9,516	2,002	2,537	-	49,481	-	894,160
Major company		368,872	425,282	-	-	2,037	-	34,415	-	830,606
Small business		-	36,470	9,516	2,002	500	-	15,066	-	63,554
	₩	368,872	461,752	9,516	2,002	2,537	-	49,481	-	894,160

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

i) An analysis of concentration by industry sector for financial assets excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows (continued):

		December 31, 2021								
		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Securities at FVTPL										
Debt securities	₩	13,855,973	1,684,706	876,013	416,950	150,377	62,437	6,848,347	-	23,894,803
Gold/silver deposits		83,691	-	-	-	-	-	-	-	83,691
		13,939,664	1,684,706	876,013	416,950	150,377	62,437	6,848,347	-	23,978,494
Securities at FVOCI		23,199,365	2,244,465	345,180	439,424	758,642	18,142	20,579,459	-	47,584,677
Securities at amortized cost		6,597,989	-	-	143,741	140,163	-	14,443,350	-	21,325,243
Off-balance accounts										
Guarantees(*2)		655,508	910,289	380,473	118,436	35,801	56,065	3,043,170	466	5,200,208
Loan commitments and other liabilities related credit		15,122,198	24,522,205	8,174,162	2,383,586	1,886,648	308,978	17,035,457	33,724,515	103,157,749
	₩	92,317,285	81,903,921	29,398,759	36,995,232	5,802,029	6,243,213	91,444,040	202,597,042	546,701,521

(*1) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.
(*2) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 11,346,421 million as of December 31, 2021.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

i) An analysis of concentration by industry sector for financial assets excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows (continued):

		December 31, 2020								
Division(*1)		Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:										
Banks	₩	3,922,409	-	-	-	-	-	-	-	3,922,409
Governments		21,912,759	-	-	-	-	-	-	-	21,912,759
		25,835,168	-	-	-	-	-	-	-	25,835,168
Loans at amortized cost:										
Banks		7,329,252	-	-	-	-	-	360,234	-	7,689,486
Retail		-	-	-	-	-	-	-	154,206,697	154,206,697
Residential real estate mortgage loan		-	-	-	-	-	-	-	51,364,425	51,364,425
Others		-	-	-	-	-	-	-	102,842,272	102,842,272
Governments		2,437,962	-	-	-	-	-	-	-	2,437,962
Corporate		5,756,122	47,242,200	17,184,831	29,882,707	2,660,711	5,750,820	24,933,241	-	133,410,632
Major company		2,459,364	16,608,368	3,319,317	2,400,429	634,151	435,017	6,851,385	-	32,708,031
Small business		1,010,848	30,604,767	13,826,277	24,383,764	1,664,917	5,165,249	15,576,993	-	92,232,815
Special finance		2,285,910	28,956	38,930	3,098,512	361,643	150,554	2,504,471	-	8,468,976
Others		-	109	307	2	-	-	392	-	810
Credit cards		-	-	-	-	-	-	-	159,955	159,955
		15,523,336	47,242,200	17,184,831	29,882,707	2,660,711	5,750,820	25,293,475	154,366,652	297,904,732
Loans at FVTPL										
Banks		-	-	-	29,997	-	-	-	-	29,997
Corporate		29,921	629,418	19,210	2,000	3,000	-	130,923	-	814,472
Major company		29,921	558,463	3,500	-	2,000	-	105,943	-	699,827
Small business		-	70,955	15,710	2,000	1,000	-	24,980	-	114,645
	₩	29,921	629,418	19,210	31,997	3,000	-	130,923	-	844,469

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

i) An analysis of concentration by industry sector for financial assets excluding equity securities, net of allowance, as of December 31, 2021 and 2020 is as follows (continued):

	December 31, 2020								
	Finance and insurance	Manu-facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Securities at FVTPL									
Debt securities	₩ 13,698,499	1,721,830	1,017,087	274,993	158,220	45,169	4,552,398	-	21,468,196
Gold/silver deposits	188,339	-	-	-	-	-	-	-	188,339
	13,886,838	1,721,830	1,017,087	274,993	158,220	45,169	4,552,398	-	21,656,535
Securities at FVOCI	21,669,300	2,026,619	289,113	506,999	640,130	2,611	13,591,724	-	38,726,496
Securities at amortized cost	7,011,794	21,750	-	134,772	120,284	-	12,889,843	-	20,178,443
Off-balance accounts									
Guarantees(*2)	908,085	1,130,641	523,003	134,213	86,624	49,504	1,521,694	288	4,354,052
Loan commitments and other liabilities related credit	14,512,157	25,031,260	8,946,769	2,622,242	1,846,391	320,396	15,594,490	32,776,084	101,649,789
	₩ 99,376,599	77,803,718	27,980,013	33,587,923	5,515,360	6,168,500	73,574,547	187,143,024	511,149,684

(*1) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.
(*2) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 10,799,393 million as of December 31, 2020.

(In millions of Korean won)

3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

ii) As of December 31, 2021and 2020, the concentration by industry sector for corporate loans that could be affected by the spread of COVID-19 among the financial instruments is as follows, and the industries that will be affected by the future economic conditions may change significantly:

		December 31, 2021							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	164,904	3,314,684	937,385	219,859	86,241	2,082,545	92,152	6,897,770
Securities at FVTPL		-	-	29,911	-	-	-	2,737	32,648
Securities at FVOCI		114,158	18,142	264,343	-	7,123	10,678	-	414,444
Off-balance accounts		364,351	323,638	2,650,311	20,196	91,622	982,026	37,941	4,470,085
	₩	643,413	3,656,464	3,881,950	240,055	184,986	3,075,249	132,830	11,814,947

		December 31, 2020							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	120,854	3,445,269	685,336	244,036	95,240	1,763,741	112,647	6,467,123
Securities at FVTPL		-	-	3,088	-	-	3,060	-	6,148
Securities at FVOCI		52,878	2,611	224,894	-	6,539	9,797	-	296,719
Off-balance accounts		404,767	289,948	3,058,516	9,630	111,266	938,705	60,171	4,873,003
	₩	578,499	3,737,828	3,971,834	253,666	213,045	2,715,303	172,818	11,642,993

iii) In the case of borrowers classified as Grade 2 and impaired among individual loans subject to lifetime expected credit losses as disclosed in Note 3-1. (e), the effect of COVID-19 may be relatively large. The impact is subject to change, depending on the future economic situation.

3. Financial risk management (continued)

3-2. Market risk

Market risk is the risk that changes in market price such as interest rates, equity prices, and foreign exchange rates, etc. will affect the Group's income. Trading position is exposed to the risk such as interest rates, equity prices, foreign exchange rates, etc., and non-trading position is mainly exposed to interest rates. The Group separates and manages its exposure to market risk between trading and non-trading position.

The Group carries out decision-making functions such as policy establishment and setting limits on market risk management by the Risk Policy Committee, and the Risk Engineering Department provides comprehensive market risk management, market risk system management, and Middle Office functions for all operating departments and desks.

The basis of market risk management is limit management to keep the maximum possible loss due to market risk within a certain level. The Risk Policy Committee sets and operates the VaR limit, loss limit, sensitivity limit, investment limit and position limit, and stress loss limit for each operating department and desk. The Risk Engineering department monitors the operation status independently from the operating department. The Group regularly reports to the Risk Policy Committee and Risk Management Committee. In addition, the Fair Value Assurance Council and the Risk Engineering Department conduct a review of the fair value evaluation method and risk assessment before new products (or transactions) in each business unit are conducted, and the risk review of derivatives and structured products is reviewed for risk factors. In addition, the Group supports rational decision-making, such as reviewing investment limits, so that objective analysis and review of risk factors can be conducted in advance.

(a) Market risk management of trading positions

Trading data for foreign exchange, stocks, bonds, and derivatives, which are subject to the measurement of market risks of trading positions, are managed by entering transactions in the front system, and are automatically interfaced with the market risk management system (Risk Watch) to perform daily risk measurement and limit management. Statistical analysis that complements the above risk management process and stress testing is performed regularly in order to manage the impact and loss of rapid economic changes.

i) Measurement method on market risk arising from trading positions

The Group applies historical simulation VaR methodology to each market risk, such as interest rates, stock prices, and exchange rates exposed to trading positions to calculate market risk in a 99% confidence level. VaR is based on a statistical assessment of potential losses to current positions from an adverse market movement. This represents the maximum amount of losses that can be incurred at the level of 99% confidence. Therefore, there is a statistical probability (1.0%) that the actual loss may be greater than the VaR measurement.

The VaR model measures expected losses assuming that the daily position at the measurement point remains and that market movements for the past 10 days from each measurement point will continue in the future.

Limits for each type of market risk are the limits set on market risk within the Bank's total risk limit. It is calculated by multiplying the average 10 days VaR and Stressed VaR for the previous 60 days by the regulatory multiplier and used as a market risk management tool. The Group's VaR limit is set annually by the Risk Management Committee or the Risk Policy Committee, and compliance of each type of limit is monitored on a daily basis. In addition, when the set limit is exceeded, the manager of the operation department reports the excess details, reasons for the excess, and solutions to the group head in charge, and manages the set limit to be reduced to the limit within the next business day.

The quality of the VaR model is continuously monitored by post verification of VaR results, and all post verification results are reported to the Board of Directors.

(In millions of Korean won)

.3. Financial risk management (continued)

3-2. Market risk (continued)

(a) Market risk management of trading positions (continued)

ii) VaR of trading positions

The Group manages VaR for trading portfolio based on financial statements. The minimum, maximum, average VaR and the VaR for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021			
		Average	Maximum	Minimum	Year-end
Interest rate risk	₩	28,749	55,773	17,537	28,030
Equity risk		11,583	21,340	3,850	19,618
Foreign currency risk (*)		159,165	185,514	136,936	161,978
Volatility risk		162	368	29	60
Commodity risk		11	151	-	8
Covariance		(25,023)	(52,611)	(13,207)	(17,470)
	₩	174,646	210,534	145,147	192,222

(*) The Group measured foreign currency risk arising from trading positions and non-trading positions.

		December 31, 2020			
		Average	Maximum	Minimum	Year-end
Interest rate risk	₩	41,165	56,950	28,322	42,867
Equity risk		27,077	66,254	7,545	7,893
Foreign currency risk (*)		65,309	83,335	27,668	69,024
Volatility risk		305	1,073	114	138
Commodity risk		13	170	-	1
Covariance		(27,839)	(53,295)	(14,163)	(25,310)
	₩	106,030	154,487	49,486	94,613

(*) The Group measured foreign currency risk arising from trading positions and non-trading positions.

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(b) Market risk management of non-trading positions

The most critical market risk that arises from non-trading position is the interest rate risk. Accordingly, the Group measures and manages market risk for non-trading position by taking into account effects of interest rate changes on both its net asset value and income.

The Group carries out decision-making functions such as establishing policies and setting detailed limits on interest rate risk management by the Risk Policy Committee, and within these principles and limits, management departments by account, such as overseas branches, subsidiaries, and finance departments, trust headquarters, and general finance departments, primarily recognize and manage interest rate risk. The Risk Management Department and the Risk Engineering Department support the Risk Policy Committee's decision on interest rate risk, monitor whether the interest rate risk limit is exceeded, and evaluate and manage the overall interest rate risk.

The Group measures and manages interest rate risk using various analysis methods such as interest rate gap, duration gap, and scenario-based NII (Net Interest Income) simulation through the Asset Liability Management (ALM) system. Interest rate VaR and interest rate EaR (Earnings at Risk) and interest rate gap ratios are set and monitored monthly. In addition, stress testing evaluates the impact on interest rate risk in various crisis situations.

i) Measurement method on market risk arising from non-trading positions

The Group calculates and manages the amount of change in economic value of equity (interest rate VaR) and the maximum expected interest loss (interest rate EaR) over the next year on the application of the IRRBB Standard Method interest rate scenario provided by the Bank for International Settlements (“BIS”). It also manages the risk of interest rate market risk by reflecting the customer behavior ratio based on IRRBB standard method.

In order to calculate the interest rate risk, the Group uses the six scenarios defined by the Basel Committee, 1) Parallel shock increases, 2) Parallel shock decreases, 3) Shock stiffener, 4) Shock plattner, 5) short-term interest rate increases, and 6) short-term interest rate decreases. Based on the six scenarios, the changes in economic value of equity are measured to calculate the maximum loss (VaR: Value at Risk) and the changes in net interest income are measured to calculate the maximum expected changes of profit or loss (EaR: Earning at Risk) based on the two scenarios (parallel shock increases and decreases).

ii) Interest rate VaR and EaR for non-trading positions

Interest rate VaR (maximum expected loss among △EVE) and EaR (maximum expected changes in profit of loss among △ NII) for non-trading positions which are measured by the IRRBB standard methodology provided by BIS as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Interest rate VaR	₩	774,352	468,327
Interest rate EaR		96,145	115,221

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk

The Group manages foreign currency risk based on general positions which includes all spot and future foreign currency positions, etc. The Risk Policy Committee oversees the Group's foreign exchange exposure for both trading and non-trading activities by establishing limits for the net foreign currencies open position. The Group's foreign exchange position is centralized at the S&T Center. Dealers in the S&T Center manages the Group's overall position within the set limits through spot trading, forward contracts, currency options, futures and swaps and foreign exchange swaps. The Group's foreign exchange transactions are mainly conducted in the U.S. dollar (USD), Japanese yen (JPY), Euro (EUR) and Chinese yuan (CNY). Other foreign currencies are limitedly traded.

Assets and liabilities denominated in foreign currencies as of December 31, 2021 and 2020 are as follows:

		December 31, 2021					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	3,434,912	1,789,019	385,508	665,105	3,157,314	9,431,858
Securities at FVTPL		1,261,781	13,108	245,151	-	100,632	1,620,672
Derivative assets		244,776	1	3,861	314	29,771	278,723
Loans at amortized cost		23,816,176	9,901,710	975,680	5,090,928	9,469,792	49,254,286
Securities at FVOCI		3,769,503	162,023	25,094	397,010	701,480	5,055,110
Securities at amortized cost		94,817	241,232	-	80,133	1,225,443	1,641,625
Other financial assets		3,758,677	242,919	322,078	173,906	881,139	5,378,719
		36,380,642	12,350,012	1,957,372	6,407,396	15,565,571	72,660,993
Liabilities							
Deposits		19,144,174	10,629,572	1,362,516	4,791,459	9,776,547	45,704,268
Financial liabilities at FVTPL		-	-	-	-	581,458	581,458
Derivative liabilities		142,589	356	6,825	44	11,418	161,232
Borrowings		6,159,456	938,816	181,027	463,098	702,980	8,445,377
Debt securities issued		5,113,057	137,022	671,170	-	687,112	6,608,361
Other financial liabilities		3,123,788	116,544	195,387	551,976	1,088,305	5,076,000
		33,683,064	11,822,310	2,416,925	5,806,577	12,847,820	66,576,696
Net assets (liabilities)		2,697,578	527,702	(459,553)	600,819	2,717,751	6,084,297
Off balance sheet items							
Derivative exposures		(2,054,852)	3,669	499,528	(93,505)	(1,028,457)	(2,673,617)
Net position	₩	642,726	531,371	39,975	507,314	1,689,294	3,410,680

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk (continued)

Assets and liabilities denominated in foreign currencies as of December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	3,170,604	1,925,186	219,847	775,135	2,599,958	8,690,730
Securities at FVTPL		751,502	-	145,273	-	240,169	1,136,944
Derivative assets		378,296	4	6,406	1,034	60,792	446,532
Loans at amortized cost		20,342,621	9,073,866	1,296,284	4,130,855	8,458,104	43,301,730
Securities at FVOCI		3,080,206	149,718	-	460,681	665,891	4,356,496
Securities at amortized cost		124,989	240,619	-	45,151	993,581	1,404,340
Other financial assets		1,719,878	284,695	137,576	336,325	517,407	2,995,881
		29,568,096	11,674,088	1,805,386	5,749,181	13,535,902	62,332,653
Liabilities							
Deposits		16,772,364	10,124,013	981,873	4,631,563	8,409,825	40,919,638
Financial liabilities at FVTPL		-	-	-	-	539,564	539,564
Derivative liabilities		230,488	564	7,673	821	6,100	245,646
Borrowings		6,110,718	806,285	306,829	163,454	537,067	7,924,353
Debt securities issued		4,770,687	87,504	669,120	-	1,205,976	6,733,287
Other financial liabilities		2,873,697	123,510	250,428	564,623	819,290	4,631,548
		30,757,954	11,141,876	2,215,923	5,360,461	11,517,822	60,994,036
Net assets (liabilities)		(1,189,858)	532,212	(410,537)	388,720	2,018,080	1,338,617
Off balance sheet items							
Derivative exposures		1,257,770	(90,712)	417,055	30,032	(204,516)	1,409,629
Net position	₩	67,912	441,500	6,518	418,752	1,813,564	2,748,246

(In millions of Korean won)

3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

The Group closely is monitoring the output and market of various industrial working groups that manage the transition to new interest rate indicators. It includes announcements made by LIBOR regulators.

Regulators have made it clear that they will not persuade or force banks to submit LIBOR by the end of 2021. In response to this announcement, the Group has established an LIBOR-related response plan consisting of job flows such as risk management, accounting, tax, law, computerization, and customer management. The plan is dedicated to the Chief Financial Officer (CFO) and important matters are reported to the Board of Directors. The purpose of the plan is to identify the impact and risks associated with reforming interest rate indicators within the business, and prepare and implement action plans to facilitate the transition to alternative indicator interest rates. The Group aims to close its response plan in accordance with the guidelines of the regulators.

The financial instruments that have not been converted to replaced interest rate benchmark among the LIBOR interest rates as of December 31, 2021 are as follows :

i) Non-derivative financial assets

		Carrying amount			
		USD LIBOR(*2)	JPY LIBOR	EUR LIBOR	Other LIBOR
Due from banks and loans at amortized cost:					
Loans	₩	2,757,117	207,660	49,642	122,104
Securities at fair value through other comprehensive income:					
Financial institution bonds		167,167	-	-	-
Corporate bonds and others		281,949	-	-	-
	₩	449,116	-	-	-
Commitments and financial guarantee contracts	₩	203,167	39,148	5,530	13,853

(*1) The commitments and guarantee contracts are in nominal amount.
(*2) The instruments that will be matured before the end of June 2023 are excluded.

ii) Non-derivative financial liabilities

		Carrying amount			
		USD LIBOR(*1)	JPY LIBOR	EUR LIBOR	Other LIBOR
Financial liabilities at amortized cost:					
Deposits	₩	200,000	-	-	-
Borrowings		347,420	-	-	-
Debt securities issued		745,680	-	-	-
	₩	1,293,100	-	-	-

(*1) The instruments that will be matured before the end of June 2023 are excluded.

iii) Derivative

		Nominal amount			
		USD LIBOR(*1)	JPY LIBOR	EUR LIBOR	Other LIBOR
Trading:					
Interest rates related	₩	9,350,752	-	-	-
Foreign currency related		10,900,844	-	-	-
	₩	20,251,597	-	-	-
Hedge:					
Interest rates related	₩	4,150,155	-	-	-

(*1) The instruments that will be matured before the end of June 2023 are excluded.

3. Financial risk management (continued)

3-3. Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Risk Policy Committee is responsible for establishing policies and setting the limits related to liquidity risk management. The Risk Management Department evaluates and manages the Group's overall liquidity risk and monitors compliance of all operating subsidiaries and foreign branches with limits on a daily basis.

The Group applies the following basic principles for liquidity risk management:

-raise funding in sufficient amounts at the optimal time and reasonable costs;
-maintain risk at appropriate levels and preemptively manage them through a prescribed risk limit system and an early warning signal detection system;
-secure stable sources of revenue and minimize actual losses by implementing an effective asset-liability management system based on diversified sources of funding with varying maturities;
-monitor and manage daily and intra-daily liquidity positions and risk exposures as to timely payment and settlement of financial obligations due under both normal and crisis situations;
-conduct periodic contingency analysis in anticipation of any potential liquidity crisis and establish and implement emergency plans in case of a crisis actually happening; and
-consider liquidity-related costs, benefits and risks in determining the price of products and services, employee performance evaluations and approval of launching new products and services.

The Group uses various analysis methods such as liquidity gap, liquidity ratio, loan-deposit ratio, and real liquidity gap reflecting the customer behavior model through the ALM system, while managing its liquidity risks on won and foreign currency through various indices including risk limits, early warning index, and monitoring index. Demand deposits, in analysing the maturity structures of assets and liabilities, can be classified as short-term because they can be withdrawn whenever a customer requests; however, considering customers' behaviors that usually maintain an average balance of a certain percentage, non-core deposits are classified to be short-term.

3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial instruments

Contractual maturities for financial assets and financial liabilities as of December 31, 2021 and 2020 are as follows:

		December 31, 2021						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	21,773,819	619,144	219,595	164,920	21,691	-	22,799,169
Securities at FVTPL		24,173,996	-	-	-	-	-	24,173,996
Derivative assets		2,855,430	20,039	24,489	40,424	236,954	68,034	3,245,370
Loans at amortized cost		19,895,840	36,075,398	49,131,402	78,881,560	107,024,001	69,216,722	360,224,923
Loans at FVTPL		170,018	627,523	61,516	5,412	30,879	-	895,348
Securities at FVOCI		45,694,452	152,534	91,467	629,642	1,235,743	570,509	48,374,347
Securities at amortized cost		457,818	2,390,619	1,771,729	2,488,410	13,823,888	1,958,275	22,890,739
Other financial assets		15,411,633	-	-	85,473	-	1,216,529	16,713,635
	₩	130,433,006	39,885,257	51,300,198	82,295,841	122,373,156	73,030,069	499,317,527
Liabilities								
Deposits	₩	207,119,058	35,114,100	39,843,687	57,220,414	16,498,694	2,558,925	358,354,878
Financial liabilities at FVTPL		583,662	-	-	-	-	-	583,662
Derivative liabilities		2,606,678	1,112	1,634	3,263	24,263	15,456	2,652,406
Borrowings		6,716,098	2,995,267	2,659,514	3,508,647	4,172,764	1,095,108	21,147,398
Debt securities issued		1,278,754	5,874,261	4,597,641	11,866,979	12,687,232	2,898,559	39,203,426
Other financial liabilities		18,573,525	29,332	39,412	152,636	205,852	46,052	19,046,809
	₩	236,877,775	44,014,072	47,141,888	72,751,939	33,588,805	6,614,100	440,988,579

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows are classified based on the earliest dates for obligated repayment. Financial instruments at FVTPL that can be disposed of immediately and financial assets at FVOCI except for assets restricted for sale for certain periods are included in 1 month or less.

3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial instruments (continued)

Contractual maturities for financial assets and financial liabilities as of December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	26,422,852	648,748	439,019	79,497	-	-	27,590,116
Securities at FVTPL		20,438,780	854,609	40,079	489,995	-	-	21,823,463
Derivative assets		4,257,624	21,546	27,666	44,331	223,557	104,837	4,679,561
Loans at amortized cost		18,764,297	29,494,594	43,946,379	72,715,076	99,190,870	63,180,615	327,291,831
Loans at FVTPL		30,172	679,683	9,113	44,836	86,158	-	849,962
Securities at FVOCI		36,417,376	-	-	-	-	3,040,211	39,457,587
Securities at amortized cost		359,594	1,939,294	1,067,916	1,697,558	15,845,944	747,736	21,658,042
Other financial assets		7,363,443	-	-	118,145	-	1,174,877	8,656,465
	₩	114,054,138	33,638,474	45,530,172	75,189,438	115,346,529	68,248,276	452,007,027
Liabilities								
Deposits	₩	182,662,437	27,381,301	35,646,330	58,227,019	14,195,311	2,317,691	320,430,089
Financial liabilities at FVTPL		510,074	794	7,042	2,785	18,870	-	539,565
Derivative liabilities		4,063,760	375	556	1,155	5,737	3,734	4,075,317
Borrowings		7,449,384	2,686,413	1,876,456	3,506,230	4,134,062	1,101,088	20,753,633
Debt securities issued		2,805,235	4,532,264	2,378,669	7,201,949	16,115,914	3,123,820	36,157,851
Other financial liabilities		17,836,543	32,080	43,413	166,531	220,827	41,163	18,340,557
	₩	215,327,433	34,633,227	39,952,466	69,105,669	34,690,721	6,587,496	400,297,012

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows are classified based on the earliest dates for obligated repayment. Financial instruments at FVTPL that can be disposed of immediately and financial assets at FVOCI except for assets restricted for sale for certain periods are included in 1 month or less.

(b) Contractual maturities for off balance sheet items

Financial guarantees such as financial guarantee contracts, loan commitments and others provided by the Group are classified based on the earliest date at which the Group should fulfill the obligation under the guarantee when the counterparty requests for the payment.

Off-balance sheet items as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Financial guarantee contracts	₩	5,200,208	4,354,052
Loan commitments and others		103,157,749	101,649,789
	₩	108,357,957	106,003,841

(*) These amounts represent financial guarantees and the non-financial guarantees amount to ₩ 11,346,421 million and ₩ 10,799,393 million as of December 31, 2021 and 2020, respectively.

3. Financial risk management (continued)

3-4. Measurement of fair value

The fair value which the Group primarily uses for measurement of financial instruments are the published price quotations in an active market which are based on the market prices or the dealer price quotations of financial instruments traded in an active market where available, which is the best evidence of fair value.

If the market for a financial instrument is not active, fair value is established either by using a valuation technique or independent third-party valuation service. The Group uses diverse valuation techniques under reasonable assumptions which are based on the inputs observable in markets at the end of each reporting period.

Valuation techniques include using the recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. For example, the fair value for interest swaps is the present value of estimated future cash flows, and fair value for foreign exchange forwards contracts is measured by using the published forward exchange rate at the end of each reporting period.

The Group classifies and discloses fair value of the financial instruments into the following three-level hierarchy:

(i) Level 1: Financial instruments measured at quoted prices from active markets are classified as level 1.
(ii) Level 2: Financial instruments measured using valuation techniques where all significant inputs are observable market data are classified as level 2.
(iii) Level 3: Financial instruments measured using valuation techniques where one or more significant inputs are not based on observable market data are classified as level 3.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value

i) The table below analyses financial instruments measured at the fair value as of December 31, 2021 and 2020 by the level in the fair value hierarchy into which the fair value measurement is categorized:

		December 31, 2021			
		Level 1	Level 2	Level 3	Total
Financial assets					
Loans at FVTPL:					
Loans	₩	-	787,163	106,997	894,160
Securities at FVTPL:					
Debt securities		1,114,960	19,671,048	3,108,794	23,894,802
Equity securities		72,683	-	122,820	195,503
Gold/silver deposits		83,691	-	-	83,691
		1,271,334	19,671,048	3,231,614	24,173,996
Derivative assets:					
Trading		164	2,843,706	860	2,844,730
Hedging		-	156,710	-	156,710
		164	3,000,416	860	3,001,440
Securities at FVOCI:					
Debt securities		17,038,663	30,546,014	-	47,584,677
Equity securities		257,914	-	458,229	716,143
		17,296,577	30,546,014	458,229	48,300,820
	₩	18,568,075	54,004,641	3,797,700	76,370,416
Financial liabilities					
Financial liabilities at FVTPL:					
Securities	₩	2,204	-	-	2,204
Gold/silver deposits		581,458	-	-	581,458
		583,662	-	-	583,662
Derivative liabilities:					
Trading		650	2,604,599	849	2,606,098
Hedging		-	63,667	182,748	246,415
		650	2,668,266	183,597	2,852,513
	₩	584,312	2,668,266	183,597	3,436,175

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

i) The table below analyses financial instruments measured at the fair value as of December 31, 2021 and 2020 by the level in the fair value hierarchy into which the fair value measurement is categorized (continued):

		December 31, 2020			
		Level 1	Level 2	Level 3	Total
Financial assets					
Loans at FVTPL:					
Loans	₩	-	708,111	136,358	844,469
Securities at FVTPL:					
Debt securities		1,039,518	18,015,613	2,413,065	21,468,196
Equity securities		58,404	-	104,342	162,746
Gold/silver deposits		188,338	-	-	188,338
		1,286,260	18,015,613	2,517,407	21,819,280
Derivative assets:					
Trading		5	4,242,853	2,228	4,245,086
Hedging		-	329,680	794	330,474
		5	4,572,533	3,022	4,575,560
Securities at FVOCI:					
Debt securities		9,145,290	29,581,206	-	38,726,496
Equity securities		171,614	-	461,556	633,170
		9,316,904	29,581,206	461,556	39,359,666
	₩	10,603,169	52,877,463	3,118,343	66,598,975
Financial liabilities					
Financial liabilities at FVTPL:					
Gold/silver deposits	₩	539,564	-	-	539,564
Derivative liabilities:					
Trading		-	4,059,438	4,087	4,063,525
Hedging		-	28,350	102,819	131,169
		-	4,087,788	106,906	4,194,694
	₩	539,564	4,087,788	106,906	4,734,258

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

ii) There is no transfer between level 1 and level 2 for the years ended December 31, 2021 and 2020.

iii) Changes in level 3 of the fair value hierarchy

Changes in level 3 of the fair value hierarchy for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021					
		Loans at FVTPL	Securities at FVTPL	Securities at FVOCI	Derivative assets	Derivative liabilities	Total
Beginning balance	₩	136,358	2,517,407	461,556	3,022	(106,906)	3,011,437
Total gain or loss:							
Recognized in profit or loss (*1)		6,364	125,149	-	(1,448)	(79,562)	50,503
Recognized in other comprehensive income		-	-	(4,625)	-	-	(4,625)
Purchases/issues		25,000	1,198,102	1,538	400	(597)	1,224,443
Settlements		(60,725)	(674,198)	(240)	(1,070)	3,457	(732,776)
Transfers into level 3(*2)		-	139,467	-	33	-	139,500
Transfers from level 3(*2)		-	(74,313)	-	(77)	11	(74,379)
Ending balance	₩	106,997	3,231,614	458,229	860	(183,597)	3,614,103

		December 31, 2020					
		Loans at FVTPL	Securities at FVTPL	Securities at FVOCI	Derivative assets	Derivative liabilities	Total
Beginning balance	₩	182,545	2,010,725	412,093	7,233	(193,990)	2,418,606
Total gain or loss:							
Recognized in profit or loss (*1)		2,303	92,107	-	(2,660)	84,861	176,611
Recognized in other comprehensive income		-	-	(11,061)	-	-	(11,061)
Purchases/issues		-	1,070,064	60,538	1,170	(1,238)	1,130,534
Settlements		(48,490)	(655,489)	(14)	(3,367)	3,461	(703,899)
Transfers into level 3(*2)		-	-	-	625	-	625
Transfers from level 3(*2)		-	-	-	21	-	21
Ending balance	₩	136,358	2,517,407	461,556	3,022	(106,906)	3,011,437

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

(*1) Gains or losses among the changes in level 3 of the fair value hierarchy and gains or losses related to financial instruments that the Group held as of December 31, 2021 and 2020 are presented in the statements of comprehensive income as follows:

		December 31, 2021		December 31, 2020	
		Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instrument held at the end of the period	Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instrument held at the end of the year
Net gain on financial assets at FVTPL	₩	131,227	123,645	91,662	91,863
Net other operating revenue		(80,724)	(83,669)	84,949	19,065
	₩	50,503	39,976	176,611	110,928

(*2) These financial instruments are transferred into or out of level 3 as the availability of observable market data has changed. The Group recognized transfers between levels of the fair value hierarchy at the end of the reporting period during which the event or the change in circumstances that caused the transfer has occurred.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of December 31, 2021 and 2020 are as follows:

	December 31, 2021				
	Type of financial instruments		**Book value**	**Valuation techniques**	**Inputs**
Financial assets					
Loans at FVTPL		₩	787,163	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities		19,671,048	Discounted cash flow, Net asset value model	Discount rate, price of underlying assets; such as securities and bonds
Derivative assets	Trading		2,843,706	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		156,710		
			3,000,416		
Securities at FVOCI	Debt securities		30,546,014	Discounted cash flow	Discount rate
		₩	54,004,641		
Financial liabilities					
Derivative liabilities	Trading	₩	2,604,599	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		63,667		
		₩	2,668,266		

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of December 31, 2021 and 2020 are as follows (continued):

	December 31, 2020				
	Type of financial instruments		Book value	Valuation techniques	Inputs
Financial assets					
Loans at FVTPL		₩	708,111	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities		18,015,613	Discounted cash flow Net asset value model	Discount rate, price of underlying assets; such as securities and bonds
Derivative assets	Trading		4,242,853	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		329,680		
			4,572,533		
Securities at FVOCI	Debt securities		29,581,206	Discounted cash flow	Discount rate
		₩	52,877,463		
Financial liabilities					
Derivative liabilities	Trading	₩	4,059,438	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging		28,350		
		₩	4,087,788		

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2021 and 2020, the valuation technique and significant but not observable input variables used to measure the fair value of financial instruments classified as fair value level 3 are as follows:

December 31, 2021

	Valuation technique	Type of financial instrument		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial assets								
Loans at FVTPL	Option model (*1)	Loans	₩	106,997	Volatility of underlying assets, Discount rate	Volatility of underlying assets	17.89%~41.5%	The higher the volatility, the higher the fair value
Securities at FVTPL	Net asset value method, Option model(*1)	Debt securities		3,108,794	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Correlation coefficient	19.48%~41.5% 23.17%~58.47%	The higher the volatility, the higher the fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
	Discounted cash flow, Comparable company analysis	Equity securities		122,820	Discount rate, Terminal growth rate, Stock price	Discount rate, Terminal growth rate	5.45%~16.35% 1.00%	Fair value increases as discount rate decreases, Fair value increases as growth rate increases
				3,231,614				
Derivative assets	Option model (*2)	Equity and foreign exchanged related		785	Volatility of underlying assets, Price of underlying assets Exchange rate	Volatility of underlying assets	2.29%~21.7%	The higher the volatility, the higher the fair value
	Discounted cash flow	Interest rates related		75	Discount rate	Discount rate	1.11%~1.83%	Fair value increases as discount rate decreases
				860				
Securities at FVOCI	Net asset value method, Discounted cash flow, Comparable company analysis, Option model (*1)	Equity securities		458,229	Volatility of underlying assets, Discount rate Terminal growth rate, Stock price	Volatility of underlying assets, Discount rate, Terminal growth rate	25.49% 9.8%~22.79% 0%~1.00%	The higher the volatility, the higher the fair value, Fair value increases as discount rate decreases, Fair value increases as growth rate increases
			₩	3,797,700				

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2021 and 2020, the valuation technique and significant but not observable input variables used to measure the fair value of financial instruments classified as fair value level 3 are as follows (continued):

	December 31, 2021						
	Valuation technique	Type of financial instrument	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities							
Derivative assets	Option model (*2)	Equity and foreign exchanged related	₩ 849	Volatility of underlying assets, Price of underlying assets Exchange rate	Volatility of underlying assets	2.29%~21.7%	The higher the volatility, the higher the fair value
	Option model (*2)	Interest rates related	182,748	Volatility of underlying assets Regression coefficient, Correlation Coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation Coefficient	0.46%~0.78% 0.0024%~0.539 % 38.06%~90.34%	The higher the volatility, the higher the fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩ 183,597				

(*1) The Group uses binomial tree and LSMC option model.
(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, Depending on the type of product, methods such as Monte Carlo simulation are applied to some products.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2021 and 2020, the valuation technique and significant but not observable input variables used to measure the fair value of financial instruments classified as fair value level 3 are as follows (continued):

December 31, 2020

	Valuation technique	Type of financial instrument		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial assets								
Loans at FVTPL	Option model (*1)	Loans	₩	136,358	Volatility of underlying assets, Discount rate	Volatility of underlying assets	17.61%~45.68%	The higher the volatility, the higher the fair value
Securities at FVTPL	Net asset value method, Option model(*1)(*2)	Debt securities		2,413,065	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Correlation coefficient	18.99%~27.54% 13.84%~100.00 %	The higher the volatility, the higher the fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
	Discounted cash flow, Comparable company analysis	Equity securities		104,342	Discount rate, Terminal growth rate, Stock price	Discount rate, Terminal growth rate	5.83%~16.87% 1.00%	Fair value increases as discount rate decreases, Fair value increases as growth rate increases
				2,517,407				
Derivative assets	Option model (*2)	Equity and foreign exchanged related		1,144	Volatility of underlying assets, Price of underlying assets Exchange rate	Volatility of underlying assets	4.30%~8.46%	The higher the volatility, the higher the fair value
	Option model (*2)	Interest rates related		1,878	Volatility of underlying assets Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation coefficient	0.47%~0.62% 0.30%~0.58% 47.82%~90.34%	The higher the volatility, the higher the fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
				3,022				
Securities at FVOCI	Net asset value method, Discounted cash flow, Option model (*1), Comparable company analysis	Equity securities		461,556	Volatility of underlying assets, Discount rate Terminal growth rate, Stock price	Volatility of underlying assets, Discount rate, Terminal growth rate	22.11% 8.94%~19.05% 1.00%	The higher the volatility, the higher the fair value, Fair value increases as discount rate decreases, Fair value increases as growth rate increases
			₩	3,118,343				

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2021 and 2020, the valuation technique and significant but not observable input variables used to measure the fair value of financial instruments classified as fair value level 3 are as follows (continued):

December 31, 2020

	Valuation technique	Type of financial instrument		Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities								
Derivative assets	Option model (*2)	Equity and foreign exchanged related	₩	4,087	Volatility of underlying assets, exchange rate	Volatility of underlying assets	4.30%~29.32%	The higher the volatility, the higher the fair value
	Option model (*2)	Interest rates related		102,819	Volatility of underlying assets Regression coefficient, Correlation Coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation Coefficient	0.47%~0.62% 0.30%~0.63% 20.13%~90.34%	The higher the volatility, the higher the fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩	106,906				

(*1) The Group uses binomial tree and LSMC option model.
(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation are applied to some products.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial instruments measured at fair value (continued)

v) Sensitivity to changes in unobservable inputs

For level 3 fair value measurement, changing one or more of the unobservable inputs used to reasonably possible alternative assumptions would have the following effect on profit (loss), and other comprehensive income (loss) as of December 31, 2021 and 2020 are as follows:

			December 31, 2021			
			Profit (loss) for the year		Other comprehensive income (loss) for the year	
Type of financial instrument			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL (*1)		₩	3,556	(3,238)	-	-
Securities at FVTPL	Debt securities (*2)		3,261	(2,922)	-	-
	Equity securities (*3)		3,462	(2,775)	-	-
Derivative assets (*2)	Equity and foreign exchange related		61	(61)	-	-
Securities at FVOCI (*3)	Equity securities		-	-	15,359	(11,009)
		₩	10,340	(8,996)	15,359	(11,009)
Derivative liabilities (*2)	Equity and foreign exchange related	₩	71	(71)	-	-
	Interest rates related		7,154	(6,983)	-	-
		₩	7,225	(7,054)	-	-

(*1) ₩3,372,388 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.
(*2) Based on 10% of increase or decrease in volatility of underlying assets or correlation coefficient
(*3) Based on changes in growth rate (-0.5%%~0.5%) and discount rate (-1%p~1%p).

			December 31, 2020			
			Profit (loss) for the year		Other comprehensive income (loss) for the year	
Type of financial instrument			Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL (*1)		₩	3,567	(2,764)	-	-
Securities at FVTPL	Debt securities (*2)		836	(948)	-	-
	Equity securities (*3)		5,717	(3,991)	-	-
Derivative assets (*2)	Equity and foreign exchange related		78	(75)	-	-
	Interest rates related		18	(33)	-	-
Securities at FVOCI (*3)	Equity securities		-	-	11,043	(7,460)
		₩	10,216	(7,811)	11,043	(7,460)
Derivative liabilities (*2)	Equity and foreign exchange related	₩	75	(78)	-	-
	Interest rates related		3,841	(5,163)	-	-
		₩	3,916	(5,241)	-	-

(*1) ₩2,612,171 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.
(*2) Based on 10% of increase or decrease in volatility of underlying assets or correlation coefficient.
(*3) Based on changes in growth rate (-0.5%%~0.5%) and discount rate (-1%p~1%p).

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost

i) The method of measuring the fair value of financial instruments measured at amortized cost is as follows:

Type	Measurement methods of fair value
Cash and due from banks	The book value and the fair value for cash are identical and most of deposits are floating interest rate deposits or next day deposits of a short-term instrument. Therefore, the book value for deposits approximates fair value.
Loans at amortized cost	The fair value of loans at amortized cost is measured by discounting the expected cash flows anticipated to be received at the market interest rate, credit risk of a borrower, etc.
Securities at amortized cost	An external professional evaluation agency is used to calculate the valuation amount using the market information. The agency calculates the fair value based on active market prices, and DCF model is used to calculate the fair value if there is no quoted price.
Deposits and borrowings	The book amount and the fair value for demand deposits, cash management account deposits, call money and bonds sold under repurchase agreements as short-term instruments are identical. The fair value of others is measured by discounting the contractual cash flows at the market interest rate that takes into account the residual risk.
Debt securities issued	An external professional evaluation agency is used to calculate the valuation amount using the market information, and the fair value is calculated using DCF model.
Other financial assets and financial liabilities	The book value is used as a fair value for short-term and transitional accounts such as spot exchange, unpaid/uncollected domestic exchange settlements, and the fair value, the present value of the contractual cash flow discounted at the market interest rate taking the residual risk into account, is calculated for the rest of other financial assets and liabilities.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of December 31, 2021 and 2020 are as follows:

		December 31, 2021				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
Cash	₩	4,152,633	-	-	4,152,633	4,152,633
Due from banks		18,643,824	-	(16,330)	18,627,494	18,627,494
Loans at amortized cost:						
Household loans		145,292,774	429,557	(290,324)	145,432,007	145,561,105
Corporate loans		174,254,361	112,977	(1,354,024)	173,013,314	173,734,561
Public and other loans		3,387,086	1,553	(19,907)	3,368,732	3,386,347
Loans to bank		3,945,222	-	(5,434)	3,939,788	3,935,286
Credit card receivables		186,383	-	(6,728)	179,655	185,879
Securities at amortized cost:						
Government bonds		14,230,156	-	(1,924)	14,228,232	14,253,646
Financial institutions bonds		2,127,050	-	(3,135)	2,123,915	2,118,835
Corporate bonds and others		4,683,714	-	(4,464)	4,679,250	4,649,328
Others		293,846	-	-	293,846	293,847
Other financial assets		16,713,635	(23,111)	(160,976)	16,529,548	16,679,028
	₩	387,910,684	520,976	(1,863,246)	386,568,414	387,577,989
Liabilities						
Deposits:						
Demand deposits	₩	171,079,697	-	-	171,079,697	171,079,697
Time deposits		156,376,199	-	-	156,376,199	156,174,192
Negotiable certificates of deposits		16,399,604	-	-	16,399,604	16,429,973
Note discount deposits		5,818,001	-	-	5,818,001	5,817,844
CMA		5,246,478	-	-	5,246,478	5,246,478
Others		17,645	-	-	17,645	17,646
Borrowings:						
Call money		1,444,111	-	-	1,444,111	1,444,111
Bill sold		9,032	-	-	9,032	9,019
Bonds sold under repurchase agreements		82,578	-	-	82,578	82,578
Borrowings		19,426,611	(93)	-	19,426,518	19,387,203
Debt securities issued:						
Debt securities issued in Korean won		31,059,362	(14,726)	-	31,044,636	31,045,014
Debt securities issued in foreign currencies		6,608,361	(27,258)	-	6,581,103	6,760,657
Other financial liabilities		20,307,903	(10,889)	-	20,297,014	20,289,446
	₩	433,875,582	(52,966)	-	433,822,616	433,783,858

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
Cash	₩	1,740,580	-	-	1,740,580	1,740,580
Due from banks		25,844,898	-	(9,730)	25,835,168	25,835,168
Loans at amortized cost:						
Household loans		134,280,139	405,357	(305,481)	134,380,015	135,122,473
Corporate loans		155,510,472	92,855	(1,350,814)	154,252,513	155,360,036
Public and other loans		3,594,089	2,179	(22,458)	3,573,810	3,599,911
Loans to bank		5,543,433	-	(5,002)	5,538,431	5,546,519
Credit card receivables		164,772	-	(4,809)	159,963	164,450
Securities at amortized cost:						
Government bonds		12,666,798	-	(1,061)	12,665,737	12,982,255
Financial institutions bonds		2,497,053	-	(2,471)	2,494,582	2,506,088
Corporate bonds and others		4,786,029	-	(2,468)	4,783,561	4,844,584
Others		234,563	-	-	234,563	234,563
Other financial assets		11,200,134	(24,493)	(22,474)	11,153,167	11,170,755
	₩	358,062,960	475,898	(1,726,768)	356,812,090	359,107,382
Liabilities						
Deposits:						
Demand deposits	₩	148,121,849	-	-	148,121,849	148,121,849
Time deposits		153,239,413	-	-	153,239,413	153,320,673
Negotiable certificates of deposits		5,942,309	-	-	5,942,309	5,960,735
Note discount deposits		6,226,937	-	-	6,226,937	6,226,855
CMA		4,006,319	-	-	4,006,319	4,006,319
Others		18,765	-	-	18,765	18,765
Borrowings:						
Call money		1,655,042	-	-	1,655,042	1,655,042
Bill sold		10,706	-	-	10,706	10,696
Bonds sold under repurchase agreements		159,432	-	-	159,432	159,432
Borrowings		18,730,207	(405)	-	18,729,802	18,776,971
Debt securities issued:						
Debt securities issued in Korean won		27,826,563	(14,599)	-	27,811,964	28,064,172
Debt securities issued in foreign currencies		6,733,287	(28,946)	-	6,704,341	6,812,328
Other financial liabilities		21,794,843	(13,919)	-	21,780,924	21,781,875
	₩	394,465,672	(57,869)	-	394,407,803	394,915,712

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) The financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of December 31, 2021 and 2020 are as follows:

		December 31, 2021			
		Level 1	Level 2	Level 3	Total
Assets					
Cash and due from banks:					
Cash	₩	4,152,633	-	-	4,152,633
Due from banks		-	18,627,494	-	18,627,494
Loans at amortized cost:					
Household loans		-	-	145,561,105	145,561,105
Corporate loans		-	-	173,734,561	173,734,561
Public and other loans		-	-	3,386,347	3,386,347
Loans to bank		-	2,494,948	1,440,338	3,935,286
Credit card receivables		-	-	185,879	185,879
Securities at amortized cost:					
Government bonds		2,983,626	11,270,020	-	14,253,646
Financial institutions bonds		698,105	1,420,730	-	2,118,835
Corporate bonds and others		-	4,649,328	-	4,649,328
Others		-	293,847	-	293,847
Other financial assets		-	13,822,118	2,856,910	16,679,028
	₩	7,834,364	52,578,485	327,165,140	387,577,989
Liabilities					
Deposits:					
Demand deposits	₩	-	171,079,697	-	171,079,697
Time deposits		-	-	156,174,192	156,174,192
Negotiable certificates of deposits		-	-	16,429,973	16,429,973
Note discount deposits		-	-	5,817,844	5,817,844
CMA		-	5,246,478	-	5,246,478
Others		-	-	17,646	17,646
Borrowings:					
Call money		-	1,444,111	-	1,444,111
Bill sold		-	-	9,019	9,019
Bonds sold under repurchase agreements		-	-	82,578	82,578
Borrowings		-	-	19,387,203	19,387,203
Debt securities issued:					
Debt securities issued in Korean won		-	29,876,372	1,168,642	31,045,014
Debt securities issued in foreign currencies		-	6,760,657	-	6,760,657
Other financial liabilities		-	8,982,082	11,307,364	20,289,446
	₩	-	223,389,397	210,394,461	433,783,858

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) The financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020			
		Level 1	Level 2	Level 3	Total
Assets					
Cash and due from banks:					
Cash	₩	1,740,580	-	-	1,740,580
Due from banks		-	25,835,168	-	25,835,168
Loans at amortized cost:					
Household loans		-	-	135,122,473	135,122,473
Corporate loans		-	-	155,360,036	155,360,036
Public and other loans		-	-	3,599,911	3,599,911
Loans to bank		-	2,238,553	3,307,966	5,546,519
Credit card receivables		-	-	164,450	164,450
Securities at amortized cost:					
Government bonds		1,794,939	11,187,316	-	12,982,255
Financial institutions bonds		1,070,220	1,435,868	-	2,506,088
Corporate bonds and others		-	4,844,584	-	4,844,584
Others		-	234,563	-	234,563
Other financial assets		-	8,444,766	2,725,989	11,170,755
	₩	4,605,739	54,220,818	300,280,825	359,107,382
Liabilities					
Deposits:					
Demand deposits	₩	-	148,121,849	-	148,121,849
Time deposits		-	-	153,320,673	153,320,673
Negotiable certificates of deposits		-	-	5,960,735	5,960,735
Note discount deposits		-	-	6,226,855	6,226,855
CMA		-	4,006,319	-	4,006,319
Others		-	-	18,765	18,765
Borrowings:					
Call money		-	1,655,042	-	1,655,042
Bill sold		-	-	10,696	10,696
Bonds sold under repurchase agreements		-	-	159,432	159,432
Borrowings		-	-	18,776,971	18,776,971
Debt securities issued:					
Debt securities issued in Korean won		-	26,518,290	1,545,882	28,064,172
Debt securities issued in foreign currencies		-	6,812,328	-	6,812,328
Other financial liabilities		-	10,128,593	11,653,282	21,781,875
	₩	-	197,242,421	197,673,291	394,915,712

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 or level 3 as of December 31, 2021 and 2020 are as follows:

	December 31, 2021				
Level	Type of financial instrument		Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩	17,633,925	Discounted cash flow	Discount rate
Level 3	Loans at amortized cost		324,308,230		Discount rate, Credit spread, Prepayment rate
	Other financial assets		2,856,910		Discount rate
		₩	344,799,065		
Level 2	Debt securities issued	₩	36,637,029	Discounted cash flow	Discount rate
Level 3	Deposits(*)		176,572,020		Discount rate
	Borrowings(*)		11,930,091		Discount rate
	Debt securities issued		1,168,642		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities		11,307,364		Discount rate
		₩	237,615,146		

(*) The amounts, which are not evaluated by the valuation technique, are not included and disclosed because the carrying amount is the reasonable approximation of fair value.

	December 31, 2020				
Level	Type of financial instrument		Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩	17,702,332	Discounted cash flow	Discount rate
Level 3	Loans at amortized cost		297,554,838		Discount rate, Credit spread, Prepayment rate
	Other financial assets		2,725,989		Discount rate
		₩	317,983,159		
Level 2	Debt securities issued	₩	33,330,618	Discounted cash flow	Discount rate
Level 3	Deposits(*)		163,707,718		Discount rate
	Borrowings(*)		11,151,198		Discount rate
	Debt securities issued		1,545,882		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities		11,653,282		Discount rate
		₩	221,388,698		

(*) The amounts, which are not evaluated by the valuation technique, are not included and disclosed because the carrying amount is the reasonable approximation of fair value.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(c) Deferred day one gain or loss for the years ended December 31, 2021 and 2020 is as follows:

		December 31, 2021			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(2,253)	-	1,923	(330)
Equity options		36	137	(81)	92
		(2,217)	137	1,842	(238)

		December 31, 2020			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(5,753)	-	3,500	(2,253)
Equity options		88	-	(52)	36
		(5,665)	-	3,448	(2,217)

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments

Financial assets and liabilities are measured at fair value or amortized cost. The carrying amounts of each category of financial instruments as of December 31, 2021 and 2020 are as follows:

		December 31, 2021					
		Financial assets at FVTPL	Financial assets at FVOCI	Financial assets designated at FVOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	18,627,494	-	18,627,494
Securities at FVTPL		24,173,996	-	-	-	-	24,173,996
Derivative assets		2,844,730	-	-	-	156,710	3,001,440
Loans at FVTPL		894,160	-	-	-	-	894,160
Loans at amortized cost		-	-	-	325,933,496	-	325,933,496
Securities at FVOCI		-	47,584,677	716,143	-	-	48,300,820
Securities at amortized cost		-	-	-	21,325,243	-	21,325,243
Other financial assets		-	-	-	16,529,548	-	16,529,548
	₩	27,912,886	47,584,677	716,143	382,415,781	156,710	458,786,197

		Financial liabilities at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging	Total
Liabilities					
Deposits	₩	-	354,937,624	-	354,937,624
Financial liabilities at FVTPL		583,662	-	-	583,662
Derivative liabilities		2,606,098	-	246,415	2,852,513
Borrowings		-	20,962,239	-	20,962,239
Debt securities issued		-	37,625,739	-	37,625,739
Other financial liabilities		-	20,297,014	-	20,297,014
	₩	3,189,760	433,822,616	246,415	437,258,791

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments (continued)

Financial assets and liabilities are measured at fair value or amortized cost. The carrying amounts of each category of financial instruments as of December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020					
		Financial assets at FVTPL	Financial assets at FVOCI	Financial assets designated at FVOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	25,835,167	-	25,835,167
Securities at FVTPL		21,819,280	-	-	-	-	21,819,280
Derivative assets		4,245,086	-	-	-	330,474	4,575,560
Loans at FVTPL		844,469	-	-	-	-	844,469
Loans at amortized cost		-	-	-	297,904,732	-	297,904,732
Securities at FVOCI		-	38,726,496	633,170	-	-	39,359,666
Securities at amortized cost		-	-	-	20,178,443	-	20,178,443
Other financial assets		-	-	-	11,153,167	-	11,153,167
	₩	26,908,835	38,726,496	633,170	355,071,509	330,474	421,670,484

		Financial liabilities at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging	Total
Liabilities					
Deposits	₩	-	317,555,592	-	317,555,592
Financial liabilities at FVTPL		539,564	-	-	539,564
Derivative liabilities		4,063,525	-	131,169	4,194,694
Borrowings		-	20,554,982	-	20,554,982
Debt securities issued		-	34,516,305	-	34,516,305
Other financial liabilities		-	21,780,923	-	21,780,923
	₩	4,603,089	394,407,802	131,169	399,142,060

There are no financial assets and financial liabilities that are reclassified between financial instruments as of December 31, 2021 and December 31, 2020.

(In millions of Korean won)

3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(e) Financial instruments income and costs

Financial instruments income and costs by category for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (provision for) credit loss allowance	Others	Total	Other comprehensive income (loss)
Deposits	₩	34,922	-	(5,703)	-	29,219	-
Securities at FVTPL		209,463	11,623	-	337,461	558,547	-
Securities at FVOCI		539,489	7,024	(17,364)	72,142	601,291	(419,772)
Securities at amortized cost		444,047	-	(2,366)	(310)	441,371	-
Loans at FVTPL		8,362	-	-	20,521	28,883	-
Loans at amortized cost		8,167,087	85,966	(346,132)	13,940	7,920,861	-
Other financial assets		42,101	133,097	(673)	1	174,526	-
Financial liabilities at FVTPL		-	101	-	(21,370)	(21,269)	-
Financial liabilities at amortized cost		(2,833,713)	(116)	-	281,818	(2,552,011)	(61,672)
Net derivatives held for hedging		-	-	-	(280,240)	(280,240)	(12,853)
Allowance for off-balance sheet items		-	-	19,492	-	19,492	-
	₩	6,611,758	237,695	(352,746)	423,963	6,920,670	(494,297)

		December 31, 2020					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (provision for) credit loss allowance	Others	Total	Other comprehensive income (loss)
Deposits	₩	64,502	-	1,620	-	66,122	-
Securities at FVTPL		255,008	7,630	-	156,069	418,707	-
Securities at FVOCI		597,123	-	(4,667)	244,270	836,726	(15,854)
Securities at amortized cost		452,107	-	(1,050)	-	451,057	-
Loans at FVTPL		9,440	-	-	14,027	23,467	-
Loans at amortized cost		8,184,292	96,538	(643,974)	(2,316)	7,634,540	-
Other financial assets		53,310	125,675	54	-	179,039	-
Financial liabilities at FVTPL		-	523	-	-	523	-
Financial liabilities at amortized cost		(3,688,249)	(86)	-	(248,248)	(3,936,583)	53,056
Net derivatives held for hedging		-	-	-	230,875	230,875	(858)
Allowance for off-balance sheet items		-	-	(29,387)	-	(29,387)	-
	₩	5,927,533	230,280	(677,404)	394,677	5,875,086	36,344

3. Financial risk management (continued)

3-5. Capital risk management

In response to the increased risk of financial institutions following financial deregulation in the 1980s, Capital regulations applicable to banks are adopted in 1988, which focused primarily on capital adequacy and asset soundness as a measure of risk. Building upon the initial Basel Capital Accord of 1988, capital regulations are developed to reflect additional risks as well. For the purpose of improving risk management and increasing capital adequacy of banks, capital adequacy standards based on the new Basel Capital Accord (Basel III) is implemented by the Financial Services Commission regulations beginning on December 1, 2013. Under these regulations, all domestic banks including the Group are required to maintain a capital adequacy ratio and report whether the Group meet the capital adequacy ratio to the Financial Services Commission according to 'Banking-related Legislation'.

Under *the Banking Act*, the capital of a bank is divided into two categories.

(a) Tier 1 capital (Common equity Tier 1 capital + Additional Tier 1 capital)
   i) Common equity Tier 1 capital: Common equity Tier 1 capital consists of capital stock, capital surplus, retained earnings, accumulated other comprehensive income, other disclosed reserves, and non-controlling interests that meet certain criteria.
   ii) Additional Tier 1 capital: Additional Tier 1 capital consists of equity instrument that meet certain criteria for perpetual nature of the equity instrument, any related capital surplus, instruments issued by consolidated subsidiaries of the Bank and held by third parties that meet certain criteria.

(b) Tier 2 capital (Supplementary capital)

The Group includes capital securities that meet the recognition requirements to compensate for the Group's losses upon liquidation. This includes some of the associated capital surplus and the amount of external investors' holdings of supplementary capital issued by subsidiaries. Also, it includes the provisions that meet Basel III requirements.

The Group calculates the ratio of equity capital by dividing the equity capital (the amount deducted from the sum of the above basic capital and supplementary capital) into risk-weighted assets. Risk weighted assets are calculated by applying higher weights to reflect the actual risk of the Group. It comprises the sum of credit risk weighted assets, operational risk weighted assets, market risk weighted assets and additional risk assets.

The Group evaluates and manages the capital adequacy ratio pursuant to internally developed standards. It means that the Group assesses whether the level on ratio of available capital to economic capital is sufficient, or not. The Group manages the economic adequacy by the amount of each risk type including credit, market, operation, interest rate, liquidity, concentration, and foreign currency settlement risk, as well as the total amounts of all of those risk types.

(In millions of Korean won)

3. Financial risk management (continued)

3-5. Capital risk management (continued)

Details of capital categories and the capital adequacy ratio of the Group as of December 31, 2021 and 2020 are as follows:

Category		December 31, 2021	December 31, 2020
Capital:			
Common equity Tier 1 capital	₩	26,069,127	24,662,421
Additional Tier 1 capital		1,497,029	1,586,662
Tier 1 capital		27,566,156	26,249,083
Tier 2 capital		4,630,525	4,275,688
	₩	32,196,681	30,524,771
Risk-weighted assets: (*1)			
Credit risk-weighted assets	₩	154,332,487	144,789,436
Market risk-weighted assets		12,020,063	10,216,942
Operating risk-weighted assets		10,745,434	10,257,610
	₩	177,097,984	165,263,988
Capital adequacy ratio:			
Common equity Tier 1 capital ratio		14.72%	14.92%
Tier 1 capital ratio		15.57%	15.88%
Tier 2 capital ratio		2.61%	2.59%
Total capital ratio		18.18%	18.47%

(*1) The additional risk weighted assets resulting from the insufficient capital under capital floor is included in credit risk-weighted assets.

The criteria for capital adequacy to be complied with by the Bank are 8.0% or more of the total equity capital ratio, 6.0% or higher of the basic capital ratio, and 4.5% or more of the common stock capital ratio. In addition, the minimum regulatory BIS capital ratio required to be observed by 2019 has been raised to up to 14% as the capital regulation based on the Basel III standard is enforced from 2016. This is based on the addition of capital conservation capital (2.5%p) and domestic system-critical banks (D-SIB) capital (1.0%p) and economic response capital (2.5%p) to the existing lowest common equity capital ratio, the capital conservation capital and D-SIB capital will be raised by 2.5% each year by applying the transitional criteria by 2019, and economic response capital can be charged up to 2.5%p during credit expansion period. As of December 31, 2021, the minimum regulatory BIS capital ratio to be observed is 11.5%, which is the standard for applying capital conservation capital (2.5%p), D-SIB capital (1.0%p), and economic response capital (0%p).

(In millions of Korean won)

3. Financial risk management (continued)

3-6. Transaction as a transfer of financial instrument

(a) Transfers financial assets that are not derecognized

i) Bonds sold under repurchase agreements at a fixed price as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Transferred assets:			
Securities at FVOCI	₩	-	98,873
Securities at amortized cost		210,490	205,639
	₩	210,490	304,512
Associated liabilities:			
Bonds sold under repurchase agreements	₩	82,578	159,432

ii) When the Group's securities are transferred, the Group transfers the ownership of the securities, but upon termination, the Group will have to return the securities. As a result, securities loaned as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020	Lender
Securities at FVOCI:				
Government bonds	₩	2,177,012	518,592	Korea Securities Finance Corp., Korea Securities Depository
Financial institutions bonds		209,594	220,324	Korea Securities Finance Corp., Korea Securities Depository
Securities at amortized cost:				
Government bonds		23,872	158,601	Korea Securities Finance Corp., Korea Securities Depository
	₩	2,410,478	897,517	

iii) Securitization of financial assets

The Group uses the securitization of financial assets as a means of financing and to transfer risk. Generally, these securitization transactions result in the transfer of contractual cash flows to the debt securities holders issued from the financial asset portfolio. The Group recognizes debt securities issued without derecognition of assets under individual agreements, partially recognizes assets to the extent of the Group's level of involvement in assets, or recognizes rights and obligations arising from the derecognition and transfer of assets as separate assets and liabilities. The Group derecognizes the entire asset only if it transfers contractual rights to the cash flows of financial assets or if it holds contractual rights but bears contractual obligations to pay cash flows to the other party without significant delays or reinvestment and transfers most of the risks and benefits of ownership (e.g., credit risk, interest rate risk, prepayment risk, etc.). For the years ended December 31, 2021 and 2020, the carrying amounts of financial assets related to securitization transactions that have neither been transferred nor derecognized are ₩4,270,618 million and ₩4,075,141 million; the carrying amounts of related liabilities are ₩2,677,423 million and ₩2,376,639 million, respectively.

(b) Financial instruments that are qualified for derecognition but under continuing involvement.

There are no financial instrument that meets the conditions of derecognition and in which the Group has continuing involvement as of December 31, 2021 and 2020.

(In millions of Korean won)

3. Financial risk management (continued)

3-7. Offsetting financial assets and financial liabilities

Details of financial assets and financial liabilities subject to offsetting, enforceable master netting agreements and similar agreements as of December 31, 2021 and 2020 are as follows:

		December 31, 2021					
					Related amounts not set off in the statement of financial position		
		Gross amounts of recognized financial assets and liabilities	Gross amounts of recognized financial assets and liabilities set off in the statement of financial position	Net amounts of financial assets and liabilities presented in the statement of financial position	Financial instruments	Cash collateral received	Net amount
Financial assets							
Derivative assets (*1)	₩	2,973,656	-	2,973,656	8,885,619	-	1,594,579
Other financial assets (*1)		7,506,542	-	7,506,542			
Bonds sold under repurchase agreements related collateral of securities (*2)		210,490	-	210,490	81,849	-	128,641
Bonds purchased under resale agreement (Loans) (*2)		1,814,157	-	1,814,157	1,814,157	-	-
Securities lent (*2)		2,410,477	-	2,410,477	2,410,477	-	-
Domestic exchange settlements receivables (*3)		44,599,946	37,953,026	6,646,920	-	-	6,646,920
Receivable from disposal of securities, etc. (*4)		27,762	2,464	25,298	-	-	25,298
	₩	59,543,030	37,955,490	21,587,540	13,192,102	-	8,395,438
Financial liabilities							
Derivative liabilities (*1)	₩	2,833,062	-	2,833,062	8,734,105	-	512,917
Other financial liabilities (*1)		6,413,960	-	6,413,960			
Bonds sold under repurchase agreements (Borrowings) (*2)		82,578	-	82,578	81,849	-	729
Securities lent		2,203	-	2,203	2,203	-	-
Domestic exchange settlement payables (*3)		39,762,753	37,953,026	1,809,727	1,809,727	-	-
Payable from purchase of securities, etc. (*4)		5,095	2,464	2,631	701	-	1,930
	₩	49,099,651	37,955,490	11,144,161	10,628,585	-	515,576

(*1) The Group has certain derivative transactions subject to the ISDA (International Swaps and Derivatives Association) agreement. According to the ISDA agreement, when credit events (e.g. default) of counterparties occur, the net amount after offsetting the amounts obligated by each party is settled.

(*2) Resale and repurchase agreement, securities borrowing and lending agreement are also similar to ISDA agreement with respect to enforceable netting agreements.

(*3) The Group has legally enforceable right to set off and settles financial assets and liabilities on a net basis. Therefore, domestic exchanges settlement receivables (payables) are recorded on a net basis in the consolidated statements of financial position.

(*4) Receivables and payables related to settlement of purchase and disposition of enlisted securities are offset and the net amount is presented in the consolidated statement of financial position because the Group currently has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The effect of offsetting due to the establishment of 'Central Counter Party ("CCP")' system is included in the amount.

(In millions of Korean won)

3. Financial risk management (continued)

3-7. Offsetting financial assets and financial liabilities (continued)

Details of financial assets and financial liabilities subject to offsetting, enforceable master netting agreements and similar agreements as of December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020					
					Related amounts not set off in the statement of financial position		
		Gross amounts of recognized financial assets and liabilities	Gross amounts of recognized financial assets and liabilities set off in the statement of financial position	Net amounts of financial assets and liabilities presented in the statement of financial position	Financial instruments	Cash collateral received	Net amount
Financial assets							
Derivative assets (*1)	₩	4,407,070	-	4,407,070	4,056,648	66,997	5,137,243
Other financial assets (*1)		4,853,818	-	4,853,818			
Bonds sold under repurchase agreements related collateral of securities (*2)		304,512	-	304,512	159,432	-	145,080
Bonds purchased under resale agreement (Loans) (*2)		2,647,298	-	2,647,298	2,647,298	-	-
Securities lent (*2)		897,518	-	897,518	897,518	-	-
Domestic exchange settlements receivables (*3)		29,621,752	25,651,994	3,969,758	-	-	3,969,758
Receivable from disposal of securities, etc. (*4)		29,341	3,140	26,201	-	-	26,201
	₩	42,761,309	25,655,134	17,106,175	7,760,896	66,997	9,278,282
Financial liabilities							
Derivative liabilities (*1)	₩	3,948,412	-	3,948,412	3,921,244	-	4,126,250
Other financial liabilities (*1)		4,099,082	-	4,099,082			
Bonds sold under repurchase agreements (Borrowings) (*2)		159,432	-	159,432	159,432	-	-
Domestic exchange settlement payables (*3)		31,326,683	25,651,994	5,674,689	4,024,777	-	1,649,912
Payable from purchase of securities, etc. (*4)		3,148	3,140	8	8	-	-
	₩	39,536,757	25,655,134	13,881,623	8,105,461	-	5,776,162

(*1) The Group has certain derivative transactions subject to the ISDA (International Swaps and Derivatives Association) agreement. According to the ISDA agreement, when credit events (e.g. default) of counterparties occur, the net amount after offsetting the amounts obligated by each party is settled.
(*2) Resale and repurchase agreement, securities borrowing and lending agreement are also similar to ISDA agreement with respect to enforceable netting agreements.
(*3) The Group has legally enforceable right to set off and settles financial assets and liabilities on a net basis. Therefore, domestic exchanges settlement receivables (payables) are recorded on a net basis in the consolidated statements of financial position.
(*4) Receivables and payables related to settlement of purchase and disposition of enlisted securities are offset and the net amount is presented in the consolidated statement of financial position because the Group currently has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The effect of offsetting due to the establishment of 'Central Counter Party ("CCP")' system is included in the amount.

4. Significant estimates and judgments

The preparation of consolidated financial statements requires the application of certain critical estimates and judgments relative to the future. Management's estimated outcomes may differ from actual outcomes. The change in an accounting estimate is recognized prospectively in profit or loss in the period of the change, if the change affects that period only, or the period of the change and future periods, if the change affects both.

(a) Income taxes

The Group is subject to tax laws from various countries. In the normal course of business, there are various types of transactions and different accounting methods that may add uncertainties to the decision of the final income taxes. The Group has recognized current and deferred taxes that reflect tax consequences based on the best estimates in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. However, actual income taxes in the future may not be identical to the recognized deferred tax assets and liabilities, and this difference can affect current and deferred tax at the period when the final tax effect is determined.

(b) Fair value of financial instruments

The fair values of financial instruments which are not actively traded in the market are determined by using valuation techniques. The Group determines valuation techniques and assumptions based on significant market conditions at the end of each reporting period. Diverse valuation techniques are used to determine the fair value of financial instruments, from generic valuation techniques to internally developed valuation models that incorporate various types of assumptions and variables.

(c) Allowances for loan losses, guarantees and unused loan commitments

The Group determines and recognizes allowances for losses on debt securities, loans and other receivables measured at amortized cost or FVOCI, and recognizes provisions for guarantees and unused loan commitments through impairment testing. The accuracy of allowances for credit losses is determined by the estimation of expected cash flows for individually assessed allowances, and methodology and assumptions used for collectively assessed allowances and provisions for groups of loans, guarantees and unused loan commitments.

(d) Defined benefit obligation

The present value of a defined benefit obligation that is measured by actuarial valuation methods uses various assumptions which can change according to various elements. The rate used to discount post-employment benefit obligations is determined by reference to market yields at the end of the reporting period on high quality corporate bonds. The currency and term of the corporate bonds are consistent with the currency and estimated term of the post-employment benefit obligations. Actuarial gains and losses including experience adjustments and the effects of changes in actuarial assumptions are recognized in other comprehensive income. Other significant assumptions related to defined benefit obligations are based on current market situations.

(In millions of Korean won)

5. Operating segments

(a) The general descriptions of the Group's operating segments

The Group has four reportable segments which are strategic business units. Each of these segments is providing different services and managed separately.

Description	Area of business
Retail banking	Loans to or deposits from individual customers, wealth management customers, and institutions such as hospitals, airports and schools.
Corporate banking	Loans to or deposits from corporations, including small or medium sized companies and businesses related to investment banking.
International group	Supervision of overseas subsidiaries and branch operations and other international businesses.
Others	Treasury management, trading of securities and derivatives, administration of bank operations and merchant banking account.

(b) The following table provides information of financial performance of each reportable segment for the years ended December 31, 2021 and 2020.

		December 31, 2021					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Categories							
Net interest income	₩	2,672,827	2,515,122	865,333	550,010	8,466	6,611,758
Net fees and commission income(expense)		381,839	492,880	103,051	6,626	(6,591)	977,805
Net other income(expense) (*)		(1,998,175)	(606,134)	(434,684)	(968,478)	4,625	(4,002,846)
Operating income(expense)		1,056,491	2,401,868	533,700	(411,842)	6,500	3,586,717
Net non-operating income (expense)		(38,971)	(18,285)	(3,187)	(211,283)	7,505	(264,221)
Share of gain(loss) of associates		-	-	-	-	25,400	25,400
Profit before income tax		1,017,520	2,383,583	530,513	(623,125)	39,405	3,347,896
Income tax income (expense)		(263,715)	(617,764)	(127,964)	168,554	(12,113)	(853,002)
Profit for the year	₩	753,805	1,765,819	402,549	(454,571)	27,292	2,494,894
Attributable to:							
Equity holder of the Bank	₩	753,805	1,765,819	402,549	(454,571)	26,773	2,494,375
Non-controlling interests		-	-	-	-	519	519

(*) Profit or loss effect of hedging on net investments in foreign operations is included.

(In millions of Korean won)

5. Operating segments (continued)

(b) The following table provides information of financial performance of each reportable segment for the years ended December 31, 2021 and 2020 (continued) :

		December 31, 2020					
		Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Categories							
Net interest income	₩	2,318,552	2,294,518	772,945	538,112	3,406	5,927,533
Net fees and commission income(expense)		412,759	476,983	99,120	5,108	(6,399)	987,571
Net other income(expense) (*)		(2,066,686)	(781,586)	(444,907)	(702,187)	(6,092)	(4,001,458)
Operating income(expense)		664,625	1,989,915	427,158	(158,967)	(9,085)	2,913,646
Net non-operating income (expense)		(36,592)	(15,935)	3,926	(111,149)	30,356	(129,394)
Share of gain(loss) of associates		-	-	-	-	(811)	(811)
Profit before income tax		628,033	1,973,980	431,084	(270,116)	20,460	2,783,441
Income tax income (expense)		(162,087)	(509,550)	(107,621)	68,791	5,258	(705,209)
Profit for the year	₩	465,946	1,464,430	323,463	(201,325)	25,718	2,078,232
Attributable to:							
Equity holder of the Bank	₩	465,946	1,464,430	323,463	(201,325)	25,279	2,077,793
Non-controlling interests		-	-	-	-	439	439

(*) Profit or loss effect of hedging on net investments in foreign operations is included.

(In millions of Korean won)

5. Operating segments (continued)

(c) The following table provides information of net interest income of each reportable operating segment from external consumers and net interest income (expenses) between operating segments for the years ended December 31, 2021 and 2020.

Categories		December 31, 2021 Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income(expense) from:	₩						
External customers		2,170,699	2,950,247	891,481	599,331	-	6,611,758
Internal transactions		502,128	(435,125)	(26,148)	(49,321)	8,466	-
	₩	2,672,827	2,515,122	865,333	550,010	8,466	6,611,758

Categories		December 31, 2020 Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income(expense) from:	₩						
External customers		2,013,164	2,688,154	812,944	413,271	-	5,927,533
Internal transactions		305,388	(393,636)	(39,999)	124,841	3,406	-
	₩	2,318,552	2,294,518	772,945	538,112	3,406	5,927,533

(d) Financial information of geographical area

i) The following table provides information of operating income from external consumers by geographical area for the years ended December 31, 2021 and 2020.

		Operating revenue		Operating expenses		Operating income	
		December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Domestic	₩	21,700,833	23,130,261	18,649,066	20,691,857	3,051,767	2,438,404
Overseas		1,839,514	1,919,131	1,304,564	1,443,889	534,950	475,242
	₩	23,540,347	25,049,392	19,953,630	22,135,746	3,586,717	2,913,646

ii) The following table provides information of non-current assets by geographical area as of December 31, 2021 and 2020.

Categories(*)		December 31, 2021	December 31, 2020
Domestic	₩	3,330,987	3,264,870
Overseas		305,801	335,075
	₩	3,636,788	3,599,945

(*) Non-current assets include property and equipment, intangible assets and investment properties.

(In millions of Korean won)

6. Cash and due from banks

(a) Cash and due from banks as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Cash	₩	4,152,634	1,740,580
Deposits in Korean won:			
Reserve deposits		9,624,230	16,711,286
Others		11,172	893,246
		9,635,402	17,604,532
Deposits in foreign currencies:			
Deposits		6,718,502	5,564,218
Time deposits		1,933,980	2,492,287
Others		355,939	183,861
		9,008,421	8,240,366
Allowance for impairment		(16,330)	(9,730)
	₩	22,780,127	27,575,748

(b) Restricted due from banks as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020	The laws of evidence, etc.
Deposits in Korean won:				
Reserve deposits	₩	9,624,230	16,711,286	Article 55 of the Bank of Korea Act
Others		292	880,250	Articles 28 and 70 of the Bank of Korea Act
		9,624,522	17,591,536	
Deposits in foreign currencies:				
Deposits		1,785,206	1,810,542	Bank of Korea Act, etc.
Time deposits		50,384	43,308	New York State Banking Law, etc
Others		35,892	20,427	Derivative contract
		1,871,482	1,874,277	
	₩	11,496,004	19,465,813	

(In millions of Korean won)

7. Securities at fair value through profit or loss

Securities at FVTPL as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Debt securities:			
Government bonds	₩	1,108,350	1,086,995
Financial institution bonds		3,396,087	4,147,505
Corporate bonds		3,312,683	2,516,146
Bills bought		5,040,896	4,922,241
CMA		3,591,822	2,806,485
Beneficiary certificates		5,933,295	4,834,466
Others		1,511,669	1,154,357
		23,894,802	21,468,195
Equity securities:			
Stocks		195,503	162,746
Other:			
Gold/silver deposits		83,691	188,339
	₩	24,173,996	21,819,280

(In millions of Korean won)

8. Derivatives

(a) The notional amounts of derivatives

The notional amounts of derivatives as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Foreign currency related			
Over the counter:			
Currency forwards	₩	131,593,190	106,801,048
Currency swaps		37,226,456	31,823,846
Currency options		2,274,151	2,498,719
Exchange traded:			
Currency futures		35,565	32,640
		171,129,362	141,156,253
Interest rates related			
Over the counter:			
Interest rate swaps		30,232,188	31,631,499
Interest rate options		168,460	132,238
Exchange traded:			
Interest rate futures		520,863	279,209
Interest rate swaps (*)		31,454,900	36,336,900
		62,376,411	68,379,846
Equity related			
Over the counter:			
Equity options		132,403	223,472
Exchange traded:			
Equity futures		65,424	55,012
Equity options		28,125	8,625
		225,952	287,109
Commodity related			
Over the counter:			
Commodity forwards		355,116	-
Commodity options		11,500	-
		366,616	-
Hedge			
Fair value hedge:			
Interest rate swaps		7,079,469	6,965,492
Net investment hedge:			
Currency forwards		237,100	217,600
		7,316,569	7,183,092
	₩	241,414,910	217,006,300

(*) The notional amount of derivatives which is settled in the 'Central Counter Party ("CCP")' system.

(In millions of Korean won)

8. Derivatives (continued)

(b) Fair values of derivative instruments

Fair values of derivative instruments as of December 31, 2021 and 2020 are as follows:

		December 31, 2021		December 31, 2020	
		Assets	Liabilities	Assets	Liabilities
Foreign currency related					
Over the counter:					
Currency forwards	₩	2,038,432	1,631,637	2,811,407	2,818,528
Currency swaps		654,717	759,455	1,126,980	928,469
Currency options		12,225	11,592	33,248	31,864
		2,705,374	2,402,684	3,971,635	3,778,861
Interest rates related					
Over the counter:					
Interest rate swaps		131,239	193,010	271,330	280,579
Interest rate options		1,895	-	1,012	-
Exchange traded:					
Interest rate futures		99	143	-	-
		133,233	193,153	272,342	280,579
Equity related					
Over the counter:					
Equity options		785	1,347	1,104	3,756
Exchange traded:					
Equity futures and options		64	507	5	329
		849	1,854	1,109	4,085
Commodity related					
Over the counter:					
Commodity forwards		5,274	-	-	-
Commodity options		-	8,406	-	-
		5,274	8,406	-	-
Hedge					
Fair value hedge:					
Interest rate swaps		156,710	236,758	319,293	120,728
Net investment hedge:					
Currency forwards		-	9,658	11,181	10,441
		156,710	246,416	330,474	131,169
	₩	3,001,440	2,852,513	4,575,560	4,194,694

(In millions of Korean won)

8. Derivatives (continued)

(c) Gain or loss on valuation of derivatives

Gain or loss on valuation of derivatives for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021		December 31, 2020	
		Gain	Loss	Gain	Loss
Foreign currency related					
Over the counter:					
Currency forwards	₩	1,994,598	1,683,442	2,702,601	2,926,636
Currency swaps		1,081,867	1,320,816	1,156,145	927,775
Currency options		23,412	21,418	33,402	28,570
		3,099,877	3,025,676	3,892,148	3,882,981
Interest rates related					
Over the counter:					
Interest rate swaps		159,298	258,253	125,447	153,067
Interest rate options		736	-	43	166
Exchange traded:					
Interest rate futures		100	143	-	-
		160,134	258,396	125,490	153,233
Equity related					
Over the counter:					
Equity options		1,470	419	1,337	1,445
Exchange traded:					
Equity futures and options		21	565	-	375
		1,491	984	1,337	1,820
Commodity related					
Over the counter:					
Commodity forwards		5,274	-	-	-
Commodity options		-	4,956	-	-
		5,274	4,956	-	-
Hedge					
Fair value hedge:					
Interest rate swaps		7,456	284,906	214,270	33,119
Net investment hedge:					
Currency forwards		-	2,029	4,711	5,958
		7,456	286,935	218,981	39,077
	₩	3,274,232	3,576,947	4,237,956	4,077,111

(In millions of Korean won)

8. Derivatives (continued)

(d) Hedges

i) Hedge purpose and strategy

The Group trades derivative financial instruments to hedge the interest rate risk and foreign exchange risk arising from the group's assets and liabilities. The Group applies fair value risk hedge accounting using interest rate swaps to avoid the risk of changes in fair value due to changes in market interest rates on structured bonds in won, foreign currency issued financial bonds, structured deposits in won, and foreign currency investment bonds. In addition, in order to avoid the risk of foreign currency exchange rate fluctuations at foreign operations, the Group applies net investment risk hedge accounting for foreign operations that utilize currency forwards and non-derivative financial instruments.

ii) Nominal amounts and average hedge ratios for hedging instruments as of December 31, 2021 and 2020 are as follows:

		December 31, 2021						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	643,057	597,492	268,468	140,689	1,273,227	4,156,536	7,079,469
Average price conditions (*1)		0.80%	0.75%	0.75%	0.82%	0.65%	0.57%	0.63%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations (*2)								
Currency forwards		237,100	-	-	-	-	-	237,100
Borrowings in foreign currencies		60,490	192,655	-	-	-	-	253,145
Debt securities issued in foreign currencies		563,160	342,831	64,432	34,356	-	-	1,004,779
	₩	860,750	535,486	64,432	34,356	-	-	1,495,024
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, 3M USD Libor, 3M Euribor and 3M AUD Bond.
(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,143.63, EUR/KRW 1,298.11, JPY/KRW 10.53, CAD/KRW 868.95, CNY/KRW 174.4, AUD/KRW 877.18.

		December 31, 2020						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	657,656	590,992	558,688	286,688	247,244	4,624,224	6,965,492
Average price conditions (*1)		1.12%	0.80%	0.89%	0.98%	0.67%	0.38%	0.56%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations (*2)								
Currency forwards		217,600	-	-	-	-	-	217,600
Borrowings in foreign currencies		252,611	52,713	-	-	-	-	305,324
Debt securities issued in foreign currencies		33,462	525,870	267,360	64,235	-	-	890,927
	₩	503,673	578,583	267,360	64,235	-	-	1,413,851
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, 3M USD Libor and 3M AUD Bond.
(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,143.63, EUR/KRW 1,298.11, JPY/KRW 10.61, CAD/KRW 895.95, CNY/KRW 168.84, AUD/KRW 829.45.

(In millions of Korean won)

8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements

i) Impact of hedging instruments in the consolidated statement of financial position as of December 31, 2021 and 2020, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the for the years ended are as follows:

			December 31, 2021						
				Consolidated statement of financial position				Consolidated statement of comprehensive income	Changes in fair value for the period
			Notional amounts	Derivative assets	Derivative liabilities	Borrowings	Debt securities issued	Other comprehensive income (loss) for the period	
Fair value hedges									
Interest rate risk	Interest rate swaps	₩	7,079,469	156,710	236,758	-	-	-	(277,450)
Hedge of net investments in foreign operations:									
Foreign exchange risk	Currency forwards		237,100	-	9,658	-	-	(12,853)	(14,947)
	Borrowings in foreign currencies		253,145	-	-	253,145	-	(729)	(729)
	Debt securities issued in foreign currencies		1,004,779	-	-	-	1,003,097	(60,942)	(60,942)
			1,495,024	-	9,658	253,145	1,003,097	(74,524)	(76,618)
		₩	8,574,493	156,710	246,416	253,145	1,003,097	(74,524)	(354,068)

			December 31, 2020						
				Consolidated statement of financial position				Consolidated statement of comprehensive income	Changes in fair value for the period
			Notional amounts	Derivative assets	Derivative liabilities	Borrowings	Debt securities issued	Other comprehensive income (loss) for the period	
Fair value hedges									
Interest rate risk	Interest rate swaps	₩	6,965,492	319,293	120,728	-	-	-	181,151
Hedge of net investments in foreign operations:									
Foreign exchange risk	Currency forwards		217,600	11,181	10,441	-	-	(858)	(2,992)
	Borrowings in foreign currencies		305,324	-	-	305,324	-	(1,414)	(1,414)
	Debt securities issued in foreign currencies		890,927	-	-	-	887,945	46,321	46,321
			1,413,851	11,181	10,441	305,324	887,945	44,049	41,915
		₩	8,379,343	330,474	131,169	305,324	887,945	44,049	223,066

(In millions of Korean won)

8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

ii) Impact of hedged items in the consolidated statement of financial position as of December 31, 2021 and 2020, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the years ended are as follows:

December 31, 2021

	Hedging instruments		Consolidated statement of financial position: Securities at FVOCI	Consolidated statement of financial position: Deposits	Consolidated statement of financial position: Debt securities issued	Consolidated statement of comprehensive income: Other comprehensive income for the period	Fair value hedges Adjusted accumulated amount	Changes in fair value for the period	Reserve of exchange differences on translation
Fair value hedges:									
Interest rate risk	Debt securities issued	₩	-	-	5,734,095	-	8,324	231,503	-
	Investment bonds		580,552	-	-	-	6,207	(7,283)	-
	Time deposits		-	636,235	-	-	(93,765)	46,941	-
Hedge of net investments in foreign operations:									
Foreign exchange risk	Net investments in foreign operations		-	-	-	74,524	-	74,524	(66,626)
		₩	580,552	636,235	5,734,095	74,524	(79,234)	345,685	(66,626)

December 31, 2020

	Hedging instruments		Consolidated statement of financial position: Securities at FVOCI	Consolidated statement of financial position: Deposits	Consolidated statement of financial position: Debt securities issued	Consolidated statement of comprehensive income: Other comprehensive income for the period	Fair value hedges Adjusted accumulated amount	Changes in fair value for the period	Reserve of exchange differences on translation
Fair value hedges:									
Interest rate risk	Debt securities issued	₩	-	-	5,816,989	-	240,393	(165,416)	-
	Investment bonds		143,496	-	-	-	6,563	3,894	-
	Time deposits		-	933,940	-	-	(46,940)	(13,848)	-
Hedge of net investments in foreign operations:									
Foreign exchange risk	Net investments in foreign operations		-	-	-	(44,049)	-	(44,049)	(141,151)
		₩	143,496	933,940	5,816,989	(44,049)	200,016	(219,419)	(141,151)

(In millions of Korean won)

8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

iii) The amounts recognized as gains or losses due to an ineffective portion of hedge for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021			
		Gains (losses) on fair value hedges (hedged items)	Gains (losses) on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	271,161	(277,450)	(6,289)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		74,524	(76,618)	(2,094)	-
	₩	345,685	(354,068)	(8,383)	-

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

		December 31, 2020			
		Gains (losses) on fair value hedges (hedged items)	Gains (losses) on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	(228,266)	233,008	4,742	-
Hedge of net investments in foreign operations					
Foreign exchange risk		(44,049)	41,915	(2,134)	(8,149)
	₩	(272,315)	274,923	2,608	(8,149)

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

(f) The effects of quantifying the credit risk of derivatives mitigated by collateral held as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Deposits, securities, and etc	₩	603,833	1,389,763

(In millions of Korean won)

8. Derivatives (continued)

(g) Hedge relationships affected by an interest rate benchmark reform

The revised Standard requires that exceptions be applied when analyzing future information in relation to the application of risk hedge accounting, while uncertainties arising from the interest rate benchmark reform movement exist. The exception assumes that when assessing whether the expected cash flows that comply with existing interest rate benchmarks are highly probable, whether there is an economic relationship between the hedged item and the hedging instrument, and whether there is a high hedge effectiveness between the hedged item and the hedging instrument, the interest rate benchmark on which the hedged item and the hedging instruments is not altered as a result of the interest rate benchmark reform.

The carrying amount of hedged items and nominal amount of the hedging instruments related to the interest rate benchmark exposed to the hedging relationship due to the Group's interest rate benchmark reform as of December 31, 2021 are as follows:

Interest rate index	Nominal amount of hedging instruments	Carrying amount of hedged assets	Carrying amount of hedged liabilities
KRW 3M CD	1,520,000	-	1,449,653
USD 3M LIBOR(*1)	4,150,155	504,935	3,589,452
EURIBOR 3M	293,972	25,094	267,830

(*1) Exclude the nominal amount that will be matured before the end of June 2023 when LIBOR interest rate calculation is discontinued.

From 2022, the USD LIBOR interest rate will be replaced by a Secured Overnight Financing Rate (SOFR) based on the actual transactions. The “RP rate of government bond or monetary stabilization bond” is ultimately selected as Korea’s new Risk-Free Reference Rate (RFR). The Group has assumed that in this hedging relationship, the spread which has changed based on SOFR and RFR would be similar to the spreads of interest rate swap used as the hedging instrument. Besides this, the Group did not make assumptions on further changes of conditions.

(In millions of Korean won)

9. Loans

(a) Details of loans as of December 31, 2021 and 2020 are as follows:

		December 31, 2021		December 31, 2020	
		Loans at amortized cost	Loans at FVTPL	Loans at amortized cost	Loans at FVTPL
Household loans	₩	145,292,774	-	134,280,139	-
Corporate loans		174,254,361	894,160	155,510,472	844,469
Public and other loans		3,387,086	-	3,594,089	-
Loans to banks		3,945,222	-	5,543,433	-
Credit card receivables		186,383	-	164,772	-
		327,065,826	894,160	299,092,905	844,469
Deferred loan origination costs and fees		544,087	-	500,391	-
		327,609,913	894,160	299,593,296	844,469
Less: Allowance for impairment		(1,676,417)	-	(1,688,564)	-
	₩	325,933,496	894,160	297,904,732	844,469

(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value

i) Changes in allowance for impairment for the years ended December 31, 2021 and 2020 are as follows:

December 31, 2021

		Due from banks			Loans at amortized cost - Household			Corporate			Others			Other assets			
		12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	Total
Beginning balance	₩	9,153	577	-	94,541	69,961	140,979	460,156	570,659	319,999	13,091	10,175	9,003	16,862	2,703	2,909	1,720,768
Transfer to 12 month expected credit losses		-	-	-	18,163	(17,688)	(475)	72,638	(67,766)	(4,872)	241	(235)	(6)	183	(178)	(5)	-
Transfer to lifetime expected credit losses		(2)	2	-	(7,736)	19,886	(12,150)	(49,703)	57,972	(8,269)	(400)	400	-	(114)	118	(4)	-
Transfer to credit-impaired financial assets		-	-	-	(1,989)	(5,514)	7,503	(1,462)	(22,266)	23,728	(218)	(84)	302	(18)	(215)	233	-
Provision for (reversal of) allowance (*1)		6,127	(424)	-	(6,125)	(2,340)	131,249	(43,408)	82,249	184,985	(567)	(325)	413	(4)	91	586	352,507
Write-offs		-	-	-	-	-	(206,482)	-	-	(238,265)	-	-	(1,218)	-	-	(1,701)	(447,666)
Effect of discounting		-	-	-	-	-	(4,437)	-	-	(11,460)	-	-	-	-	-	-	(15,897)
Disposal of loans		-	-	-	-	(1)	(5,455)	-	-	(14,410)	-	-	(1)	-	-	(40)	(19,907)
Recoveries		-	-	-	-	-	77,087	-	-	56,405	-	-	887	-	-	551	134,930
Others (*2)		873	24	-	706	53	588	4,947	7,715	(25,548)	377	39	195	139,019	-	-	128,988
Ending balance	₩	16,151	179	-	97,560	64,357	128,407	443,168	628,563	282,293	12,524	9,970	9,575	155,928	2,519	2,529	1,853,723

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2021 to cope with the economic recession caused by the spread of the COVID-19. As of December 31, 2021, the Group has set aside an additional provision of ₩ 63,422 million through the additional selection of loans subject to individual evaluation and adjustment of cash flows, and an additional provision of ₩ 83,029 million by reflecting additional expected losses on loans in moratorium of interest payments and moratorium of repayment.
(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

i) Changes in allowance for impairment for the years ended December 31, 2021 and 2020 are as follows: (continued)

December 31, 2020

		Loans at amortized cost												Other assets			
		Due from banks			Household			Corporate			Others						
		12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	Total
Beginning balance	₩	11,241	602	-	90,637	74,615	129,161	345,920	475,108	391,076	9,120	8,209	3,323	14,362	1,656	1,661	1,556,691
Transfer to 12 month expected credit losses		63	(63)	-	18,477	(18,046)	(431)	62,732	(62,181)	(551)	210	(208)	(2)	182	(177)	(5)	-
Transfer to lifetime expected credit losses		(1)	1	-	(8,069)	17,467	(9,398)	(38,365)	43,244	(4,879)	(283)	284	(1)	(109)	114	(5)	-
Transfer to credit-impaired financial assets		-	-	-	(2,150)	(7,513)	9,663	(1,395)	(19,517)	20,912	(156)	(79)	235	(18)	(142)	160	-
Provision for (reversal of) allowance (*1)		(1,691)	71	-	(3,405)	3,590	167,615	98,558	143,363	219,492	4,495	2,008	8,259	(2,116)	1,252	809	642,300
Write-offs		-	-	-	-	-	(212,742)	-	-	(271,082)	-	-	(2,531)	-	-	(213)	(486,568)
Effect of discounting		-	-	-	-	-	(5,235)	-	-	(13,935)	-	-	-	-	-	-	(19,170)
Allowance related to loans transferred		-	-	-	-	(8)	(5,594)	-	-	(24,473)	-	-	(182)	-	-	(32)	(30,289)
Recoveries		-	-	-	-	-	68,445	-	-	44,886	-	-	134	-	-	534	113,999
Others (*2)		(459)	(34)	-	(949)	(144)	(505)	(7,294)	(9,358)	(41,447)	(295)	(39)	(232)	4,561	-	-	(56,195)
Ending balance	₩	9,153	577	-	94,541	69,961	140,979	460,156	570,659	319,999	13,091	10,175	9,003	16,862	2,703	2,909	1,720,768

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2020 to cope with the economic recession caused by the spread of the COVID-19. As of December 31, 2020, the Group has set aside an additional provision of ₩154,407 million (including provisions for debt securities, provisions for off-balance accounts, etc.) through the re-estimation of the default rate forecast that reflected the updated forward-looking information, and an additional provision of ₩130,173 million through the additional selection and adjustment of cash flows for loans subject to individual assessment. In addition, additional provision of ₩1,491 million is recognized by adding Stage2 indicators.

(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the years ended December 31, 2021 and 2020 are as follows:

December 31, 2021

	Due from banks			Loans at amortized cost: Household			Loans at amortized cost: Corporate			Loans at amortized cost: Others			Other assets			
	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	Total
Beginning balance	₩ 25,842,746	2,152	-	125,961,826	7,946,103	372,210	130,850,324	23,888,538	771,610	8,614,108	666,924	21,262	11,115,576	54,846	5,219	336,113,444
Transfer to 12 month expected credit losses	-	-	-	3,118,171	(3,111,597)	(6,574)	5,973,996	(5,903,368)	(70,628)	43,588	(43,580)	(8)	11,962	(11,941)	(21)	-
Transfer to lifetime expected credit losses	(626)	626	-	(3,386,377)	3,419,483	(33,106)	(8,774,580)	8,796,098	(21,518)	(95,471)	95,473	(2)	(16,772)	16,794	(22)	-
Transfer to credit-impaired financial assets	-	-	-	(118,685)	(118,857)	237,542	(186,599)	(272,019)	458,618	(4,865)	(205)	5,070	(599)	(1,733)	2,332	-
Origination, recoveries, and others(*)	(7,198,988)	(2,087)	-	11,901,001	(234,271)	26,149	19,359,227	(27,419)	(117,282)	(1,730,973)	(47,647)	(2,168)	5,518,780	(1,039)	(301)	27,442,982
Write-offs	-	-	-	-	-	(206,482)	-	-	(238,265)	-	-	(1,218)	-	-	(1,701)	(447,666)
Disposal of loans	-	-	-	-	(724)	(43,482)	-	(180)	(119,214)	-	-	(44)	-	(1)	(855)	(164,500)
Ending balance	₩ 18,643,132	691	-	137,475,936	7,900,137	346,257	147,222,368	26,481,650	663,321	6,826,387	670,965	22,892	16,628,947	56,926	4,651	362,944,260

(*) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. **Loans (continued)**

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the years ended December 31, 2021 and 2020 are as follows: (continued)

	December 31, 2020															
				Loans at amortized cost												
	Due from banks			Household			Corporate			Others			Other assets			
	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	12-month expected credit losses	Lifetime expected credit losses: Not impaired	Lifetime expected credit losses: Impaired	Total
Beginning balance	₩ 21,529,072	4,468	-	115,236,704	7,640,395	342,504	116,142,571	22,947,743	876,228	5,366,352	631,528	17,604	13,474,712	58,018	3,477	304,271,376
Transfer to 12 month expected credit losses	712	(712)	-	2,815,880	(2,811,531)	(4,349)	5,682,794	(5,680,285)	(2,509)	16,216	(16,213)	(3)	13,820	(13,811)	(9)	-
Transfer to lifetime expected credit losses	(64)	64	-	(3,773,902)	3,800,101	(26,199)	(7,856,875)	7,866,616	(9,741)	(86,522)	86,523	(1)	(18,029)	18,038	(9)	-
Transfer to credit-impaired financial assets	-	-	-	(121,108)	(140,228)	261,336	(160,397)	(247,823)	408,220	(7,115)	(168)	7,283	(664)	(1,190)	1,854	-
Origination, recoveries, and others(*)	4,313,026	(1,668)	-	11,804,252	(541,737)	83,554	17,042,231	(997,713)	35,407	3,325,177	(34,746)	819	(2,354,263)	(6,209)	1,028	32,669,158
Write-offs	-	-	-	-	-	(212,742)	-	-	(271,082)	-	-	(2,531)	-	-	(213)	(486,568)
Disposal of loans	-	-	-	-	(897)	(71,894)	-	-	(264,913)	-	-	(1,909)	-	-	(909)	(340,522)
Ending balance	₩ 25,842,746	2,152	-	125,961,826	7,946,103	372,210	130,850,324	23,888,538	771,610	8,614,108	666,924	21,262	11,115,576	54,846	5,219	336,113,444

(*) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

(In millions of Korean won)

9. Loans (continued)

(c) Changes in deferred loan origination costs for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Beginning balance	₩	500,391	497,804
Loan origination		307,668	286,837
Amortization		(263,972)	(284,250)
Ending balance	₩	544,087	500,391

10. Securities at fair value through other comprehensive income and Securities at amortized cost

(a) Details of securities at FVOCI and securities at amortized cost as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Securities at FVOCI:			
Debt securities:			
Government bonds	₩	17,873,765	11,342,224
Financial institutions bonds		17,958,703	17,371,098
Corporate bonds		11,752,208	10,013,174
		47,584,676	38,726,496
Equity securities:			
Stocks		663,311	564,148
Equity investments		2,958	3,072
Others		49,875	65,950
		716,144	633,170
	₩	48,300,820	39,359,666
Securities at amortized cost:			
Debt securities:			
Government bonds	₩	14,230,156	12,666,798
Financial institutions bonds		2,127,050	2,497,053
Corporate bonds		4,683,714	4,786,029
Others		293,846	234,563
		21,334,766	20,184,443
Allowance for impairment		(9,523)	(6,000)
	₩	21,325,243	20,178,443

(In millions of Korean won)

10. Securities at fair value through other comprehensive income and Securities at amortized cost (continued)

(a) Details of securities at FVOCI and securities at amortized cost (continued)

Details of equity instruments designated at FVOCI as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Marketable securities	₩	258,291	171,959
Non-marketable securities		405,020	392,189
Others		52,833	69,022
	₩	716,144	633,170

Above equity securities are equity securities designated as FVOCI, and for the retention required by the policy, the option of measuring FVOCI is exercised.

Cumulative net losses reclassified in equity upon disposition of equity securities for the years ended December 31, 2021 and 2020 are (-)₩45,518 million and (-)₩38,379 million, respectively. There is no cumulated net gains replaced by the reclassification of the account for the years ended December 31, 2021 and 2020.

(b) Gains and losses on sale of securities at FVOCI

Gains and losses on sale of securities at FVOCI for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Gains on sale of securities at FVOCI	₩	73,830	219,013
Losses on sale of securities at FVOCI		(6,765)	(11,058)
	₩	67,065	207,955

The Group disposed equity instruments that are measured at FVOCI for debt-equity, swap etc. At the time of disposal, fair value of equity instruments for the years ended December 31, 2021 and 2020 are ₩79,386 million and ₩69,968 million, and cumulative net losses for the years ended December 31, 2021 and 2020 are ₩(-)45,518 million and ₩(-)38,379 million, respectively.

(c) Gains or losses on sale of securities at amortized cost for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Gains on disposal of securities at amortized cost	₩	24	-
Losses on disposal of securities at amortized cost		(334)	-
	₩	(310)	-

Securities at amortized cost are sold due to the partial redemption of payables.

(In millions of Korean won)

10. Securities at fair value through other comprehensive income and Securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVOCI and securities at amortized cost

i) Changes in allowance for credit loss of securities at FVOCI and securities at amortized cost for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021							
		Securities at FVOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total	12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total
Beginning balance	₩	16,300	677	-	16,977	6,000	-	-	6,000
Transfer to 12-month expected credit losses		33	(33)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(63)	63	-	-	(216)	216	-	-
Transfer to impaired financial assets		-	-	-	-	-	-	-	-
Provision (reversal)		17,389	(25)	-	17,364	2,127	240	-	2,367
Disposals and others (*)		(5,522)	(80)	-	(5,602)	1,149	7	-	1,156
Ending balance	₩	28,137	602	-	28,739	9,060	463	-	9,523

(*) Other changes are due to foreign exchange rate changes, etc.

		December 31, 2020							
		Securities at FVOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total	12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total
Beginning balance	₩	20,471	655	-	21,126	5,299	12	-	5,311
Transfer to 12-month expected credit losses		22	(22)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(193)	193	-	-	-	-	-	-
Transfer to impaired financial assets		-	-	-	-	-	-	-	-
Provision (reversal)		4,318	348	-	4,666	1,063	(12)	-	1,051
Disposals and others (*)		(8,318)	(497)	-	(8,815)	(362)	-	-	(362)
Ending balance	₩	16,300	677	-	16,977	6,000	-	-	6,000

(*) Other changes are due to foreign exchange rate changes, etc.

(In millions of Korean won)

10. Securities at fair value through other comprehensive income and Securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVOCI and securities at amortized cost (continued)

(ii) Changes in carrying value of securities at FVOCI and securities at amortized cost for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021							
		Securities at FVOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total	12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total
Beginning balance	₩	38,459,361	267,135	-	38,726,496	20,184,443	-	-	20,184,443
Transfer to 12-month expected credit losses		51,055	(51,055)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(35,665)	35,665	-	-	(35,505)	35,505	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase and decrease		8,957,139	(98,959)	-	8,858,180	1,149,538	785	-	1,150,323
Ending balance	₩	47,431,890	152,786	-	47,584,676	21,298,476	36,290	-	21,334,766

		December 31, 2020							
		Securities at FVOCI				Securities at amortized cost			
			Lifetime expected credit losses				Lifetime expected credit losses		
		12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total	12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total
Beginning balance	₩	39,821,640	239,094	-	40,060,734	20,233,925	23,274	-	20,257,199
Transfer to 12-month expected credit losses		30,233	(30,233)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(83,132)	83,132	-	-	-	-	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase and decrease		(1,309,380)	(24,858)	-	(1,334,238)	(49,482)	(23,274)	-	(72,756)
Ending balance	₩	38,459,361	267,135	-	38,726,496	20,184,443	-	-	20,184,443

(In millions of Korean won)

11. Property and equipment

(a) Details of property and equipment as of December 31, 2021 and 2020 are as follows:

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	1,305,608	-	1,305,608
Buildings (*)		883,323	(395,257)	488,066
Right-of-use asset		930,605	(514,067)	416,538
Others		1,464,906	(1,187,733)	277,173
	₩	4,584,442	(2,097,057)	2,487,385

(*) ₩129 million of government subsidy is deducted from book value.

		December 31, 2020		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	1,301,446	-	1,301,446
Buildings (*)		880,477	(374,551)	505,926
Right-of-use asset		789,038	(344,226)	444,812
Others		1,399,918	(1,202,237)	197,681
	₩	4,370,879	(1,921,014)	2,449,865

(*) ₩341 million of government subsidy is deducted from book value.

(b) Changes in property and equipment for the years ended December 31, 2021and 2020 are as follows:

		December 31, 2021				
		Land	Buildings	Right-of-use assets	Others	Total
Beginning balance	₩	1,301,446	505,926	444,812	197,681	2,449,865
Acquisitions (*1)(*2)		126	30,469	190,465	157,454	378,514
Disposals and write-offs (*3)		(288)	(188)	(6,445)	(1,440)	(8,361)
Depreciation		-	(43,204)	(229,384)	(80,004)	(352,592)
Amounts transferred to investment properties		4,177	(4,209)	-	-	(32)
Amounts transferred to non-current assets held for sale		(169)	(853)	-	-	(1,022)
Effects of foreign currency movements		316	125	17,090	3,482	21,013
Ending balance	₩	1,305,608	488,066	416,538	277,173	2,487,385

(*1) ₩18,748 million transferred from construction-in progress is included.
(*2) ₩3,614 million of provision for the asset retirement related to newly acquired assets is included.
(*3) ₩1,361 million of write-off is included.

(In millions of Korean won)

11. Property and equipment (continued)

(b) Changes in property and equipment for the years ended December 31, 2021 and 2020 are as follows: (continued):

		December 31, 2020				
		Land	Buildings	Right-of-use assets	Others	Total
Beginning balance	₩	1,247,774	535,129	476,306	206,080	2,465,289
Acquisitions (*1)(*2)		58,231	38,789	209,730	70,694	377,444
Disposals and write-offs (*3)		(6,075)	(1,536)	(3,549)	(714)	(11,874)
Depreciation		-	(49,743)	(232,285)	(76,358)	(358,386)
Amounts transferred to investment properties		33,444	(16,296)	-	-	17,148
Amounts transferred to non-current assets held for sale		(31,622)	(11)	-	-	(31,633)
Effects of foreign currency movements		(306)	(406)	(5,390)	(2,021)	(8,123)
Ending balance	₩	1,301,446	505,926	444,812	197,681	2,449,865

(*1) ₩56,575 million transferred from construction-in progress is included.
(*2) ₩1,371 million of provision for the asset retirement related to newly acquired assets is included.
(*3) ₩474 million of write-off is included.

(c) Insured assets and liability insurances as of December 31, 2021 are follows:

Type of insurance	Insured assets		Amount covered	Insurance company
Comprehensive insurance for financial institutions	Cash & securities	₩	20,000	Samsung Fire & Marine Insurance Co., Ltd. and 4 other insurance companies
Property insurance	Real estate & movable properties for business purpose		860,507	Samsung Fire & Marine Insurance Co., Ltd., etc. and 4 other insurance companies
Burglary insurance	Cash & securities		60,000	Samsung Fire & Marine Insurance Co., Ltd., etc and 3 other insurance companies
Compensation liability insurance for officers	-		50,000	Meritz Fire & Marine Insurance Co., Ltd., etc. and 6 other insurance companies
Compensation liability insurance for gas accident	Real estate		500	Meritz Fire & Marine Insurance Co., Ltd.
Compensation liability insurance for personal information protection	-		10,000	DB Insurance Co., Ltd.
Compensation liability insurance for electronic financial transaction	-		3,000	Lotte Insurance Co., Ltd., etc.
Compensation liability insurance for casualty	Real estate		1,000	Samsung Fire & Marine Insurance Co., Ltd.
Compaensation liability insurance for elevator accidents	-		80	Samsung Fire & Marine Insurance Co., Ltd.
		₩	1,005,087	

Besides the insurances listed above, the Group also has automobile liability insurance, medical insurance for employees, and casualty insurance for protecting property and employees.

(In millions of Korean won)

12. Leases

(a) The details of the right-of-use assets for each type of underlying asset of the lessee as of December 31, 2021 and 2020 follows:

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Real estate	₩	860,893	(472,235)	388,658
Vehicle		40,083	(24,043)	16,040
Others		29,629	(17,789)	11,840
	₩	930,605	(514,067)	416,538

		December 31, 2020		
		Acquisition cost	Accumulated depreciation	Book value
Real estate	₩	730,517	(313,857)	416,660
Vehicle		33,033	(17,684)	15,349
Others		25,488	(12,685)	12,803
	₩	789,038	(344,226)	444,812

(b) Changes in right-of-use assets for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021			
		Real estate	Vehicle	Others	Total
Beginning balance	₩	416,661	15,349	12,803	444,813
Acquisitions		172,601	13,693	4,171	190,465
Disposals and write-offs		(3,279)	(3,135)	(30)	(6,444)
Depreciation		(214,232)	(10,048)	(5,104)	(229,384)
Effects of foreign currency movements		16,907	181	-	17,088
Ending balance	₩	388,658	16,040	11,840	416,538

		December 31, 2020			
		Real estate	Vehicle	Others	Total
Beginning balance	₩	445,132	19,071	12,103	476,306
Acquisitions		195,864	7,445	6,421	209,730
Disposals and write-offs		(3,234)	(300)	(15)	(3,549)
Depreciation		(215,718)	(10,861)	(5,706)	(232,285)
Effects of foreign currency movements		(5,384)	(6)	-	(5,390)
Ending balance	₩	416,660	15,349	12,803	444,812

(In millions of Korean won)

12. Leases (continued)

(c) The details of the maturity of the lease lability as of December 31, 2021 and 2020 are as follows:

	December 31, 2021							
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Real estate	₩	19,006	27,208	36,418	62,657	188,722	46,023	380,034
Vehicle		5,988	1,505	1,918	3,559	9,149	-	22,119
Others		449	619	1,077	2,112	7,981	26	12,264
	₩	25,443	29,332	39,413	68,328	205,852	46,049	414,416

	December 31, 2020							
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Real estate	₩	18,386	29,675	40,254	72,183	203,820	41,162	405,480
Vehicle		4,759	1,633	2,004	3,686	8,095	-	20,177
Others		503	772	1,155	1,937	8,912	1	13,280
	₩	23,648	32,080	43,413	77,806	220,827	41,163	438,937

The abovementioned amounts have been classified as the earliest due dates on which the Group's payment obligation arises based on undiscounted cash flows.

(d) For the years ended December 31, 2021 and 2020, the lease payment for low value assets is ₩4,206 million and ₩4,011 million, respectively.

(e) The Group applied a practical simplified method that does not evaluate whether it is a lease change for real estate rental fee discounts that have occurred as a direct result of the COVID-19. For the years ended December 31, 2021 and 2020, the amount recognized in profit or loss to reflect changes in lease payments arising from the rent discount is ₩ 47,589 million and ₩24,921 million.

(In millions of Korean won)

13. Intangible assets

(a) Details of intangible assets as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Goodwill	₩	28,199	59,139
Software		104,475	90,082
Development cost		78,159	60,000
Memberships		48,379	48,240
Others		283,914	282,380
	₩	543,126	539,841

(b) Changes in intangible assets for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021					
		Goodwill	Software	Development cost	Membership	Other	Total
Beginning balance	₩	59,139	90,082	60,000	48,240	282,380	539,841
Acquisitions		-	45,412	41,297	-	114,879	201,588
Disposal		-	(1,998)	-	(16)	-	(2,014)
Impairment		(30,940)	-	-	-	(1,124)	(32,064)
Amortization(*1)		-	(31,013)	(23,138)	-	(113,154)	(167,305)
Effects of foreign currency movements		-	1,992	-	155	933	3,080
Ending balance(*2)	₩	28,199	104,475	78,159	48,379	283,914	543,126

(*1) ₩108,802 million among amortization cost of other intangible assets is included in other operating expenses.
(*2) ₩161,843 million of other intangible assets is accounted for as account payables.

		December 31, 2020					
		Goodwill	Software	Development cost	Membership	Other	Total
Beginning balance	₩	73,374	79,268	43,963	48,317	411,427	656,349
Acquisitions(*1)		-	39,850	36,226	13	25,947	102,036
Disposal		-	-	-	(17)	-	(17)
Impairment(*2)		(14,235)	-	-	(57)	(27,133)	(41,425)
Amortization(*3)		-	(27,886)	(20,189)	-	(127,185)	(175,260)
Effects of foreign currency movements		-	(1,150)	-	(16)	(676)	(1,842)
Ending balance(*4)	₩	59,139	90,082	60,000	48,240	282,380	539,841

(*1) Included intangible assets related to the rights to be the depository bank of municipal and provincial governments.
(*2) The Group assessed the recoverable value of intangible assets related to the rights to be the depository bank of municipal and provincial governments due to the performance below forecast and future prospects. As a result of the assessment, the Group recognized impairment loss amounting to ₩27,133 million for the year ended December 31, 2020. The impairment loss is included in the financial performance of the retail banking segment, and included in non-operating expenses in the consolidated statement of comprehensive income.
(*3) ₩122,629 million among amortization cost of other intangible assets is included in other operating expenses.
(*4) ₩298,901 million of other intangible assets is accounted for as account payables.

(In millions of Korean won)

13. Intangible assets (continued)

(c) Goodwill

i) Details of goodwill

The carrying amounts of goodwill allocated to each Cash-Generating Unit ("CGU") as of December 31, 2021 and 2020 are as follows:

CGU		December 31, 2021	December 31, 2020
PT Bank Shinhan Indonesia(*)	₩	-	30,940
Shinhan Bank Vietnam Co., Ltd.		28,199	28,199
	₩	28,199	59,139

(*)It occurred during the acquisition of PT Bank Metro Express and PT Centratama National Bank. The Group conducted an evaluation of the recoverable value of goodwill and recognized impairment loss of goodwill according to the test.

ii) Impairment test

The recoverable amount of all cash-generating units required for impairment testing is based on value in use. The recoverable amounts of CGUs are determined on the basis of value-in-use calculations using discounted cash flow (DCF) model.

ⓐ Measurement date and projection period
The recoverable amounts are measured as of June 30, 2021. The projection period used in value-in-use calculations is 5.5 years (July 2021 through December 2026) considering synergy effect of business combinations and the value-in-use after projection period is estimated on the assumption that the future cash flows will increase by perpetual growth rate for every year.

ⓑ Significant assumptions
The expected future cash flows from the cash-generating unit are based on the CPI growth rate, market size and the market share of the Group. Major unobservable assumptions applied during the forecast period are as follows:

(Unit: %)

Cash-generating units	Net interest income growth rate	Net commission income growth rate	General administrative expenses growth rate	Growth rate
PT Bank Shinhan Indonesia	14.15	9.68	6.87	30.78
Shinhan Bank Vietnam Co., Ltd.	6.36	3.02	6.49	4.95

The cost of equity capital is calculated by taking into account the systematic risk of the entity in the market risk premium paid in return for risk free rate. Permanent growth rate is estimated based on inflation and did not exceed the projected long-term average growth rate of the relevant industry report.

(Unit: %)

Cash-generating units	Discount rate	Permanent growth rate
PT Bank Shinhan Indonesia	12.10	2.00
Shinhan Bank Vietnam Co., Ltd.	11.60	2.00

(In millions of Korean won)

13. Intangible assets (continued)

(c) Goodwill (continued)

ii) Impairment test (continued)

ⓒ Significant assumptions

The carrying amounts and recoverable amounts of the CGUs to which goodwill has been allocated as of valuation date are as follows:

		PT Bank Shinhan Indonesia	Shinhan Bank Vietnam Co., Ltd.
Recoverable amount	₩	353,381	1,247,579
Carrying amount(*)		385,777	994,515
Recoverable amount in excess of carrying amount	₩	(32,396)	253,064

(*)The carrying amount includes goodwill for external subsidiary shares.

As a result of the impairment test of goodwill, the carrying amount exceeding the recoverable amount of PT Bank Shinhan Indonesia’s cash-generating unit is ₩ 32,396 million, and ₩ 32,072 million, which is the amount of 99% of the Bank's shares, is recognized as an impairment loss.

The number of customer contacts decreased due to the decrease in the base interest rate in Indonesia in 2021 and the impact of COVID-19. Therefore, reclaimable amount decreased due to reduced loan and increased provisioning by corporate borrowers. It decreased by ₩ 56,587 million compared to the end of the 2020.

Also, the carrying amount of Shinhan Bank Vietnam’s cash-generating unit does not exceed the recoverable amount.

(In millions of Korean won)

14. Investments in associates

(a) Investments in associates as of December 31, 2021 and 2020 are as follows:

Investees	Location	Closing month	Industry sector	Ownership (%) December 31, 2021	Ownership (%) December 31, 2020
BNP Paribas Cardif Life Insurance Co., Ltd. (*1)(*2)	Korea	September 30	Insurance	14.99	14.99
KOREA FINANCE SECURITY (*1)(*5)	Korea	September 30	Other	14.91	14.91
DAEGY Electrical Construction Co., Ltd. (*8)	Korea	-	-	-	27.45
DOODOO LOGITECH (*3)(*4)	Korea	December 31	Other	27.96	27.96
One-Shinhan Future's New Technology Investment Fund 1 (*1)	Korea	September 30	Investment	27.78	27.78
KST-SH Laboratory Investment Fund No.1	Korea	December 31	Investment	20.00	20.00
One-Shinhan Future's New Technology Investment Fund 2 (*1)	Korea	September 30	Investment	29.70	29.70
One-Shinhan Connect New Technology Investment Fund 1 (*6)	Korea	December 31	Investment	30.00	-
Neoplux Technology Valuation Investment Fund (*1)	Korea	September 30	Investment	33.33	33.33
Partners 4th Growth Investment Fund (*1)	Korea	September 30	Investment	25.00	25.00
KTB Newlake Global Healthcare PEF (*1)	Korea	September 30	Investment	20.00	20.00
Newlake Growth Capital Partners2 PEF (*6)	Korea	December 31	Investment	23.01	-
DAEKWANG SEMICONDUCTOR Co., Ltd. (*9)	Korea	-	-	-	20.94
Songrim partners Co., Ltd. (*3)(*4)	Korea	December 31	Retail	35.34	35.34
Multimedia Tech Co., Ltd. (*8)	Korea	-	-	-	21.06
Hyungje art printing (*8)	Korea	-	-	-	31.54
MIEL Co., Ltd. (*3)(*4)	Korea	December 31	Other	28.77	28.77
COSPEC BIM tech (*9)	Korea	-	-	-	40.92
WON JIN HOME PLAN CO.,LTD (*9)	Korea	-	-	-	31.69
MSTEEL co.Ltd (*3)(*6)	Korea	December 31	Other	29.45	-
JB AIR (*3)(*6)	Korea	December 31	Other	28.77	-
REAL SPIN INC (*6)(*9)	Korea	-	-	-	-
BAEK DOO Co., Ltd (*3)(*6)	Korea	December 31	Retail	25.90	-
Chungwon assets (*3)(*6)	Korea	December 31	Manufacturing	22.53	-
Jinmyung Plus (*3)(*6)	Korea	December 31	Manufacturing	22.20	-
Korea Credit Bureau (*1)(*5)	Korea	September 30	Credit information	4.50	4.50
Goduck Gangil1 PFV Co., Ltd (*1)(*5)	Korea	September 30	Real estate	1.04	1.04
Goduck Gangil10 PFV Co., Ltd (*1)(*5)	Korea	September 30	Real estate	14.00	14.00
SBC PFV Co., Ltd (*1)(*5)(*7)	Korea	September 30	Real estate	12.50	12.50
ICSF (The Korea's Information Center for Savings & Finance) (*4)	Korea	December 31	Service	32.26	32.26
Shinhan-Albatross	Korea	December 31	Investment	33.33	33.33
Shinhan-Neoplux Energy Newbiz Fund (*1)	Korea	September 30	Investment	23.33	23.33
Stassets-DA Value Healthcare Fund I (*1)	Korea	September 30	Investment	24.10	24.10
Shinhan SKS Corporate Recovery Private Equity Fund (*1)(*6)	Korea	September 30	Investment	23.99	-
Korea Digital Asset Custody (*1)(*5)(*6)	Korea	September 30	Service	14.98	-
Shinhan VC tomorrow venture fund 1 (*1)(*6)	Korea	September 30	Investment	21.74	-

(*1) Financial statements as of September 30, 2021 are used for the equity method accounting since the financial statements as of December 31, 2021 are not available. Significant trades and events occurred within the period are properly reflected.

(*2) The Group used equity method accounting as the Group has significant influence over the investee through significant operating transactions.

(*3) In the course of the rehabilitation process, the shares were acquired through debt-equity swap. Although voting rights cannot be exercised during the rehabilitation process, normal voting rights are exercised because the rehabilitation process was completed before December 31, 2021. Also, it has been reclassified to the investments in associates.

(*4) The latest financial statements available are used for the equity method accounting since the financial statements as of December 31, 2021 are not available. Significant trades and events occurred within the period are properly reflected.

(*5) Although it holds less than 20% of shares, the equity method is applied for evaluation since it has significant impact on the investee, such as participation in their decision making.

(*6) It is newly acquired for the year ended December 31, 2021. Also, it has been incorporated into investments in associates

(*7) The percentage of voting rights held is 4.65%.

(*8) Excluded from associates due to retirement of shares for the year ended December 31, 2021.

(*9) Excluded from associates due to sale of shares for the year ended December 31, 2021.

(In millions of Korean won)

14. Investments in associates (continued)

(b) Changes in investments in associates for the years ended December 31, 2021 and 2020 are as follows:

	December 31, 2021								
Associates	Acquisition cost	Beginning balance	Acquisition (redemption)	Gain from disposal	Share of profit (loss) of associates	Share of other comprehensive income (loss) of associates	Dividends received	Others	Ending balance
BNP Paribas Cardif Life Insurance Co., Ltd.	42,204	50,606	-	-	(660)	(5,918)	-	-	44,028
KOREA FINANCE SECURITY	3,448	3,055	-		(61)	-	-	-	2,994
DAEGY Electrical Construction Co., Ltd.	-	69	-	(66)	-	(3)	-	-	-
DOODOO LOGITECH	-	1	-	-	-	-	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	3,000	2,921	-		(76)	-	-	-	2,845
KST-SH Laboratory Investment Fund No.1	1,500	920	500		(12)	-	-	-	1,408
One-Shinhan Future's New Technology Investment Fund 2	2,970	1,783	1,170		(61)	-	-	-	2,892
One-Shinhan Connect New Technology Investment Fund 1	72,000	-	72,000		(1,060)	-	-	-	70,940
Neoplux Technology Valuation Investment Fund	2,278	9,083	(7,824)	-	10,869	-	(3,073)	-	9,055
Partners 4th Growth Investment Fund	9,801	11,958	(3,753)	-	12,525	4,694	(12,390)	-	13,034
KTB Newlake Global Healthcare PEF	6,770	6,269	-	-	6	-	-	-	6,275
Newlake Growth Capital Partners2 PEF	10,000	-	10,000		(61)	-	-	-	9,939
DAEKWANG SEMICONDUCTOR Co., Ltd.	-	3,631	(2,020)	(1,721)	113	(3)		-	-
Songrim partners Co., Ltd. (*2)	-	-	-	-	-	-	-	-	-
Multimedia Tech Co., Ltd. (*2)	-	-	-	-	-	-	-	-	-
Hyungje art printing (*2)	-	-	-	-	-	-	-		-
MIEL Co., Ltd. (*2)	-	-	-	-	-	-	-	-	-
COSPEC BIM tech	-	95	(89)	(86)	80	-	-	-	-
WON JIN HOME PLAN CO.,LTD	-	189	(102)	(87)	-	-	-	-	-
MSTEEL co.Ltd (*1)	-	-	-	-	-	-	-	1,538	1,538
JB AIR (*1)	-	-			-	-	-	22	22
REAL SPIN INC	-	-	(4)	(74)	-	-	-	78	-
BAEK DOO Co., Ltd (*1)	-	-	-	-	-	-	-	152	152
Chungwon assets (*1)	-	-	-	-	-	-	-	239	239
Jinmyung Plus (*1)	-	-	-	-	-	-	-	26	26
Korea Credit Bureau	2,250	3,488	-	-	404	-	(45)	-	3,847
Goduck Gangil1 PFV Co., Ltd (*2)	50	-	-	-	-	-	-	-	-
Goduck Gangil10 PFV Co., Ltd (*2)	700	23	-	-	(23)	-	-	-	-
SBC PFV Co., Ltd	16,250	9,104	6,250	-	(563)	-	-	-	14,791
ICSF (The Korea's Information Center for Savings & Finance)	300	159	-	-	8	-	-	-	167
Shinhan-Albatross	3,100	8,772	(6,000)	-	4,248	-	-	-	7,020
Shinhan-Neoplux Energy Newbiz Fund	10,940	10,355	350	-	(107)	-	-	-	10,598
Stassets-DA Value Healthcare Fund I	614	753	-	-	(13)	-	-	-	740
Shinhan SKS Corporate Recovery Private Equity Fund	4,015	-	4,015	-	(87)	-	-	-	3,928
Korea Digital Asset Custody	505	-	505	-	(70)	-	-	-	435
Shinhan VC tomorrow venture fund 1	5,000	-	5,000	-	-	-	-	-	5,000
	197,695	123,234	79,998	(2,034)	25,399	(1,230)	(15,508)	2,055	211,914

(*1) No cash flow is involved as acquired from another account as reclassification.
(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

(In millions of Korean won)

14. Investments in associates (continued)

(b) Changes in investments in associates for the years ended December 31, 2021 and 2020 are as follows (continued):

	December 31, 2020								
Associates	**Acquisition cost**	**Beginning balance**	**Acquisition (redemption)**	**Gain from disposal**	**Share of profit (loss) of associates**	**Share of other comprehensive income (loss) of associates**	**Dividends received**	**Others**	**Ending balance**
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 42,204	52,600	-	-	(936)	(1,058)	-	-	50,606
KOREA FINANCE SECURITY	3,448	3,235	-	-	(180)	-	-	-	3,055
DAEGY Electrical Construction Co., Ltd.	-	109	-	-	(40)	-	-	-	69
DOODOO LOGITECH	-	7	-	-	(6)	-	-	-	1
One Shinhan Future's Fund 1(*1)	3,000	-	-	-	(79)	-	-	3,000	2,921
KST-Shinhan Fund 1(*1)	1,000	-	500	-	(80)	-	-	500	920
One Shinhan Future's Fund 2(*1)	1,800	-	1,200	-	(17)	-	-	600	1,783
Neoplux Technology Valuation Investment Fund	10,102	16,384	(7,304)	-	3	-	-	-	9,083
Partners 4th Growth Investment Fund	13,554	14,917	(1,925)	-	1,516	-	(2,550)	-	11,958
KTB Newlake Global Healthcare PEF	6,770	7,521	(1,266)	-	48	-	(34)	-	6,269
DAEKWANG SEMICON DUCTOR Co., Ltd.	-	3,387	-	-	244	-	-	-	3,631
Songrim Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
Multimedia Tech Co., Ltd. (*2)	-	19	-	-	(19)	-	-	-	-
Hyungje art printing (*2)	-	-	-	-	-	-	-	-	-
MIEL Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
COSPEC BIM tech (*2)	-	-	-	-	(81)	-	-	176	95
WON JIN HOME PLAN CO.,LTD	-	183	-	-	6	-	-	-	189
Korea Credit Bureau	2,250	3,406	-	-	127	-	(45)	-	3,488
Goduck Gangil1 PFV Co., Ltd (*2)	50	48	-	-	(48)	-	-	-	-
Goduck Gangil10 PFV Co., Ltd	700	-	700	-	(677)	-	-	-	23
SBC PFV Co., Ltd	10,000	10,000	-	-	(896)	-	-	-	9,104
GMG Development Co,. Ltd	-	3	(3)	-	-	-	-	-	-
ICSF (The Korea's Information Center for Savings & Finance)	300	148	-	-	11	-	-	-	159
Shinhan-Albatross Technology Investment Fund	9,100	5,833	3,100	-	(161)	-	-	-	8,772
Miraeequity-Incus Venture Business Fund No.4	-	1,916	(2,914)	998	-	-	-	-	-
Shinhan-Neoplux Energy Newbiz Fund	10,590	7,880	2,190	-	285	-	-	-	10,355
Stassets-DA Value Healthcare Fund I	615	584	-	-	169	-	-	-	753
	₩ 115,483	128,180	(5,722)	998	(811)	(1,058)	(2,629)	4,276	123,234

(*1) No cash flow is involved as acquired from another account as reclassification.
(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

(In millions of Korean won)

14. Investments in associates (continued)

(c) Condensed financial statements of associates as of December 31, 2021 and 2020 are as follows:

	December 31, 2021					
Associates	Assets	Liabilities	Operating revenue	Profit (loss) for the year	Other comprehensive income (loss)	Total comprehensive income (loss)
BNP Paribas Cardif Life Insurance Co., Ltd.	3,268,153	2,974,519	48,207	(4,499)	(39,454)	(43,953)
KOREA FINANCE SECURITY	35,044	14,966	63,693	(412)	-	(412)
DOODOO LOGITECH	4	-	-	(1)	-	(1)
One-Shinhan Future's New Technology Investment Fund 1	10,244	-	3	(272)	-	(272)
KST-SH Laboratory Investment Fund No.1	7,043	2	-	(56)	-	(56)
One-Shinhan Future's New Technology Investment Fund 2	9,736	-	-	(205)	-	(205)
One-Shinhan Connect New Technology Investment Fund 1	236,479	11	39	(3,532)	-	(3,532)
Neoplux Technology Valuation Investment Fund	30,463	3,298	33,345	32,607	-	32,607
Partners 4th Growth Investment Fund	60,073	7,939	52,019	50,100	18,774	68,874
KTB Newlake Global Healthcare PEF	30,969	161	552	27	-	27
Newlake Growth Capital Partners2 PEF	43,187	-	290	(263)	-	(263)
Songrim partners Co., Ltd.	1,003	1,065	548	-	-	-
MIEL Co., Ltd.	491	632	36	(56)	-	(56)
MSTEEL co.Ltd	9,635	4,412	3,126	-	-	-
JB AIR	386	310	319	-	-	-
BAEK DOO Co., Ltd	1,711	1,125	1,278	-	-	-
Chungwon assets	3,358	2,296	2,445	-	-	-
Jinmyung Plus	624	506	205	-	-	-
Korea Credit Bureau	129,478	43,981	121,982	8,988	-	8,988
Goduck Gangil1 PFV Co., Ltd	301,513	317,276	88,085	(1,835)	-	(1,835)
Goduck Gangil10 PFV Co., Ltd	253,607	261,969	-	(8,526)	-	(8,526)
SBC PFV Co., Ltd	334,262	175,976	-	(4,462)	-	(4,462)
ICSF (The Korea's Information Center for Savings & Finance)	539	21	100	28	-	28
Shinhan-Albatross	21,552	491	14,217	12,745	-	12,745
Shinhan-Neoplux Energy Newbiz Fund	46,175	755	1,808	(460)	-	(460)
Stassets-DA Value Healthcare Fund I	3,131	62	-	(55)	-	(55)
Shinhan SKS Corporate Recovery Private Equity Fund	16,604	230	314	(364)	-	(364)
Korea Digital Asset Custody	693	17	-	(470)	-	(470)
Shinhan VC tomorrow venture fund 1	23,000	-	-	-	-	-
	4,879,157	3,812,020	432,611	79,027	(20,680)	58,347

(In millions of Korean won)

14. Investments in associates (continued)

(c) Condensed financial statements of associates as of December 31, 2021 and 2020 are as follows: (continued)

		December 31, 2020					
Associates		Assets	Liabilities	Operating revenue	Profit (loss) for the year	Other comprehensive income (loss)	Total comprehensive income (loss)
BNP Paribas Cardif Life Insurance Co., Ltd.	₩	3,526,148	3,188,562	38,669	(6,555)	(7,052)	(13,607)
KOREA FINANCE SECURITY		37,522	17,032	118,906	(1,174)	-	(1,174)
DAEGY Electrical Construction Co., Ltd.		280	28	-	(145)	-	(145)
DOODOO LOGITECH		5	-	115	(21)	-	(21)
One Shinhan Future's Fund 1		10,516	-	14	(284)	-	(284)
KST-Shinhan Fund 1		4,598	-	-	(402)	-	(402)
One Shinhan Future's Fund 2		6,003	-	-	(57)	-	(57)
Neoplux Technology Valuation Investment Fund		27,905	656	3,118	9	-	9
Partners 4th Growth Investment Fund		48,678	846	7,231	6,059	-	6,059
KTB Newlake Global Healthcare PEF		31,005	225	598	244	-	244
DAEKWANG SEMICON DUCTOR Co., Ltd.		23,682	6,339	3,836	1,163	-	1,163
Songrim Co., Ltd.		1,003	1,065	548	-	-	-
Multimedia Tech Co., Ltd.		593	662	555	(158)	-	(158)
Hyungje art printing		866	1,130	253	-	-	-
MIEL Co., Ltd.		474	559	585	(169)	-	(169)
COSPEC BIM tech		1,802	1,373	663	(196)	-	(196)
WON JIN HOME PLAN CO.,LTD		4,230	3,633	2,334	21	262	283
Korea Credit Bureau		114,571	37,062	93,275	3,992	-	3,992
Goduck Gangil1 PFV Co., Ltd		334,349	348,276	-	(10,065)	-	(10,065)
Goduck Gangil10 PFV Co., Ltd		247,130	246,966	-	(4,837)	-	(4,837)
SBC PFV Co., Ltd		119,994	7,199	-	(7,169)	-	(7,169)
ICSF (The Korea's Information Center for Savings & Finance)		491	1	102	33	-	33
Shinhan-Albatross Technology Investment Fund		26,753	437	12	(430)	-	(430)
Shinhan-Neoplux Energy Newbiz Fund		44,696	315	2,522	1,223	-	1,223
Stassets-DA Value Healthcare Fund I		3,135	11	715	701	-	701
	₩	4,616,429	3,862,377	274,051	(18,217)	(6,790)	(25,007)

(In millions of Korean won)

14. Investments in associates (continued)

(d) Reconciliation of associates' financial information presented to the carrying amount of the Group's interest in the associates as of December 31, 2021 and 2020 are as follows:

	December 31, 2021					
Associates	Net assets (A)	Proportion of ownership interest (B)	Equity amount of net asset (A) x (B)	Unrealized income and expenses	Other adjustments	Carrying amount
BNP Paribas Cardif Life Insurance Co., Ltd.	293,633	14.99%	44,045	(17)	-	44,028
KOREA FINANCE SECURITY	20,077	14.91%	2,994	-	-	2,994
DOODOO LOGITECH	4	27.96%	1	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	10,243	27.78%	2,845	-	-	2,845
KST-SH Laboratory Investment Fund No.1	7,041	20%	1,408	-	-	1,408
One-Shinhan Future's New Technology Investment Fund 2	9,736	29.70%	2,892	-	-	2,892
One-Shinhan Connect New Technology Investment Fund 1	236,468	30%	70,940	-	-	70,940
Neoplux Technology Valuation Investment Fund	27,164	33.33%	9,055	-	-	9,055
Partners 4th Growth Investment Fund	52,134	25%	13,034	-	-	13,034
KTB Newlake Global Healthcare PEF(*1)	30,807	20%	6,162	-	113	6,275
Newlake Growth Capital Partners2 PEF	43,187	23.01%	9,939	-	-	9,939
Songrim partners Co., Ltd. (*2)	(62)	35.34%	(22)	-	22	-
MIEL Co., Ltd. (*2)	(141)	28.77%	(41)	-	41	-
MSTEEL co.Ltd	5,223	29.45%	1,538	-	-	1,538
JB AIR	76	28.77%	22	-	-	22
BAEK DOO Co., Ltd	586	25.90%	152	-	-	152
Chungwon assets	1,062	22.53%	239	-	-	239
Jinmyung Plus	118	22.20%	26	-	-	26
Korea Credit Bureau	85,497	4.50%	3,847	-	-	3,847
Goduck Gangil1 PFV Co., Ltd (*2)	(15,763)	1.04%	(164)	-	164	-
Goduck Gangil10 PFV Co., Ltd (*2)	(8,362)	14%	(1,171)	-	1,171	-
SBC PFV Co., Ltd (*3)	158,286	12.50%	19,786	-	(4,995)	14,791
ICSF (The Korea's Information Center for Savings & Finance)	518	32.26%	167	-	-	167
Shinhan-Albatross	21,061	33.33%	7,020	-	-	7,020
Shinhan-Neoplux Energy Newbiz Fund	45,420	23.33%	10,598	-	-	10,598
Stassets-DA Value Healthcare Fund I	3,069	24.10%	740	-	-	740
Shinhan SKS Corporate Recovery Private Equity Fund	16,374	23.99%	3,928	-	-	3,928
Korea Digital Asset Custody (*1)	676	14.98%	101	-	334	435
Shinhan VC tomorrow venture fund 1	23,000	21.74%	5,000	-	-	5,000
	1,067,132		215,081	(17)	(3,150)	211,914

(*1) Other is the fair value adjustment amount incurred during acquisition.
(*2) Other adjustments represent the unrecognized share of accumulated losses resulting from the Group's discontinuing the use of equity method since its interest is reduced to zero by the accumulated losses of the investee.
(*3) It is the amount of adjustment that does not use of the equity method for preferred shares without voting rights issued by the investee.

(In millions of Korean won)

14. Investments in associates (continued)

(d) Reconciliation of associates' financial information presented to the carrying amount of the Group's interest in the associates as of December 31, 2021 and 2020 are as follows: (continued)

	December 31, 2020					
Associates	**Net assets (A)**	**Proportion of ownership interest (B)**	**Equity amount of net asset (A) x (B)**	**Unrealized income and expenses**	**Other adjustments**	**Carrying amount**
BNP Paribas Cardif Life Insurance Co., Ltd.	337,586	14.99%	50,638	(32)	-	50,606
KOREA FINANCE SECURITY	20,490	14.91%	3,055	-	-	3,055
DAEGY Electrical Construction Co., Ltd.	252	27.45%	69	-	-	69
DOODOO LOGITECH	4	27.96%	1	-	-	1
One Shinhan Future's Fund 1	10,516	27.78%	2,921	-	-	2,921
KST-Shinhan Fund 1	4,598	20.00%	920	-	-	920
One Shinhan Future's Fund 2	6,003	29.70%	1,783	-	-	1,783
Neoplux Technology Valuation Investment Fund	27,249	33.33%	9,083	-	-	9,083
Partners 4th Growth Investment Fund	47,832	25.00%	11,958	-	-	11,958
KTB Newlake Global Healthcare PEF(*1)	30,780	20.00%	6,156	-	113	6,269
DAEKWANG SEMICON DUCTOR Co., Ltd.	17,343	20.94%	3,631	-	-	3,631
Songrim Co., Ltd.(*2)	(62)	35.34%	(22)	-	22	-
Multimedia Tech Co., Ltd.(*2)	(69)	21.06%	(15)	-	15	-
Hyungje art printing(*2)	(264)	31.54%	(83)	-	83	-
MIEL Co., Ltd.(*2)	(86)	28.77%	(25)	-	25	-
COSPEC BIM tech	233	40.92%	95	-	-	95
WON JIN HOME PLAN CO.,LTD	597	31.69%	189	-	-	189
Korea Credit Bureau	77,509	4.50%	3,488	-	-	3,488
Goduck Gangil1 PFV Co., Ltd(*2)	(13,927)	1.04%	(145)	-	145	-
Goduck Gangil10 PFV Co., Ltd	163	14.00%	23	-	-	23
SBC PFV Co., Ltd(*3)	112,794	12.50%	14,099	-	(4,995)	9,104
ICSF (The Korea's Information Center for Savings & Finance)	490	32.26%	159	-	-	159
Shinhan-Albatross Technology Investment Fund	26,316	33.33%	8,772	-	-	8,772
Shinhan-Neoplux Energy Newbiz Fund	44,381	23.33%	10,355	-	-	10,355
Stassets-DA Value Healthcare Fund I	3,135	24.10%	753	-	-	753
	753,863		127,858	(32)	(4,592)	123,234

(*1) Other is the fair value adjustment amount incurred during acquisition.
(*2) Other adjustments represent the unrecognized share of accumulated losses resulting from the Group's discontinuing the use of equity method since its interest is reduced to zero by the accumulated losses of the investee.
(*3) It is the amount of adjustment that does not use of the equity method for preferred shares without voting rights issued by the investee.

(In millions of Korean won)

14. Investments in associates (continued)

(e) The unrecognized equity method losses and accumulated unrecognized equity losses for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	
		Unrecognized equity method loss	Accumulated unrecognized equity method loss
Songrim Co., Ltd.	₩	-	(22)
MIEL Co., Ltd		(16)	(41)
Goduck Gangil1 PFV Co., Ltd		(19)	(164)
Goduck Gangil10 PFV Co., Ltd		(1,171)	(1,171)
	₩	(1,206)	(1,398)

		December 31, 2020	
		Unrecognized equity method loss	Accumulated unrecognized equity method loss
Songrim Co., Ltd.	₩	-	(22)
Multimedia Tech Co., Ltd		(15)	(15)
Hyungje Art Printing		-	(83)
MIEL Co., Ltd.		(25)	(25)
Goduck Gangil1 PFV Co., Ltd		(145)	(145)
	₩	(185)	(290)

(In millions of Korean won)

15. Investment properties

(a) Investment properties as of December 31, 2021 and 2020 are as follows:

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	455,753	-	455,753
Buildings		257,432	(106,908)	150,524
	₩	713,185	(106,908)	606,277

		December 31, 2020		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	454,486	-	454,486
Buildings		247,290	(91,537)	155,753
	₩	701,776	(91,537)	610,239

(b) Changes in investment properties for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021		
		Land	Buildings	Total
Beginning balance	₩	454,486	155,753	610,239
Acquisition		3,442	4,849	8,291
Disposal		-	(2,279)	(2,279)
Depreciation		-	(12,255)	(12,255)
Amounts transferred from (to) property and equipment		(4,177)	4,209	32
Amounts transferred to assets held for sale		2,002	237	2,239
Foreign currency adjustment		-	10	10
Ending balance	₩	455,753	150,524	606,277

		December 31, 2020		
		Land	Buildings	Total
Beginning balance	₩	488,845	146,675	635,520
Acquisition		-	4,555	4,555
Disposal		(80)	(145)	(225)
Depreciation		-	(11,554)	(11,554)
Amounts transferred from (to) property and equipment		(33,444)	16,296	(17,148)
Amounts transferred to assets held for sale		(835)	(76)	(911)
Foreign currency adjustment		-	2	2
Ending balance	₩	454,486	155,753	610,239

(In millions of Korean won)

15. Investment properties

(c) Fair value of investment properties as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Investment properties (*)	₩	706,509	659,314

(*) Fair value of investment properties is estimated based on the recent market transactions and certain significant unobservable inputs. Accordingly, fair value of investment properties is classified as level 3.

(d) Income and expenses on investment properties for the years ended December 31, 2021 and 2020 are as follows

		December 31, 2021	December 31, 2020
Rental income	₩	24,244	27,472
Direct operating expenses for investment properties that generate rental income		4,985	5,026

(In millions of Korean won)

16. Other assets

Other assets as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Unsettled trades and accounts receivable	₩	7,397,838	4,732,147
Domestic exchange settlement receivables		6,646,920	3,969,758
Guarantee deposits		919,410	976,391
Accrued income		1,452,347	1,323,380
Prepaid expense		102,432	90,338
Suspense payments		292,145	180,082
Sundry assets		120,432	140,615
Others		10,493	15,513
Present value discount		(23,111)	(24,493)
Allowance for impairment		(160,976)	(22,474)
	₩	16,757,931	11,381,257

17. Non-current assets held for sale

(a) Non-current assets held for sale as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Property and equipment	₩	30,706	41,083

The Group has classified property and equipment which are highly expected to be sold within one year from December 31, 2021, as non-current assets held for sale.

(b) The cumulative income or loss recognized in other comprehensive income

There are no cumulative income or loss recognized in other comprehensive income relating to non-current assets held for sale as of December 31, 2021 and 2020.

(In millions of Korean won)

18. Pledged assets

(a) Assets pledged as collateral as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020	Reasons for collateral
Securities (*1):				
Securities at FVOCI	₩	2,338,898	2,294,273	Borrowings, Settlement security for Bank of Korea, Borrowing securities, etc
Securities at amortized cost		15,897,633	14,344,590	Borrowings, Settlement security for Bank of Korea, Customer RP, etc
		18,236,531	16,638,863	
Property and equipment (*2)		4,041	4,041	Set for near mortgage, etc
	₩	18,240,572	16,642,904	

(*1) The carrying amounts of assets pledged as collateral that the third party had the right to sell or repledge regardless of the Group's default as of December 31, 2021 and 2020 are ₩ 606,432 million and ₩ 703,124 million, respectively.
(*2) The amounts are based on the notification amount of pledge.

(b) The fair value of collateral held that the Group has the right to sell or repledge regardless of pledger's default as of December 31, 2021 and 2020 are as follows:

		December 31, 2021		December 31, 2020	
		Collateral held	Collateral sold or repledged	Collateral held	Collateral sold or repledged
Securities	₩	2,163,744	-	2,871,910	-

(In millions of Korean won)

19. Deposits

Deposits as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Demand deposits:			
Korean won	₩	150,303,143	131,215,165
Foreign currencies		20,776,554	16,906,684
		171,079,697	148,121,849
Time deposits:			
Korean won		135,611,024	133,090,296
Foreign currencies		20,858,940	20,196,057
Gain on fair value hedge		(93,765)	(46,940)
		156,376,199	153,239,413
Negotiable certificates of deposits		16,399,604	5,942,309
Note discount deposits		5,818,001	6,226,937
CMA		5,246,478	4,006,319
Others		17,645	18,765
	₩	354,937,624	317,555,592

20. Financial liabilities at fair value through profit or loss

(a) Financial liabilities at FVTPL as of December 31, 2021 and 2020 are as follows:

	December 31, 2021			December 31, 2020		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Securities sold:						
Equity securities	-	₩	2,203	-	₩	-
Gold/silver deposits	-		581,459	-		539,564
		₩	583,662		₩	539,564

(b) Net gain (loss) on financial liabilities at FVTPL for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Securities sold:			
Gain on sale	₩	-	470
Loss on sale		-	(119)
Gain on valuation		30	-
Loss on valuation		(27)	-
Gold/silver deposits:			
Gain on sale		3,937	10,700
Loss on sale		(446)	(2,389)
Loss on valuation		(26,224)	(83,316)
	₩	(22,730)	(74,654)

(In millions of Korean won)

21. Borrowings

Borrowings as of December 31, 2021 and 2020 are as follows:

	December 31, 2021			December 31, 2020		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Call money:						
Korean won	0.00	₩	-	0.35~0.45	₩	620,000
Foreign currencies	(0.30)~0.68		1,444,111	0.00~0.55		1,035,042
			1,444,111			1,655,042
Bill sold	0.00~1.47		9,032	0.00~1.10		10,706
Bonds sold under repurchase agreements:						
Korean won	0.00~1.12		1,176	0.00~0.57		552
Foreign currencies	5.15		81,402	0.59~5.15		158,880
			82,578			159,432
Borrowings in Korean won:						
Borrowings from Bank of Korea	0.25		5,150,101	0.25		5,207,892
Others	0.00~3.70		7,356,645	0.00~4.25		6,791,884
			12,506,746			11,999,776
Borrowings in foreign currencies:						
Overdraft due to banks	0.00~0.30		42,434	0.00		71,309
Borrowings from banks	(0.49)~5.50		5,147,868	0.00~7.50		5,288,021
Sub-lease	0.00		9,994	0.00		8,976
Others	0.00~11.25		1,719,569	0.00~9.85		1,362,125
			6,919,865			6,730,431
Deferred origination costs			(93)			(405)
		₩	20,962,239		₩	20,554,982

(In millions of Korean won)

22. Debt securities issued

Debt securities issued as of December 31, 2021 and 2020 are as follows:

	December 31, 2021			December 31, 2020		
	Interest rate (%)		Amount	Interest rate (%)		Amount
Debt securities issued in Korean won:						
Debt securities issued	0.79~8.00	₩	27,321,306	0.67~8.00	₩	24,690,090
Subordinated debt securities issued	2.20~4.60		3,860,125	2.20~4.60		3,200,125
Gain on fair value hedges			(122,069)			(63,652)
Discount on debt securities issued			(14,726)			(14,599)
			31,044,636			27,811,964
Debt securities issued in foreign currencies:						
Debt securities issued	0.25~3.88		4,178,338	0.25~3.88		3,749,583
Subordinated debt securities issued	3.75~5.00		2,299,631	3.75~5.00		2,673,824
Gain on fair value hedges			130,392			309,880
Discount on debt securities issued			(27,258)			(28,946)
			6,581,103			6,704,341
		₩	37,625,739		₩	34,516,305

(In millions of Korean won)

23. Defined benefit liabilities (assets)

(a) Defined benefit plan assets and liabilities

The Group operates a defined benefit pension system based on employees' length of service. The Group also trusts plan assets in trust companies, fund companies and other similar companies.

Defined benefit plan assets and liabilities as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Present value of defined benefit obligations	₩	1,594,573	1,583,133
Fair value of plan assets		(1,703,164)	(1,590,977)
Net defined benefit liabilities	₩	(108,591)	(7,844)

(b) Changes in the present value of defined benefit obligations for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Beginning balance	₩	1,583,133	1,502,153
Current service cost		127,003	129,297
Interest expense		48,209	42,241
Remeasurements (*1)(*2)		(73,902)	(36,560)
Effects of foreign currency movements		249	(508)
Benefits paid by the plan		(96,374)	(68,020)
Others		5,055	5,279
Past service cost		1,200	9,251
Ending balance	₩	1,594,573	1,583,133

(*1) Remeasurements for the year ended December 31, 2021 consist of ₩65,846million of actuarial gain arising from changes in financial assumptions, ₩8,056million of actuarial gain arising from changes in experience adjustments.
(*2) Remeasurements for the year ended December 31, 2020 consist of ₩39,038million of actuarial gain arising from changes in demographic assumptions, ₩2,478 million of actuarial loss arising from changes in financial assumptions.

(c) Changes in the fair value of plan assets

Changes in the fair value of plan assets for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Beginning balance	₩	1,590,977	1,445,985
Interest income		49,551	41,769
Remeasurements		(27,024)	(15,611)
Contributions paid into the plan		177,000	179,000
Benefits paid by the plan		(87,340)	(60,166)
Ending balance	₩	1,703,164	1,590,977

(In millions of Korean won)

23. Defined benefit liabilities (assets) (continued)

(d) The amount of major categories of the fair value of plan assets as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Deposits	₩	1,532,588	1,527,464
Others		170,576	63,513
	₩	1,703,164	1,590,977

(e) Actuarial assumptions as of December 31, 2021 and 2020 are as follows:

	December 31, 2021	December 31, 2020	Descriptions
Discount rate	3.48%	2.98%	AA0 Corporate bond yields
Future salary increasing rate	2.29% + Promotion rate	2.21% + Promotion rate	Average for last 5 years

(f) Sensitivity analysis

Sensitivity analysis of the present value fluctuations of defined benefit obligations as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	
		Change in present value when the factor rises by 100 basis points	Change in present value when the factor falls by 100 basis points
Discount rate	₩	(146,684)	170,311
Future salary increasing rate		170,628	(149,607)

		December 31, 2020	
		Change in present value when the factor rises by 100 basis points	Change in present value when the factor falls by 100 basis points
Discount rate	₩	(152,648)	178,067
Future salary increasing rate		177,629	(155,105)

(g) The maturity analysis of undiscounted retirement benefit payments for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021					
		1 year or less	1 year~ 2 years or less	2 years~ 5 years or less	5 years~ 10 years or less	More than 10 years	Total
Salary payment amount	₩	37,458	61,657	303,266	492,996	1,449,762	2,345,139

		December 31, 2020					
		1 year or less	1 year~ 2 years or less	2 years~ 5 years or less	5 years~ 10 years or less	More than 10 years	Total
Salary payment amount	₩	35,673	62,323	247,007	481,324	1,403,079	2,229,406

(h) The weighted average durations of defined benefit obligations as of December 31, 2021 and 2020 are 10.3 years and 10.7 years, respectively.

(i) The Group's estimated contribution will be ₩ 127,000 million as of December 31, 2022.

(In millions of Korean won)

24. Provisions

(a) Changes in provision for unused credit commitments and financial guarantee contracts issued for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021						
		Loan commitments and other liabilities for credit			Financial guarantee contracts			
			Lifetime expected credit losses			Lifetime expected credit losses		
		12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total
Beginning balance	₩	83,726	21,858	-	50,375	7,282	9	163,250
Transfer to 12-month expected credit losses		4,671	(4,671)	-	2,892	(2,892)	-	-
Transfer to lifetime expected credit losses		(3,266)	3,266	-	(3,621)	3,621	-	-
Transfer to impaired financial asset		(56)	(75)	131	-	-	-	-
Provision (reversal)		(17,758)	(1,028)	(131)	(268)	(312)	5	(19,492)
Foreign exchange movements		1,964	1,077	-	1,910	534	-	5,485
Others (*)		-	-	-	(3,463)	(1,671)	13	(5,121)
Ending balance	₩	69,281	20,427	-	47,825	6,562	27	144,122

(*) These include the new occurrence of financial guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

(In millions of Korean won)

24. Provisions (continued)

(a) Changes in provision for unused credit commitments and financial guarantee contracts issued for the years ended December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020						
		Loan commitments and other liabilities for credit			Financial guarantee contracts			
			Lifetime expected credit losses			Lifetime expected credit losses		
		12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	12-month expected credit losses	Credit unimpaired financial asset	Credit-impaired financial asset	Total
Beginning balance	₩	65,836	20,872	6	59,133	5,555	811	152,213
Transfer to 12-month expected credit losses		5,177	(5,177)	-	2,059	(2,059)	-	-
Transfer to lifetime expected credit losses		(2,546)	2,546	-	(3,913)	3,913	-	-
Transfer to impaired financial asset		(56)	(104)	160	-	-	-	-
Provision (reversal)		16,508	4,073	(166)	7,950	1,844	(822)	29,387
Foreign exchange movements		(1,193)	(352)	-	(1,335)	(223)	(49)	(3,152)
Others (*)		-	-	-	(13,519)	(1,748)	69	(15,198)
Ending balance	₩	83,726	21,858	-	50,375	7,282	9	163,250

(*) These include the new occurrence of financial guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

(In millions of Korean won)

24. Provisions (continued)

(b) Changes in other provisions for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021				
		Asset retirement	Litigation	Non-financial guarantee contracts	Others	Total
Beginning balance	₩	40,884	8,892	21,958	111,311	183,045
Provision (reversal)		6,779	(672)	3,701	79,421	89,229
Provision used		(2,415)	(5,107)	-	(8,382)	(15,904)
Foreign exchange movements		-	-	1,264	(540)	724
Others (*)		3,614	-	(100)	311	3,825
Ending balance	₩	48,862	3,113	26,823	182,121	260,919

(*) This is the effect of changing the discount rate.

		December 31, 2020				
		Asset retirement	Litigation	Non-financial guarantee contracts	Others	Total
Beginning balance	₩	39,089	5,895	25,586	46,282	116,852
Provision (reversal)		1,344	3,046	(2,709)	69,173	70,854
Provision used		(920)	(49)	-	(6,765)	(7,734)
Foreign exchange movements		-	-	(1,030)	697	(333)
Others (*)		1,371	-	111	1,924	3,406
Ending balance	₩	40,884	8,892	21,958	111,311	183,045

(*) This is the effect of changing the discount rate.

(c) Asset retirement obligation liabilities

Asset retirement obligation liabilities represent the estimated cost to restore the existing leased properties which are discounted to the present value using the appropriate discount rate at the end of the reporting period. Disbursements of such costs are expected to incur at the end of the lease contract. Such costs are reasonably estimated using the average lease period and the average restoration expenses. The average lease period is calculated based on the past ten-year historical data of the expired leases. The average restoration expense is calculated based on the actual costs incurred for the past three years using the three-year average inflation rate.

(In millions of Korean won)

25. Other liabilities

Other liabilities as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Account payables	₩	7,584,144	5,132,357
Borrowing from trust account		5,189,455	5,082,658
Accrued expenses		2,238,814	2,298,435
Liability incurred by agency relationship		1,191,097	1,239,226
Domestic exchange settlement payable		1,809,727	5,674,689
Lease liabilities (*)		414,416	438,937
Agency business income		877,381	780,635
Guarantee deposits received		558,239	669,388
Foreign exchange settlement payables		221,521	258,931
Suspense payable		45,037	88,040
Unearned income		74,664	80,918
Withholding value-added tax and other taxes		137,535	127,915
Sundry liabilities		171,855	169,785
Present value discount		(10,889)	(13,919)
	₩	20,502,996	22,027,995

(*) For the year ended December 31, 2021, expenses for the variable lease payments that are not included in the measurement of lease liabilities amount to ₩ 79 million, the cash outflows from lease liabilities amount to ₩ 217,795 million, and interest expense on lease liabilities amount to ₩ 6,852 million. Expenses for variable lease payments not included in the measurement of lease liabilities for the year ended December 31, 2020 amount to ₩ 114 million, cash outflows from lease liabilities amount to ₩ 211,695 million, and interest expense on lease liability amounts to ₩ 6,224 million.

(In millions of Korean won)

26. Equity

(a) Equity as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Capital stock:			
Common stock	₩	7,928,078	7,928,078
Other equity instruments:			
Hybrid bonds		1,586,662	1,586,662
Capital surplus:			
Share premium		398,080	398,080
Others		5,084	5,084
		403,164	403,164
Capital adjustments:			
Stock options		3,702	7,745
Others		(960)	(3,547)
		2,742	4,198
Accumulated other comprehensive income (loss):			
Net change in fair value of financial instruments at FVOCI		(210,617)	93,798
Share of other comprehensive income of associates		2,254	5,120
Foreign currency translation differences for foreign operations		(142,654)	(350,309)
Remeasurements of defined benefit plans		(256,023)	(290,020)
		(607,040)	(541,411)
Retained earnings:			
Legal reserve (*1)		2,437,255	2,254,638
Voluntary reserve (*2)		13,518,553	12,738,659
Other reserve (*3)		156,327	135,023
Unappropriated retained earnings (*4)		3,802,425	3,150,114
		19,914,560	18,278,434
Non-controlling interests		7,472	6,389
	₩	29,235,638	27,665,514

(*1) According to the Article 40 of the Banking Act, the Bank is required to appropriate an amount equal to a minimum of 10% of cash dividends paid for each accounting period as a legal reserve, until such reserve equals 100% of issued capital. The legal reserve is only available to reduce accumulated deficit or transfer to capital stock.
(*2) The amounts include regulatory reserve for loan loss based on separate financial statements of ₩ 2,276,212 million and ₩ 2,195,634 million as of December 31, 2021 and 2020, respectively. The amounts also include asset revaluation surplus of ₩ 355,898 million as of December 31, 2021 and 2020.
(*3) Other reserve is established according to the laws applicable to some oversea branches and it may be used only to reduce their deficit.
(*4) As of December 31, 2021, the difference between the expected provision for regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩ 6,277 million, and this includes the expected provision for regulatory reserve of loan loss based on consolidated statements amounting ₩ 289,920 million. As of December 31, 2020, the difference between the expected provision for regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩ 18,631 million, and this includes the expected provision for regulatory reserve of loan loss based on consolidated statements amounting ₩ 99,209 million.

(In millions of Korean won)

26. Equity (continued)

(b) Capital stock as of December 31, 2021 and 2020 are as follows:

	December 31, 2021	December 31, 2020
Number of authorized shares	2,000,000,000 shares	2,000,000,000 shares
Par value per share in won	₩5,000	₩5,000
Number of issued shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(c) Hybrid bonds

Hybrid bonds as of December 31, 2021 and 2020 are as follows:

Date of issuance	Date of maturity		Book value December 31, 2021	Book value December 31, 2020	Interest rate (%)
Hybrid bonds issued in Korean won:					
June 7, 2013	June 7, 2043	₩	299,568	299,568	4.63
June 29, 2017	Perpetual bond		129,701	129,701	3.33
June 29, 2017	Perpetual bond		69,844	69,844	3.81
October 15, 2018	Perpetual bond		199,547	199,547	3.70
February 25, 2019	Perpetual bond		299,327	299,327	3.30
February 25, 2020	Perpetual bond		239,459	239,459	2.88
February 25, 2020	Perpetual bond		49,888	49,888	3.08
November 5, 2020	Perpetual bond		299,328	299,328	2.87
		₩	1,586,662	1,586,662	
Dividends on hybrid bond holders		₩	55,248	44,529	
Weighted average interest rate (%)			3.48	3.44	

The above hybrid bonds are subject to early redemption option after five years or ten years from the date of issuance, and the maturity can be extended under the same condition at the maturity date.

(In millions of Korean won)

26. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss)

Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021						
		Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss			
		Net change in fair value of financial assets at FVOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial assets at FVOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans	Total
Beginning balance	₩	100,226	5,119	(350,308)	(6,427)	-	(290,021)	(541,411)
Change due to fair value measurement		(436,566)	-	-	23,156	-	-	(413,410)
Change due to equity method measurement		-	(1,230)	-	-	-	-	(1,230)
Change due to impairment		11,758	-	-	-	-	-	11,758
Change due to disposal		(74,939)	-	-	-	-	-	(74,939)
Effect of hedge accounting		10,627	-	(74,525)	-	-	-	(63,898)
Effect of foreign currency movements		-	-	281,459	674	-	-	282,133
Remeasurements of defined benefit plans		-	-	-	-	-	46,878	46,878
Amounts transferred to retained earnings		-	-	-	45,518	-	-	45,518
Effect of tax		134,428	(1,636)	721	(19,071)	-	(12,881)	101,561
Ending balance	₩	(254,466)	2,253	(142,653)	43,850	-	(256,024)	(607,040)

(In millions of Korean won)

26. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss) (continued)

Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the years ended December 31, 2021 and 2020 are as follows (continued):

		December 31, 2020						
		Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss			
		Net change in fair value of financial assets at FVOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial assets at FVOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans	Total
Beginning balance	₩	141,962	8,163	(215,780)	(32,228)	-	(305,148)	(403,031)
Change due to fair value measurement		23,338	-	-	(3,514)	-	-	19,824
Change due to equity method measurement		-	(1,057)	-	-	-	-	(1,057)
Change due to impairment		(4,148)	-	-	-	-	-	(4,148)
Change due to disposal		(66,238)	-	5,858	-	-	-	(60,380)
Effect of hedge accounting		(4,394)	-	44,049	-	-	-	39,655
Effect of foreign currency movements		-	-	(187,887)	723	-	-	(187,164)
Remeasurements of defined benefit plans		-	-	-	-	-	20,949	20,949
Amounts transferred to retained earnings		-	-	-	38,379	-	-	38,379
Effect of tax		9,706	(1,987)	3,452	(9,787)	-	(5,822)	(4,438)
Ending balance	₩	100,226	5,119	(350,308)	(6,427)	-	(290,021)	(541,411)

(In millions of Korean won, except for par value per share and dividend per share)

26. Equity (continued)

(e) The appropriation of retained earnings for the year ended December 31, 2021, is expected to be appropriated at the shareholders' meeting on March 23, 2022. The appropriation date for the year ended December 31, 2020, was March 24, 2021.

Statements of appropriation of retained earnings for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Unappropriated retained earnings:			
Balance at beginning of year	₩	-	-
Transfer from other comprehensive income through the sale of securities at FVOCI		(33,001)	(27,826)
Interest on hybrid bond		(55,248)	(44,529)
Profit for the year		2,152,934	1,826,170
		2,064,685	1,753,815
Transfer from reserves:			
Voluntary reserve		10,607,590	9,908,273
		12,672,275	11,662,088
Appropriation of retained earnings:			
Legal reserve		215,294	182,617
Regulatory reserve for loan loss		283,643	80,578
Other reserve		19,577	21,304
Voluntary reserves		11,253,761	10,607,589
Loss on redemption of hybrid bond			
Dividends on common stock		900,000	770,000
(Dividend per share in won:			
2021 ₩567.60 (11.35%)			
2020 ₩485.62 (9.71%)			
		12,672,275	11,662,088
Unappropriated retained earnings to be carried over to subsequent year	₩	-	-

These statements of appropriation of retained earnings are based on the separate financial statements of the Bank.

(f) Dividends

Dividends of common stock for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Number of issued shares outstanding		1,585,615,506	1,585,615,506
Par value per share in won	₩	5,000	5,000
Dividend rate per share		11.35%	9.71%
Dividend per share in won	₩	567.60	485.62

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(In millions of Korean won)

26. Equity (continued)

(g) Dividends payout ratio

Dividends payout ratio for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Dividends	₩	900,000	770,000
Profit for the year (*)		2,494,375	2,077,793
Dividends payout ratio to profit for the year		36.08%	37.06%
Profit for the year adjusted for regulatory reserve (*)		2,204,455	1,978,584
Dividends payout ratio to profit for the year adjusted for regulatory reserve for loan loss		40.83%	38.92%

(*) Profit for the year and profit for the year adjusted for regulatory reserve for loan loss are the amount attributable to equity holder of the Bank.

27. Regulatory reserve for loan loss

The Group should calculate and disclose regulatory reserve for loan loss, in accordance with *the Article 29-1 and 29-2 of Regulation on Supervision of Banking Business.*

(a) The regulatory reserve for loan loss as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Regulatory reserve for loan loss	₩	2,342,070	2,242,861
Provision for regulatory reserve for loan loss(*)		289,920	99,209
	₩	2,631,990	2,342,070

(*) After the Board of Director's approval of financial statements (February 8, 2022), on March 11, 2022, the Board of Directors decided to provision an additional regulatory reserve for loan loss of ₩ 83,977 million to enhance loss absorbing capacity based on measures to extend COVID-19 financial support.

(b) Provision for regulatory reserve for loan loss and adjusted profit after reflecting regulatory reserve for loan loss

Provision for regulatory reserve for loan loss and adjusted profit after reflecting regulatory reserve for loan loss for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Provision for regulatory reserve for loan loss (*1)	₩	289,920	99,209
Adjusted profit after reflecting regulatory reserve for loan loss(*2)		2,204,974	1,979,023
Adjusted earnings per share after reflecting regulatory reserve for loan loss in won		1,356	1,220

(*1) After the Board of Director's approval of financial statements (February 8, 2022), on March 11, 2022, the Board of Directors decided to provision an additional regulatory reserve for loan loss of ₩ 83,977 million to enhance loss absorbing capacity based on measures to extend COVID-19 financial support.
(*2) The adjusted reserve which reflects abovementioned loan loss is not based on K-IFRS and is calculated by assuming that the provisions of loan loss before income tax effects are reflected in profit for the year.

(In millions of Korean won)

28. Net interest income

(a) Net interest income for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Interest income:			
Cash and due from banks	₩	34,922	64,502
Securities at FVTPL		209,463	255,008
Securities at FVOCI		539,489	597,123
Securities at amortized cost		444,048	452,107
Loans (*1)		8,175,449	8,193,732
Others		42,100	53,310
		9,445,471	9,615,782
Interest income from impaired financial assets		15,897	19,170
Interest expense: (*2)			
Deposits		2,095,439	2,752,438
Borrowings		137,663	203,999
Debt securities issued		562,852	691,242
Others		37,759	40,570
		2,833,713	3,688,249
Net interest income	₩	6,611,758	5,927,533

(*1) Includes interest income from loans at FVTPL of ₩8,362 million and ₩9,440 million, respectively for the years ended December 31, 2021 and 2020.
(*2) There is no interest expense for loans at FVTPL for the years ended December 31, 2021 and 2020.

(In millions of Korean won)

29. Net fees and commission income

Net fees and commission income for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Fees and commission income:			
Credit placement fees	₩	62,691	83,462
Commission received as electronic charge receipt		150,011	143,219
Brokerage fees		92,693	88,534
Commission received as agency		268,685	297,382
Investment banking fees		88,332	92,331
Commission received in foreign exchange activities		198,662	184,550
Asset management fees from trust accounts		183,765	166,960
Guarantee fees		86,835	81,460
Others		142,076	127,083
		1,273,750	1,264,981
Fees and commission expense:			
Credit-related fees		37,494	44,554
Brand-related fees		42,279	42,279
Service-related fees		44,501	45,683
Trading and brokerage fees		8,155	8,340
Commission paid in foreign exchange activities		43,344	42,048
Others		120,172	94,506
		295,945	277,410
Net fees and commission income	₩	977,805	987,571

30. Dividend income

Dividend income for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Securities at FVTPL	₩	2,051	1,545
Securities at FVOCI(*)		16,520	16,332
	₩	18,571	17,877

(*) Dividend income for stocks disposed for the years ended December 31, 2021 and 2020 are ₩ 840 million and ₩ 1,529 million, respectively.

(In millions of Korean won)

31. Gain and loss on financial instruments at fair value through profit or loss

Gain and loss on financial instruments at FVTPL for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Financial instruments at FVTPL			
Debt:			
Gain on valuation of debt securities	₩	211,050	151,668
Gain on sale of debt securities		46,603	85,721
Loss on valuation of debt securities		(171,987)	(39,254)
Loss on sale of debt securities		(86,255)	(67,246)
Others		155,911	96,118
		155,322	227,007
Equity:			
Gain on valuation of equity securities		15,340	4,159
Gain on sale of equity securities		16,251	6,715
Loss on valuation of equity securities		(2,613)	(6,335)
Loss on sale of equity securities		(8,097)	(9,800)
		20,881	(5,261)
Gold/silver:			
Gain on valuation of gold/silver deposits		9,316	22,690
Gain on sale of gold/silver deposits		3,937	10,701
Loss on valuation of gold/silver deposits		(26,224)	(83,316)
Loss on sale of gold/silver deposits		(446)	(2,389)
		(13,417)	(52,314)
Loans at FVTPL:			
Gain on valuation of loans		12,239	7,818
Gain on sale of loans		14,698	11,792
Loss on valuation of loans		(3,252)	(2,905)
Loss on sale of loans		(3,163)	(2,678)
		20,522	14,027
		183,308	183,459
Derivatives			
Foreign currency related:			
Gain on valuation and transaction		8,054,862	10,254,901
Loss on valuation and transaction		(7,907,112)	(10,195,077)
		147,750	59,824
Interest rates related:			
Gain on valuation and transaction		753,398	521,537
Loss on valuation and transaction		(733,805)	(606,300)
		19,593	(84,763)
Equity related:			
Gain on valuation and transaction		10,988	25,046
Loss on valuation and transaction		(17,511)	(36,206)
		(6,523)	(11,160)
Commodity related:			
Gain on valuation and transaction		8,752	27,864
Loss on valuation and transaction		(18,388)	(6,643)
		(9,636)	21,221
		151,184	(14,878)
Net gain on financial instruments at FVTPL	₩	334,492	168,581

(In millions of Korean won)

32. General and administrative expenses

General and administrative expenses for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Employee benefits:			
Short and long term employee benefits	₩	1,936,091	1,837,096
Post-employee defined benefits		126,904	139,058
Post-employee defined contributions		426	425
Termination benefits		128,534	77,716
		2,191,955	2,054,295
Amortization:			
Depreciation		123,208	126,101
Amortization of intangible assets		59,625	52,631
Depreciation of right-of-use assets		229,384	232,285
		412,217	411,017
Other general and administrative expenses:			
Rent		57,384	55,147
Service contract expenses		259,213	264,403
Taxes and dues		92,601	96,293
Advertising		98,364	80,765
Electronic data processing expenses		61,221	58,122
Others		188,078	182,904
		756,861	737,634
	₩	3,361,033	3,202,946

(In millions of Korean won, except for fair value and share data)

33. Share-based payments

(a) Stock options granted as of December 31, 2021 are as follows:

	7th grant
Grant date	March 19, 2008
Exercise price in won	₩49,053
Number of shares granted	332,850
Contractual exercise Period	2017.05.18 ~ 2021.05.17 2017.09.18 ~ 2021.09.17
Changes in number of shares granted:	
Outstanding at December 31, 2020	21,474
Exercised	21,474
Outstanding at December 31, 2021	-
Fair value	-

(b) Equity-settled share-based payments

i) Equity-settled share-based payments as of December 31, 2021 are as follows:

	Contents
Type	Equity-settled share-based payment
Service period	Upon appointment and promotion since January 1, 2014 (Within 1 year from grant date)
Performance conditions	Linked to relative stock price (20.0%) and management index for 4 years (80.0%)

(*) The Group granted shares of Shinhan Financial Group. According to the commitment, the amount that the Group pays to the Shinhan Financial Group is recognized as liabilities, and the difference between the amount recognized as liabilities and the compensation cost based on equity-settled share-based payments is recognized in equity.

(In millions of Korean won, except for fair value and share data)

33. Share-based payments (continued)

(b) Equity-settled share-based payments (continued)

ii) Granted shares and the fair value of grant date as of December 31, 2021 are as follows:

Grant date	Grant shares	Fair value (*1) (in won)	Estimated shares (*2)
18-Mar-15	16,800	42,650	13,300
22-May-15	5,300	42,800	3,251
01-Jan-16	211,500	39,000	25,600
01-Jan-17	217,300	45,300	12,066
23-Jan-17	2,700	45,600	2,536
07-Mar-17	17,400	46,950	14,300
01-Jan-18	225,070	49,400	209,317
24-Jan-18	1,275	52,700	983
01-Jan-19	296,226	39,600	249,481
26-Mar-19	23,410	42,750	16,354
01-Apr-19	3,696	43,750	2,525
01-Jun-19	2,839	44,450	1,471
04-Jul-19	7,392	44,450	3,324
08-Jul-19	3,696	43,650	1,626
	1,034,603		556,134

(*1) The fair value per share is evaluated based on the closing price of Shinhan Financial Group at each grant date. As of December 31, 2021, the fair value per share data evaluated by Shinhan Financial Group amounted to ₩36,800.
(*2) Grant shares at grant date were adjusted pursuant to increase rate of stock price(20.0%) and achievement of target ROE(80.0%) based on standard quantity applicable to the days of service among specified period of service, which allows the determination of acquired quantity at the end of the operation period.

(In millions of Korean won)

33. Share-based payments (continued)

(c) Details of performance-based stock compensation as of December 31, 2020 are as follows:

	Expired	Not expired
Type	Cash-settled share-based payment	
Performance conditions	Relative stock price linked (20.0%), management index (60.0%), and prudential index (20.0%)	
Exercising period	4 years from the commencement date of the year to which the grant date belongs	
Grant shares	635,562	
Estimated number of shares vested at December 31, 2021	-	552,532
Fair value per share in Korean won	36,800	

(*) Based on performance-based stock compensation, the reference stock price (the arithmetic average of the weighted average share price of transaction volume for the past two month, the previous one month, and the past one week) of four years after the commencement of the grant year is paid in cash, and the fair value of the reference stock to be paid in the future is assessed as the closing price of the settlement.

(d) Stock compensation costs calculated for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Compensation costs recorded for the year	₩	13,232	6,077

(e) Accrued expenses of the stock compensation costs and residual compensation costs as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Accrued expenses	₩	39,630	40,171

(In millions of Korean won)

34. Net other operating expenses

Net other operating expenses for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Other operating income			
Gain on sale of assets:			
Loans at amortized cost	₩	14,195	4,347
Written-off loans		-	11,920
		14,195	16,267
Others:			
Gain on hedge activity from hedged items		289,733	50,805
Gain on hedge activity from hedging instruments		16,421	289,111
Reversal of allowance for acceptances and guarantee		-	2,709
Others		111,385	39,103
		417,539	381,728
		431,734	397,995
Other operating expense			
Loss on sale of assets:			
Loans at amortized cost		255	18,584
Others:			
Loss on hedge activity from hedged items		19,359	279,071
Loss on hedge activity from hedging instruments		296,661	58,236
Provision for allowance for acceptances and guarantee		3,701	-
Provision for other allowance		4,894	11,252
Contribution to fund		388,790	359,071
Deposit insurance fee		403,566	342,730
Others		224,415	236,475
		1,341,386	1,286,835
		1,341,641	1,305,419
Net other operating expenses	₩	(909,907)	(907,424)

(In millions of Korean won)

35. Net non-operating income

Net non-operating income for the years ended December 31, 2021 and 2020 are as follows:

	December 31, 2021	December 31, 2020
Non-operating income		
Gain on sale of assets:		
Property and equipment	₩ 444	30,429
Intangible assets	4	122
Investment property	108	-
Non-current assets held for sale	16,976	1,147
Assets not used for business purpose	-	24
	17,532	31,722
Investments in associates:		
Gain from dividends	-	4,453
Gain from disposal	1,924	1,304
	1,924	5,757
Others:		
Rental income on investment property	24,244	27,472
Others	34,353	29,803
	58,597	57,275
	78,053	94,754
Non-operating expenses		
Loss on sale of assets:		
Property and equipment	(261)	(4,669)
Intangible assets	(10)	-
Investment property	(2,111)	-
Non-current assets held for sale	(1,186)	(134)
	(3,568)	(4,803)
Investments in associates:		
Loss from disposal	(2,087)	(244)
Others:		
Investment properties depreciation	(12,255)	(11,554)
Donations	(42,693)	(65,384)
Impairment loss on intangible assets	(1,124)	(27,190)
Others	(280,547)	(114,973)
	(336,619)	(219,101)
	(342,274)	(224,148)
Net non-operating expenses	₩ (264,221)	(129,394)

(In millions of Korean won)

36. Income tax expense

(a) The components of income tax expense of the Group for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Current income tax expense	₩	754,373	730,571
Deferred taxes arising from changes in temporary differences		(18,987)	(52,105)
Deferred taxes arising from utilization of expired unused tax losses		14,522	33,819
Tax adjustment charged or credited directly to equity		103,094	(7,076)
Income tax expense	₩	853,002	705,209

(b) The income tax expense calculated by applying statutory tax rates to the Group's taxable income differs from the actual tax expense in the consolidated statements of income for the years ended December 31, 2021 and 2020 for the following reasons:

		December 31, 2021	December 31, 2020
Profit before income tax	₩	3,347,896	2,783,441
Statutory tax rate		27.50%	27.50%
Income tax expense at statutory tax rates		910,309	755,084
Adjustments:			
Non-taxable income		(475)	(579)
Non-deductible expense		6,855	7,603
Decrease resulting from consolidated corporate tax system		(34,142)	(46,567)
Income tax paid (refund)		6,281	(1,284)
Others (impact of tax rate change, etc.)		(35,826)	(9,048)
Income tax expense	₩	853,002	705,209
Effective tax rate		25.48%	25.34%

(In millions of Korean won)

36. Income tax expense (continued)

(c) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021			
		Beginning balance	Decreases	Increases	Ending balance(*1)
Accrued income	₩	(179,125)	(12,390)	-	(191,515)
Accounts receivable		(29,158)	2,499	-	(26,659)
Securities at FVTPL		138,498	(20,026)	-	118,472
Investments in associates and subsidiaries		(232,470)	(117,175)	(1,635)	(351,280)
Deferred loan origination costs and fees		(137,608)	(12,016)	-	(149,624)
Revaluation and depreciation on property and equipment		(113,002)	(762)	-	(113,764)
Derivative liabilities		(27,404)	(57,516)	-	(84,920)
Deposits		27,632	(3,202)	-	24,430
Accrued expenses		70,366	(5,412)	-	64,954
Defined benefit obligations		402,461	24,196	(20,312)	406,345
Plan assets		(429,598)	(46,204)	7,432	(468,370)
Other provisions		73,334	15,712	-	89,046
Allowance for guarantees and acceptance		21,897	443	-	22,340
Allowance for advanced depreciation		(48,712)	-	-	(48,712)
Allowance for expensing depreciation		(337)	63	-	(274)
Net change in fair value of securities at FVOCI		(33,129)	80	115,357	82,308
Donation payables		16,562	19,552	-	36,114
Allowance and bad debt		196,628	(124,910)	-	71,718
Compensation expenses associated with stock option		22	(1)	-	21
Fictitious dividends		16,168	445	-	16,613
Others		(16,673)	135,883	2,252	121,462
	₩	(283,648)	(200,741)	103,094	(381,295)
Appropriation by extinctive prescription of deposit	₩	265,886	(14,522)	-	251,364
Investments in associates and Subsidiaries (*2)		(247,123)	(117,574)	-	(364,697)
	₩	229,361	(97,689)	103,094	234,766

(*1) Deferred tax assets of overseas subsidiaries have increased by ₩939 million due to foreign currency exchange rate changes.
(*2) The effect of income taxes by the valuation of equity method is reasonably estimated based on the both plausibility and the applicable amount of deferred income tax belonging to each associate investee.

(In millions of Korean won)

36. Income tax expense (continued)

(c) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2021 and 2020 are as follows: (continued)

		December 31, 2020			
		Beginning balance	Decreases	Increases	Ending balance(*1)
Accrued income	₩	(179,177)	52	-	(179,125)
Accounts receivable		(26,404)	(2,754)	-	(29,158)
Securities at FVTPL		145,532	(7,034)	-	138,498
Investments in associates and subsidiaries		(195,494)	(34,990)	(1,986)	(232,470)
Deferred loan origination costs and fees		(137,164)	(444)	-	(137,608)
Revaluation and depreciation on property and equipment		(111,250)	(1,752)	-	(113,002)
Derivative liabilities		(67,470)	40,066	-	(27,404)
Deposits		30,641	(3,009)	-	27,632
Accrued expenses		72,970	(2,604)	-	70,366
Defined benefit obligations		379,599	32,976	(10,114)	402,461
Plan assets		(393,310)	(40,581)	4,293	(429,598)
Other provisions		48,945	24,389	-	73,334
Allowance for guarantees and acceptance		25,048	(3,151)	-	21,897
Allowance for advanced depreciation		(48,713)	1	-	(48,712)
Allowance for expensing depreciation		(401)	64	-	(337)
Net change in fair value of securities at FVOCI		37,489	(70,537)	(81)	(33,129)
Donation payables		36,711	(20,149)	-	16,562
Allowance and bad debt		34,158	162,470	-	196,628
Compensation expenses associated with stock option		30	(8)	-	22
Fictitious dividends		1,217	14,951	-	16,168
Others		46,663	(64,148)	812	(16,673)
	₩	(300,380)	23,808	(7,076)	(283,648)
Appropriation by extinctive prescription of deposit	₩	299,706	(33,820)	-	265,886
Investments in associates and Subsidiaries (*2)		(213,709)	(33,414)	-	(247,123)
	₩	213,035	23,402	(7,076)	229,361

(*1) Deferred tax assets of overseas subsidiaries have increased by ₩1,960 million due to foreign currency exchange rate changes.
(*2) The effect of income taxes by the valuation of equity method is reasonably estimated based on the both plausibility and the applicable amount of deferred income tax belonging to each associate investee.

(In millions of Korean won)

36. Income tax expense (continued)

(d) Changes in tax effects that are directly charged or credited to equity for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021		December 31, 2020		
		Amount before tax	Tax effects	Amount before tax	Tax effects	Changes in tax effects
Net change in fair value of securities at FVOCI	₩	(299,304)	88,687	120,468	(26,670)	115,357
Share of other comprehensive income (loss) of associates		5,993	(3,738)	7,223	(2,103)	(1,635)
Foreign currency translation differences for foreign operations		(202,514)	(5,525)	(483,974)	(6,246)	721
Remeasurements of defined benefit plans		(353,203)	97,180	(400,082)	110,060	(12,880)
Capital adjustments		5,106	(1,403)	10,683	(2,934)	1,531
	₩	(843,922)	175,201	(745,682)	72,107	103,094

		December 31, 2020		December 31, 2019		
		Amount before tax	Tax effects	Amount before tax	Tax effects	Changes in tax effects
Net change in fair value of securities at FVOCI	₩	120,468	(26,670)	136,322	(26,589)	(81)
Share of other comprehensive income (loss) of associates		7,222	(2,102)	8,281	(117)	(1,985)
Foreign currency translation differences for foreign operations		(483,974)	(6,246)	(206,083)	(9,697)	3,451
Remeasurements of defined benefit plans		(400,081)	110,060	(421,030)	115,882	(5,822)
Capital adjustments		10,683	(2,934)	1,088	(295)	(2,639)
	₩	(745,682)	72,108	(481,422)	79,184	(7,076)

(e) The current tax assets and liabilities as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Current tax assets:			
Prepaid income taxes	₩	27,018	15,605
Current tax liabilities:			
Payable due to consolidated tax system	₩	270,804	216,423
Income taxes payables		40,740	38,863
	₩	311,544	255,286

(In millions of Korean won, except for earnings per share)

36. Income tax expense (continued)

(f) The deferred tax assets (liabilities) and current tax assets (liabilities) presented on a gross basis prior to any offsetting as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Deferred tax assets	₩	2,265,667	2,586,848
Deferred tax liabilities		2,030,901	2,357,487
Current tax assets		364,157	377,624
Current tax liabilities		648,683	617,305

37. Earnings per share

(a) Earnings per share

Earnings per share for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Profit for the year	₩	2,494,375	2,077,793
Less: dividends on hybrid bonds		(55,248)	(44,529)
Profit available for common stock	₩	2,439,127	2,033,264
Weighted average number of common shares outstanding		1,585,615,506 shares	1,585,615,506 shares
Basic and diluted earnings per share in won	₩	1,538	1,282

Considering that the Group had no dilutive potential common shares and that stock options are not included in the calculation of diluted earnings per share because they are anti-dilutive for the reporting periods presented, diluted earnings per share equal to basic earnings per share for the years ended December 31, 2021 and 2020.

(b) Weighted average number of common shares outstanding

Weighted average number of common shares outstanding as of December 31, 2021 and 2020 are as follows:

	December 31, 2021	December 31, 2020
Number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares
Weight	365/365	366/366
Weighted average number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(In millions of Korean won)

38. Commitments and contingencies

(a) Guarantees, acceptances and credit commitments as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Guarantees:			
Guarantee outstanding	₩	10,494,647	10,231,521
Contingent guarantees		4,670,080	3,405,270
ABS and ABCP purchase commitments		1,373,703	1,515,004
		16,538,430	15,151,795
Commitments to extend credit:			
Loan commitments in Korean won		80,185,878	79,271,528
Loan commitments in foreign currencies		19,896,985	19,407,713
Others		3,074,886	2,970,548
		103,157,749	101,649,789
Endorsed bills:			
Secured endorsed bills		8,199	1,650
Unsecured endorsed bills		7,683,165	7,324,559
		7,691,364	7,326,209
	₩	127,387,543	124,127,793

(b) Provision for acceptances and guarantees

Allowance for acceptances and guarantees, as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Guarantees outstanding	₩	10,494,647	10,231,521
Contingent guarantees		4,670,080	3,405,270
ABS and ABCP purchase commitments		1,373,703	1,515,004
Secured endorsed bills		8,199	1,650
	₩	16,546,629	15,153,445
Allowance for acceptances and guarantees	₩	81,237	79,624
Ratio (%)		0.49	0.53

(In millions of Korean won)

38. Commitments and contingencies (continued)

(c) Legal contingencies

Pending litigations in which the Group is involved as a defendant as of December 31, 2021and 2020 are as follows:

December 31, 2021

Case	Number of claim	Claim amount	Description	Status
Deposit return	1	₩ 4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent, and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second order and the third order is ongoing as of December 31, 2021.
Check return	1	9,000	The plaintiff presented a total of nine checks (₩ 9 billion in total) to the Group. However, the payment was rejected due to the accident report (lost of check) from the Group. Therefore, the Plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The first order is ongoing as of December 31, 2021.
Return of unjust earning	1	33,096	The Plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first order is ongoing as of December 31, 2021.
Others	167	75,559	It includes various cases, such as compensation for loss claim.	
	170	122,261		

December 31, 2020

Case	Number of claim	Claim amount	Description	Status
Deposit return	1	₩ 4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent, and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second order and the third order is ongoing as of December 31, 2020.
Claim for the payment to execute the assignment order	1	7,099	For the deposits at the Group owned by one of the debtor, the plaintiff has received a provisional seizure order, bond seizure and an assignment order that assigned the Group as a third party debtor. Accordingly, the plaintiff filed a claim against the Group for the debt payment to execute the assignment order.	The first order is ongoing as of December 31, 2020.
Others	162	84,550	It includes various cases, such as compensation for loss claim.	
	164	₩ 96,255		

38. Commitments and contingencies (continued)

(c) Legal contingencies (continued)

As of December 31, 2021 and 2020, the Group recorded a provision of ₩ 3,114 million and ₩ 8,893 million for litigation for certain of the above lawsuits. Additional losses may be incurred from these legal actions besides the current provision established by the Group, but the amount of loss is not expected to have a material adverse effect on the Group's consolidated financial statements.

(d) Others

In order to fulfill the obligations as of December 31, 2021 according to the decision on the dispute settlement committee of the Financial Supervisory Service and the resolution of the Board of Directors, the Group recognized an estimated amount of damages for ₩289.9 billion that is highly likely to be paid as provisions for customer losses expected due to delay in redemption of Lime CI Fund, etc. The amount prepaid for liquidity provision in this regard amount to ₩ 217.4 billion as of December 31, 2021.

(In millions of Korean won)

39. Statements of cash flows

(a) Cash and cash equivalents reported in the accompanying consolidated statements of cash flows as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Cash	₩	4,152,634	1,740,580
Reserve deposits		9,624,230	16,711,286
Other deposits		9,003,263	9,123,882
Cash and due from banks		22,780,127	27,575,748
Less: Restricted due from banks		(11,494,567)	(19,463,821)
Less: Due with original maturities of more than three months		(838,244)	(1,476,313)
	₩	10,447,316	6,635,614

(b) Significant non-cash activities for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Debt-equity swap	₩	32,239	58,528
Accounts payable for purchase of property and equipment		3,797	2,258
Accounts payable for purchase of intangible assets		(137,058)	(137,475)
Recognition of right-of-use assets		190,465	209,730
Recognition of lease liabilities		172,346	195,747

(c) Changes in liabilities resulting from financing activities for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021				
		Derivative assets	Borrowings	Debentures	Lease liabilities	Total
Beginning balance	₩	(252,187)	20,554,982	34,516,305	438,936	55,258,036
Changes in cash flows		1,652	(169,958)	2,862,735	(213,509)	2,480,920
Amortization		-	314	1,560	6,852	8,726
Net foreign currencies transaction loss		-	576,901	480,132	16,236	1,073,269
Changes in fair value of hedged items		-	-	(234,993)	-	(234,993)
Others		241,086	-	-	165,901	406,987
Ending balance	₩	(9,449)	20,962,239	37,625,739	414,416	58,992,945

		December 31, 2020				
		Derivative assets	Borrowings	Debentures	Lease liabilities	Total
Beginning balance	₩	(54,234)	17,325,884	38,029,868	460,937	55,762,455
Changes in cash flows		359	3,206,675	(3,576,877)	(207,168)	(577,011)
Amortization		-	589	31,522	6,224	38,335
Net foreign currencies transaction loss		-	21,834	(160,884)	(7,030)	(146,080)
Changes in fair value of hedged items		-	-	192,676	-	192,676
Others		(198,312)	-	-	185,973	(12,339)
Ending balance	₩	(252,187)	20,554,982	34,516,305	438,936	55,258,036

(In millions of Korean won)

40. Related party transactions

(a) Significant balances with the related parties as of December 31, 2021 and 2020 are as follows:

Related party	Account		December 31, 2021	December 31, 2020
The parent company				
Shinhan Financial Group	Current tax assets	₩	2,510	81
	Deposits		3,964	3
	Current tax liabilities		270,804	216,423
	Other liabilities		53,484	42,339
Entities under common control				
Shinhan Card Co., Ltd.	Derivative assets		3,175	28,901
	Loans		96,164	99,581
	Allowance for loan loss		(441)	(744)
	Other assets (*1)		7,449	6,359
	Deposits		31,428	84,743
	Derivative liabilities		23,185	-
	Provisions		493	123
	Other liabilities		30,155	25,029
Shinhan Investment Corp.	Cash and cash equivalents		-	14,967
	Derivative assets		4,492	12,267
	Loans		192,413	56,386
	Allowance for loan loss		(236)	(12)
	Other assets (*1)		24,645	24,437
	Deposits		637,566	847,450
	Debentures		19,074	11,450
	Derivative liabilities		3,939	1,799
	Provisions		492	536
	Other liabilities		36,606	44,137
Shinhan Life Insurance	Derivative assets		25,027	12,682
	Loans		13	-
	Other assets		4	6
	Deposits		170,054	163,183
	Derivative liabilities		4,728	35,771
	Provisions		34	10
	Other liabilities		30,611	10,779
Shinhan Capital Co., Ltd.	Deposits		1,893	1,997
	Provisions		18	23
	Other liabilities		13,170	13,575
Jeju Bank	Loans		2,060	8,894
	Allowance for loan loss		(2)	(6)
	Other assets		-	1
	Deposits		2,704	3,219
	Other liabilities		2,139	2,139
Shinhan Credit Information Co., Ltd.	Deposits		4,890	5,510
	Other liabilities		2,529	2,267

(In millions of Korean won)

40. Related party transactions (continued)

(a) Significant balances with the related parties as of December 31, 2021 and 2020 are as follows: (continued)

Related party	Account		December 31, 2021	December 31, 2020
Entities under common control (continued)				
Shinhan Alternative Investment Management Inc.	Deposits	₩	28,435	6,853
Shinhan Asset Management Co., Ltd.	Other assets		1	-
	Deposits		101,605	89,087
	Other liabilities		751	766
Shinhan DS	Loans		7	6
	Other assets		15,151	9,028
	Deposits		2,242	1,572
	Other liabilities		7,367	9,998
Shinhan Savings Bank	Other liabilities		9,126	8,987
Shinhan Aitas	Deposits		18,308	31,131
	Other liabilities		18	11
Shinhan AI	Other assets		28	-
	Deposits		7	160
	Other liabilities		2,090	1,992
Shinhan REITs Management	Deposits		443	301
Asia Trust Co., Ltd.	Loans		3,235	1,929
	Deposits		226,576	184,260
	Other liabilities		377	148
Shinhan Venture Investment Co., Ltd.	Deposits		6,496	-
One-Shinhan Connect New Technology Investment Fund 1	Deposits		63,557	-
Investments in associates and associates of entities under common control				
BNP Paribas Cardif Life Insurance Co., Ltd.	Deposits		14,870	13,941
BNP Paribas Cardif General Insurance	Deposits		1,455	41
Dream High Fund III	Deposits		4	4
Partners 4th Growth Investment Fund	Deposits		10,096	2,802
Snowball Venture Fund II	Deposits		350	1,739
ICSF (The Korea's Information Center for Savings & Finance)	Deposits		16	7
KOREA FINANCE SECURITY	Deposits		457	568
Hermes Private Investment Equity Fund	Deposits		246	352
Korea Credit Bureau	Deposits		1,394	2,088
Goduck Gangil1 PFV Co., Ltd	Loans		12,000	24,000
	Allowance for loan loss		(52)	(71)
SBC PFV Co., Ltd	Deposits		33,278	8,011

(In millions of Korean won)

40. Related party transactions (continued)

(a) Significant balances with the related parties as of December 31, 2021 and 2020 are as follows: (continued)

Related party	Account		December 31, 2021	December 31, 2020
Sprott Global Renewable Private Equity Fund I	Deposits	₩	176	258
IMM Global Private Equity Fund	Loans		800	800
	Allowance for loan loss		(3)	(2)
	Deposits		21,543	10,820
Goduck Gangil10 PFV Co., Ltd	Loans		7,600	9,400
	Allowance for loan loss		(24)	(19)
	Deposits		72,740	2,718
Shinhan Global Healthcare Fund 1I	Deposits		1	1
COSPEC BIM tech(*2)	Loans		-	151
	Provision for allowance		-	(95)
	Deposits		-	1
IMM Special Situation Private Equity Fund(the number two of one)	Deposits		23	117
NV Station Private Equity Fund	Deposits		41	100
Korea Digital Asset Custody	Deposits		526	-
SW-S Fund	Deposits		115	-
Wave Technology Co., Ltd	Deposits		99	-
iPIXEL Co.,Ltd.	Loans		55	-
	Deposits		651	-
CJL No.1 Private Equity Fund	Deposits		779	-
EDNCENTRAL Co.,Ltd.	Deposits		1	-
Nova New Technology Investment Fund No.1	Deposits		357	-
Key management personnel				
	Loans		6,150	5,146
	Allowance for loan loss		(1)	(2)
	Provisions		1	1

(*1) Includes right-of-use assets.
(*2) Excludes the related party for the year ended December 31, 2021.

(In millions of Korean won)

40. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2021 and 2020 are as follows:

Related party	Account		December 31, 2021	December 31, 2020
The parent company				
Shinhan Financial Group	Other operating income	₩	1,099	1,244
	Interest expense		(123)	(194)
	Fees and commission expense		(38,435)	(38,435)
	Other operating expense		(4,364)	-
Entities under common control				
Shinhan Card Co., Ltd.	Interest income		3,755	7,323
	Fees and commission income		172,906	181,160
	Gain related to derivatives		14,499	28,712
	Other operating income		4,949	5,711
	Interest expense		(211)	(329)
	Fees and commission expense		(3,263)	(303)
	Loss related to derivatives		(56,740)	(5,547)
	Reversal of (provision for) allowance		(441)	(115)
	Other operating expense		(1,064)	(2,157)
Shinhan Investment Corp.	Interest income		2,052	1,442
	Fees and commission income		6,780	5,383
	Gain related to derivatives		16,943	58,282
	Other operating income		6,953	8,524
	Interest expense		(1,854)	(2,685)
	Loss related to derivatives		(30,004)	(35,128)
	Reversal of (provision for) allowance		(227)	(7)
	Other operating expense		(1,294)	(1,300)
Shinhan Life Insurance Co., Ltd.	Interest income		34	53
	Fees and commission income		6,409	8,105
	Gain related to derivatives		43,515	50,423
	Other operating income		2,639	2,297
	Interest expense		(879)	(189)
	Fees and commission expense		(1,235)	-
	Loss related to derivatives		(9,035)	(31,776)
	Other operating expense		(23)	(5)
Shinhan Capital Co., Ltd.	Fees and commission income		24	-
	Other operating income		827	918
	Interest expense		(123)	(219)
Jeju Bank	Interest income		14	6
	Other operating income		527	598
	Interest expense		(19)	(30)
	Reversal of (provision for) allowance		3	(6)
Shinhan Credit Information Co., Ltd.	Fees and commission income		3	3
	Other operating income		287	315
	Interest expense		(43)	(60)
	Fees and commission expense		(7,744)	(6,739)
Shinhan Alternative Investment Management Inc.	Other operating income		-	2
	Interest expense		(26)	(29)

(In millions of Korean won)

40. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2021 and 2020 are as follows: (continued)

Related party	Account		December 31, 2021	December 31, 2020
Entities under common control				
Shinhan Asset Management Co., Ltd	Fees and commission income	₩	43	47
	Other operating income		127	143
	Interest expense		(711)	(689)
	Fees and commission expense		(2,029)	(2,087)
Shinhan DS	Fees and commission income		1	-
	Other operating income		904	858
	Interest expense		(122)	(178)
	Other operating expense		(64,034)	(46,521)
Shinhan Savings Bank	Fees and commission income		1,249	1,048
	Other operating income		661	706
	Interest expense		(77)	(116)
Shinhan Aitas	Fees and commission income		40	33
	Other operating income		149	167
	Interest expense		(90)	(175)
Shinhan REITs Management	Interest expense		(26)	-
Shinhan AI	Other operating income		85	106
	Fees and commission expense		(7,248)	(6,462)
Asia Trust Co., Ltd.	Interest income		(1,878)	(454)
	Fees and commission income		15	6
	Interest expense		(808)	(368)
	Fees and commission expense		(449)	(198)
Shinhan BNPP Investment Trust No. 1 in Special Private Equity Investment for Future Energy	Fees and commission income		1	2
Shinhan Venture Investment Co., Ltd.	Interest expense		(4)	-

(In millions of Korean won)

40. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2021 and 2020 are as follows: (continued)

Related party	Account		December 31, 2021	December 31, 2020
Investments in associates and associates of entities under common control				
BNP Paribas Cardif Life Insurance Co., Ltd.	Fees and commission income	₩	2,177	2,359
	Interest expense		(13)	(5)
BNP Paribas Cardif General Insurance	Fees and commission income		6	7
	Interest expense		(1)	-
Partners 4th Growth Investment Fund	Interest expense		(11)	(4)
KOREA FINANCE SECURITY	Fees and commission income		8	10
	Interest expense		(1)	(1)
Korea Credit Bureau	Fees and commission income		14	13
	Interest expense		(9)	(12)
Goduck Gangil1 PFV Co., Ltd	Interest income		754	915
	Provision for allowance		20	7
SBC PFV Co., Ltd	Fees and commission income		776	732
	Interest expense		(14)	(5)
IMM Global Private Equity Fund	Interest income		23	25
	Interest expense		(49)	(13)
	Provision for allowance		(1)	-
Goduck Gangil10 PFV Co., Ltd	Interest income		283	299
	Fees and commission income		-	643
	Interest expense		(78)	(4)
	Provision for allowance		(4)	(19)
COSPEC BIM tech(*)	Interest income		41	-
	Provision for allowance		95	(95)
Korea Digital Asset Custody	Interest expense		(2)	-
iPIXEL Co.,Ltd.	Interest income		2	-
CJL No.1 Private Equity Fund	Interest expense		(2)	-
Hermes Private Investment Equity Fund	Interest expense		(1)	-
Credian T&F 2020 Recovery Private Equity Fund	Interest expense		-	(1)
Shinhan Western T&D Consignment Management Real Estate Investment Co., Ltd	Fees and commission income		-	300
Key management personnel				
	Interest income	₩	122	126

(*) Excluded from associates under common control for the year ended December 31, 2021

(In millions of Korean won)

40. Related party transactions (continued)

(c) Details of transactions with key management for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Short and long term employee benefits	₩	11,237	10,194
Post-employment benefits		408	287
Share-based payment transactions		5,535	3,204
	₩	17,180	13,685

(d) Payment guarantees of related parties

i) The guarantees provided between the related parties as of December 31,2021 and 2020 are as follows:

		Amount of guarantees		
Guaranteed parties		December 31, 2021	December 31, 2020	Account
Shinhan Investment Corp.	₩	19,000	19,000	Purchase note agreement
		305,130	230,970	Unused credit
Shinhan Card Co., Ltd.		542,030	539,021	Unused credit
		16,715	13,600	Financial guarantee (letter of credit method)
Shinhan Life Insurance Co., Ltd.		130,018	50,000	Unused credit
Shinhan Capital Co., Ltd.		40,000	70,000	Unused credit
BNP Paribas Cardif Life Insurance Co., Ltd		10,000	10,000	Unused credit
Shinhan DS		9	9	Unused credit
		26	13	Payment guarantee
Structured entities		422,041	241,998	Securities acquisition agreement (*)
	₩	1,484,969	1,174,611	

(*) The amount is for subsidiaries and associates, which are structured entities, under common control.

ii) As of December 31, 2021, the Group has received a purchase guarantee (VND 200,000 million) of private equity bonds issued by Vietnam Electrical Equipment JSC from Shinhan Financial Investment.

(In millions of Korean won)

40. Related party transactions (continued)

(e) Collaterals provided to the related parties

i) Details of collaterals provided to the related parties as of December 31, 2021 and 2020 are as follows:

	Related party	Pledged assets		December 31, 2021 Carrying amounts	December 31, 2021 Amounts collateralized	December 31, 2020 Carrying amounts	December 31, 2020 Amounts collateralized
Entities under common control	Shinhan Life Insurance Co., Ltd.	Securities	₩	10,101	10,101	49,937	13,354

ii) Details of collaterals provided by the related parties as of December 31, 2021 and 2020 are as follows:

	Related party	Pledged assets		December 31, 2021	December 31, 2020
Entities under common control	Shinhan Investment Corp.	Deposits	₩	245,700	135,700
		Real estate		151,974	151,974
	Jeju Bank	Government bonds		20,000	20,000
	Shinhan Life Insurance Co., Ltd.	Government bonds		49,000	6,000
	Shinhan Credit Information Co., Ltd.	Deposits		180	180
Investments in associates	BNP Paribas Cardif Life Insurance Co., Ltd.	Government bonds		12,000	12,000
	Goduck Gangil1 PFV Co., Ltd	Trust		-	28,800
	Goduck Gangil10 PFV Co., Ltd	Trust		-	13,000
	iPIXEL Co.,Ltd.	Electronic credit guarantee		190	-
	Hyungje art printing	Machinery		-	120
			₩	479,044	367,774

(In millions of Korean won)

40. Related party transactions (continued)

(f) Transaction with related parties

i) Loan transactions with related parties for the years ended December 31, 2021 and 2020 are as follows:

			December 31, 2021			
	Related party		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩	6	14	(13)	7
	Shinhan Card Co., Ltd.		99,581	77,999	(81,416)	96,164
	Jeju Bank		8,894	4,359	(11,193)	2,060
	Shinhan Investment Corp.		56,386	137,111	(1,084)	192,413
	Shinhan Life Insurance Co., Ltd.		-	25	(12)	13
Investments in associates and associates of entities under common control	Goduck Gangil1 PFV Co., Ltd		24,000	-	(12,000)	12,000
	IMM Global Private Equity Fund		800	-	-	800
	Goduck Gangil10 PFV Co., Ltd		9,400	600	(2,400)	7,600
	iPIXEL Co.,Ltd.		-	71	(16)	55
	COSPEC BIM tech		151	-	(151)	-
		₩	199,218	220,179	(108,285)	311,112

(*1) The amount is before deducting allowance.
(*2) Some of the limit loans are shown in net amount.

			December 31, 2020			
	Related party		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩	8	5	(7)	6
	Shinhan Card Co., Ltd.		103,018	105,058	(108,495)	99,581
	Jeju Bank		4,573	18,553	(14,232)	8,894
	Shinhan Investment Corp. (*3)		5	37,393	18,988	56,386
Investments in associates and associates of entities under common control	Goduck Gangil1 PFV Co., Ltd		24,000	-	-	24,000
	IMM Global Private Equity Fund		800	-	-	800
	Goduck Gangil10 PFV Co., Ltd		-	28,200	(18,800)	9,400
	COSPEC BIM tech (*4)		-	-	151	151
		₩	132,404	189,209	(122,395)	199,218

(*1) The amount is before deducting allowance.
(*2) Some of the limit loans are shown in net amount.
(*3) The balance of loans (₩ 50,000 million) as of December 31, 2020 of the entity that is newly incorporated as a subsidiary of Shinhan Investment Corp. for the year ended December 31, 2020 is indicated in collections, etc.
(*4) The entity is incorporated as a related party for the year ended December 31, 2020, and the balance of loans as of December 31, 2020 is indicated on the collection, etc.

(In millions of Korean won)

40. Related party transactions (continued)

(f) Transaction with related parties (continued)

(ii) Borrowing transactions with related parties for the years ended December 31, 2021 and 2020 are as follows:

			December 31, 2021			
	Related party	Account	Beginning	Loans	Collections (*2)	Ending
Entities under common control	Shinhan Investment Corp.(*2)	Debenture	₩ 11,450	1,284,672	(1,277,022)	19,100
	Jeju Bank	Borrowing	-	17,003	(17,003)	-
	Shinhan Investment Corp.	Deposit (*1)	140,413	175,396	(172,246)	143,563
	Shinhan Credit Information Co., Ltd.	Deposit (*1)	2,390	-	-	2,390
	Shinhan Card Co., Ltd.	Deposit (*1)	1,857	817	(1,852)	822
	Shinhan Asset Management Co., Ltd.	Deposit (*1)	70,373	12,876	(4,338)	78,911
	Shinhan Aitas	Deposit (*1)	10,000	5,000	(3,000)	12,000
	Shinhan DS	Deposit (*1)	735	856	(766)	825
	Asia Trust Co., Ltd.	Deposit (*1)	150,000	30,000	-	180,000
	Shinhan Life Insurance Co., Ltd.	Deposit (*1)	3,610	48,561	(31,268)	20,903
	Shinhan REITs Management	Deposit (*1)	-	5,000	(5,000)	-
			₩ 390,828	1,580,181	(1,512,495)	458,514

(*1) The details of settlements among related parties depository liabilities that can be deposited and withdrawn on demand, are excluded.
(*2) It includes private equity bonds of general investors that Shinhan Investment Corp. brokered and sold.

			December 31, 2020			
	Related party	Account	Beginning	Loans	Collections (*2)	Ending
Entities under common control	Shinhan Investment Corp.(*2)	Debenture	₩ 11,100	109,450	(109,100)	11,450
	Shinhan Capital Co., Ltd.	Borrowing	1,000	-	(1,000)	-
	Shinhan Investment Corp.	Deposit (*)	54,523	132,649	(46,759)	140,413
	Shinhan Credit Information Co., Ltd.	Deposit (*)	2,390	-	-	2,390
	Shinhan Card Co., Ltd.	Deposit (*)	7,400	2,311	(7,854)	1,857
	Shinhan Capital Co., Ltd.	Deposit (*)	-	1,031	(1,031)	-
	Shinhan Alternative Investment Management, Inc.	Deposit (*)	1,800	-	(1,800)	-
	Shinhan Asset Management Co., Ltd.	Deposit (*)	44,197	44,029	(17,853)	70,373
	Shinhan Aitas	Deposit (*)	10,000	-	-	10,000
	Shinhan DS	Deposit (*)	-	1,484	(749)	735
	Asia Trust Co., Ltd.	Deposit (*)	-	150,000	-	150,000
	Shinhan Life Insurance Co., Ltd.	Deposit (*)	-	3,610	-	3,610
			₩ 132,410	444,564	(186,146)	387,218

(*1) The details of settlements among related parties depository liabilities that can be deposited and withdrawn on demand, are excluded.
(*2) It includes private equity bonds of general investors that Shinhan Investment Corp. brokered and sold.

(In millions of Korean won)

40. Related party transactions (continued)

(g) Major commitments related to derivatives

As of December 31, 2021 and 2020, the significant commitments related to derivative assets and liabilities with related parties are as follows:

	Related party		December 31, 2021	December 31, 2020
Entities under common control	Shinhan Life Insurance Co., Ltd.	₩	835,382	736,483
	Shinhan Card Co., Ltd.		1,251,098	1,413,720
	Shinhan Investment Corp.		1,424,228	880,218
		₩	3,510,708	3,030,421

(In millions of Korean won)

40. Related party transactions (continued)

(h) Major investment and collection transactions

Major investments and collection transactions with related parties for the year ended December 31, 2021 are as follows:

	Related party		Investment	Collection
Subsidiaries	Shinhan-Albatross Technology Investment Fund	₩	-	6,000
Investments in associates	Shinhan-Neoplux Energy Newbiz Fund		1,400	1,050
	Korea Digital Asset Custody		505	-
	Newlake Growth Capital Partners2 PEF		10,000	-
	Neoplux Technology Valuation Investment Fund		-	10,897
	Korea Credit Bureau		-	45
	One-Shinhan Future's New Technology Investment Fund 2		1,170	-
	KST-SH Laboratory Investment Fund No.1		500	-
	Partners 4th Growth Investment Fund		-	16,143
	One Shinhan Connect New Technology Investment Fund 1		72,000	-
	SBC PFV Co., Ltd		6,250	-
	Shinhan SKS Corporate Recovery Private Equity Fund		4,015	-
	Shinhan VC tomorrow venture fund 1		5,000	-
Entities under common control and entities under common control	SHBNPP Konkuk University Dormitory Private Speical Asset Fund 1		-	1,766
	SHBNPP Future Energy Professional Investment Type Private Special Asset Investment Trust No.1		-	7,037
	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	1,273
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		7,500	7,204
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1		2,800	-
	Shinhan AIM Social Enterprise Investment Fund I		860	-
	Shinhan Energy Specialized Investment Trust No. 1		1,926	1,870
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2		14,000	-
	SHBNPP Lifetime Income TIF Mixed Asset Investment Trust		1,000	-
	Shinhan AIM Social Enterprise Investment Fund II		804	-
	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1		5,857	-
	Shinhan AIM FoF Fund 6		11,902	-
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3		31,500	-
	SHBNPP Startup Venture Alpha Specialized Private Equity Fund 1st		2,625	-
	Shinhan BNPP Global NextG EMP Securities Investment Trust		1,100	-
	Shinhan AIM Investment Finance Specialized Investment Trust No. 1		3,190	-
	Shinhan ESG Bond Specialized Investment Trust No. 1		100,000	-
	Shinhan AIM Social Enterprise Investment Fund III		1,485	-
	GVA KONEX High Yield IPO-I Professional Investors		5,000	-
	SHBNPP Corporate Professional Investment Type Private Security Investment Trust No.45		-	80,245
	SHBNPP Venture Professional Investment Type Private Investment Trust No.4		21,000	-
	SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3		14,158	-

(In millions of Korean won)

40. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the year ended December 31, 2021 are as follows (continued):

	Related party		Investment	Collection
Entities under common control and investments in associates under common control	Shinhan Global Carbon Neutral Solution Security Investment Trust	₩	2,500	-
	Shinhan Global Mega Trend Alpha Security Investment Trust		1,575	-
	SH Digital New Deal BTL General Type Private Mixed Asset Investment Trust No.3		1,032	-
	Shinhan Mezzanine General Private Investment Trust No. 3		5,000	-
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Trust No.3		17,500	-
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.3		-	28,379
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.2		-	2,181
	SHBNPP Sangju YC Expressway Professional Investment Type Private Special Asset Investment Trust		6	-
	SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust		4,052	19,806
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No. 2		-	10,501
	Mastern Opportunity Seeking Real Estate Fund II		238	-
	IGIS GLIP Professional Investment Type Private Real Estate Investment Trust No. 1-1		533	-
	IGIS GLIP Professional Investment Type Private Real Estate Investment Trust No. 1-2		533	-
	SHBNPP BNCT Professional Investment Type Private Special Asset Investment Trust		-	7,838
	PHAROS DK FUND		2,000	-
	SH Real Estate Loan Investment Type Private Real Estate Investment Trust No.2		14,128	-
	Shinhan JigaeNamsan Road Private Special Asset Investment Trust		32,562	-
	Shinhan Digital Healthcare New Technology Investment Fund 1		-	422
	KST-SH Laboratory Investment Fund No.1		500	-
	Truston Global Professional Investment Type Private Special Asset Investment Trust No.3		-	2,105
	One Shinhan Future's Fund 2		1,170	-
	Neoplux Technology Valuation Investment Fund		-	7,824
	One-Shinhan Connect New Technology Investment Fund 1		72,000	-
	Shinhan SKS Corporate Recovery Private Equity Fund		4,015	-
	Shinhan Nautic No.1 Private Equity Fund		3,000	1,434
	T Core Industrial Technology No.1 Venture Private Equity Fund		1,500	-
	Hermes Private Investment Equity Fund		-	704
	Partner One Value up No.1 Private Equity Fund		-	734
	Genesis No.1 Private Equity Fund		226	-
	KIWOOM PRIVATE EQUITY GIANT PRIVATE EQUITY FUND		-	306
	Macquarie Korea Opportunities Joint Investment & Private Investment Corporation No. 1		-	608
	Shinhan-Neo Component Equipment Investment Association		1,160	-
	SHINHAN-NEO Market-Frontier 2nd Fund		7,500	-

(In millions of Korean won)

40. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the year ended December 31, 2021 are as follows (continued):

	Related party		Investment	Collection
Entities under common control and investments in associates under common control	Synergy-Turnaround 13th New Technology Fund	₩	1,000	-
	NH-Synergy Core Industrial New Technology Fund		3,500	-
	J& Moorim Jade Investment Fund		1,500	-
	Gyeonggi-Neoflux Superman Investment Association		-	610
	SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2		11,975	233
	Genesis Eco No.1 PEF		5,903	-
	AIP Semiconductor-M3X Venture Fund No.1		2,000	-
	NH Kyobo AI Solution New Technology Investment Fund		2,000	-
	Daishin Newgen New Technology Investment Fund 1st		3,000	-
	META ESG Private Equity Fund I		3,000	-
	SWFV New Technology FUND-1		4,700	-
		₩	538,855	217,215

(In millions of Korean won)

40. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the year ended December 31, 2020 are as follows (continued):

	Related party		Investment	Collection
Investments in associates	Shinhan-Albatross Technology Investment Fund	₩	4,000	900
	Shinhan-Neoplux Energy Newbiz Fund		4,200	2,010
	Goduck Gangil10 PFV Co., Ltd		700	-
	KTB Newlake Global Healthcare PEF		-	1,266
	Neoplux Technology Valuation Investment Fund		-	7,304
	One Shinhan Global Fund 2		1,200	-
	KST-SH Laboratory Investment Fund No.1		500	-
	Partners 4th Growth Investment Fund		-	1,925
Entities under common control and investments in associates under common control	SHBNPP Konkuk University Dormitory Private Speical Asset Fund 1		-	1,574
	SHBNPP Corporate Professional Investment Type Private Security Investment Trust No.3		10,000	-
	SHBNPP Future Energy Professional Investment Type Private Special Asset Investment Trust No.1		-	368
	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	933
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		7,500	3,128
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1		12,000	-
	Shinhan AIM Social Enterprise Investment Fund I		600	-
	SHINHAN NPS RENEWABLE FUND NO.1		4,717	441
	One Shinhan Future's Fund 1		4,000	2,983
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2		28,000	-
	SHBNPP Korea Equity Long-Short Professional Investment Type Private Mixed Asset Investment Trust No.1		-	2,000
	SHBNPP Lifetime Income TIF Mixed Asset Investment Trust[FoFs]		-	1,003
	Shinhan AIM Social Enterprise Investment Fund II		2,312	-
	Truston Global Infra Qualified Investment Type Private Investment Trust III		2,486	-
	Shinhan BNPP Global NextG EMP Securities Investment Trust		870,400	-

(In millions of Korean won)

40. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the year ended December 31, 2020 are as follows (continued):

	Related party		Investment	Collection
Entities under common control and investments in associates under common control	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1	₩	8,677	-
	Shinhan AIM FoF Fund 6		8	-
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3		21,000	-
	SHBNPP Ongoing Peace TDF 2030 Security Investment Trust(H)[Equity Balanced-FoF]		2,000	-
	SHBNPP Ongoing Peace TDF 2035 Security Investment Trust(H)[Equity Balanced-FoF]		2,000	-
	SHBNPP Ongoing Peace TDF 2040 Security Investment Trust(H)[Equity Balanced-FoF]		2,000	-
	GVA KONEX High Yield IPO-I Professional Investors Private Placement Investment Trust		5,000	-
	SHBNPP Corporate Professional Investment Type Private Security Investment Trust No.13		50,000	-
	SH BNPP Startup Venture Alpha Specialized Investment Private Equity Mixed Asset Trust No.1		1,575	-
	Shinhan AIM Investment Finance Specialized Investment Trust No. 1		880	-
	Soo Delivery Platform Gross Investment Association		-	2,671
	GX Shinhan Intervest 1st Private Equity Fund		-	4,661
	Aone Mezzanine Opportunity Professional Private		5,000	-
	Gyeonggi-Neoflux Superman Investment Association		680	58
	Axis Global Growth New Technology Investment Association		-	1,276
	Soo Commerce Platform Gross Investment Association		-	1,769
	Genesis No.1 Private Equity Fund		226	-
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Trust No.3		8,350	15,993
	DB Epic Convertiblebond Private Trust No.2		200	-
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.3		25,760	17,418
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.2		-	20,353
	DS Solid.II Specialized Private Investment Trust C-I		-	2,876
	KIWOOM PRIVATE EQUITY GIANT PRIVATE EQUITY FUND		-	24
	Hana Semiconductor New Technology Investment Association		-	586
	Macquarie Korea Opportunities Joint Investment & Private Investment Corporation No. 1		28,000	-
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No.1 [Loan-Derivative]		403	-
	SHBNPP Sangju YC Expressway Professional Investment Type Private Special Asset Investment Trust		9	-

(In millions of Korean won)

40. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the year ended December 31, 2020 are as follows (continued):

	Related party		Investment	Collection
Entities under common control and investments in associates under common control	SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust [Infra business]	₩	8,155	-
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No.2 [Loan-Derivative]		1,357	-
	Shinhan BNPP Global Infrastructure Private Investment Trust		-	3,276
	Mastern Opportunity Seeking Real Estate Fund II		9,762	-
	T&F2020SS Start-up Venture Specialized Private Equity Investment Corporation		2,250	-
	CSQUARE SNIPER PROFESSIONAL PRIVATE 10		1,875	-
	Igis G.L. IP Specialized Investment & Investment Trust No. 1-1		4	-
	Igis G.L. IP Specialized Investment & Investment Trust No. 1-2		4	-
	Shinhan-Neo Component Equipment Investment Association		580	-
	Simone Mezzanine Specialized Private Investment Trust No. 3		2,000	-
	Kiwoom Private Equity Ant-Man Startup Venture Specialized Private Equity Fund		1,000	-
		₩	1,141,370	96,796

(i) For the years ended December 31, 2021 and 2020, the Group purchased bonds through Shinhan Investment Corp. at ₩ 5,419,050 million and ₩ 5,900,403 million, respectively, while the amount sold is ₩ 5,307,469 million and ₩ 7,260,338 million, respectively.

(j) As of December 31, 2021 and 2020, the plan assets deposited in the DB type retirement pension managed by Shinhan Life Insurance are ₩ 156,326 million and ₩ 138,811 million, respectively.

(k) As of December 31, 2021 and 2020, the deposit of credit card use provided by Shinhan Card, a related party, is ₩ 67,572 million and ₩ 68,438 million, respectively.

(In millions of Korean won)

41. Summary of subsidiaries' financial statements

(a) Condensed statements of financial positions for the Bank (separate) and its subsidiaries as of December 31, 2021 and 2020 are as follows:

		December 31, 2021			December 31, 2020		
		Total assets	Total liabilities	Total equity	Total assets	Total liabilities	Total equity
Shinhan Bank	₩	432,515,895	404,942,232	27,573,663	396,716,710	370,191,664	26,525,046
Shinhan Bank America		2,316,397	2,068,072	248,325	1,970,522	1,743,210	227,312
Shinhan Bank Canada		809,954	727,350	82,604	812,912	739,429	73,483
Shinhan Bank Europe GmbH		808,260	720,133	88,127	751,038	666,913	84,125
Shinhan Bank China Limited		6,222,433	5,668,667	553,766	5,491,400	5,012,602	478,798
Shinhan Kazakhstan Bank Limited		214,216	169,099	45,117	159,746	120,263	39,483
Shinhan Bank Cambodia		854,201	686,474	167,727	654,562	519,791	134,771
Shinhan Bank Japan		11,422,258	10,612,219	810,039	10,712,929	9,966,831	746,098
Shinhan Bank Vietnam Ltd(*)		8,032,621	6,906,834	1,125,787	6,333,760	5,434,352	899,408
Shinhan Bank Mexico		256,174	169,662	86,512	210,347	128,986	81,361
Shinhan Bank Indonesia(*)		1,452,840	1,075,629	377,211	1,288,024	935,320	352,704
Structured entities		8,840,192	8,820,196	19,996	8,826,735	8,839,605	(12,870)

(*) Fair value adjustments at the time of business combination have reflected.

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(In millions of Korean won)

41. Summary of subsidiaries' financial statements (continued)

(b) Condensed statements of comprehensive income for the Bank (separate) and its subsidiaries for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021			December 31, 2020		
		Operating income	Profit (loss) for the period	Total comprehensive income (loss) for the period	Operating income	Profit (loss) for the year	Total Comprehensive income (loss) for the year
Shinhan Bank	₩	22,197,037	2,152,934	1,875,321	23,806,167	1,826,170	1,789,616
Shinhan Bank America		77,865	2,054	21,012	79,988	5,192	(9,360)
Shinhan Bank Canada		20,919	2,416	9,120	22,922	1,408	(1,445)
Shinhan Bank Europe GmbH		12,961	3,775	4,002	11,341	(1,222)	1,387
Shinhan Bank China Limited		233,152	13,938	74,968	213,844	16,211	14,716
Shinhan Kazakhstan Bank Limited		16,425	3,462	5,634	12,906	2,872	(3,701)
Shinhan Bank Cambodia		48,977	20,149	32,956	41,288	15,899	6,947
Shinhan Bank Japan		247,699	81,380	63,940	232,961	73,139	63,871
Shinhan Bank Vietnam Ltd(*)		441,102	129,167	226,380	437,321	120,603	53,061
Shinhan Bank Mexico		9,567	392	5,150	10,893	(696)	(10,294)
Shinhan Bank Indonesia(*)		74,028	71	24,507	79,783	688	(22,092)
Structured entities		273,838	28,035	27,220	225,265	(3,572)	(3,578)

(*) Fair value adjustments at the time of business combination have reflected.

42. Interests in unconsolidated structured entities

(a) The nature and extent of interests in unconsolidated structured entities

The Group is involved in structured entities through investments in asset-backed securities, structured finance, and investment funds. The main characteristics of the structured entities are as follows:

	Description
Assets-backed securitization	Securitization vehicles are established to buy assets from originators and issue asset-backed securities in order to facilitate the originators' funding activities and enhance their financial soundness. The Group is involved in the securitization vehicles by purchasing (or committing to purchase) the asset-backed securities issued and/or providing other forms of credit enhancement. The Group does not consolidate a securitization vehicle if (i) the Group is unable to make or approve decisions as to the modification of the terms and conditions of the securities issued by such vehicle or disposal of such vehicles' assets, (ii) (even if the Group is able to do so) if the Group does not have the exclusive or primary power to do so, or (iii) if the Group does not have exposure, or right, to a significant amount of variable returns from such entity due to the purchase (or commitment to purchase) of asset-backed securities issued or subordinated obligations or by providing other forms of credit support.
Structured financing	Structured entities for project financing are established to raise funds and invest in a specific project such as M&A (Mergers and Acquisitions), BTL (Build-Transfer-Lease), shipping finance, etc. The Group is involved in the structured entities by originating loans, investing in equity, or providing credit enhancement.
Investment fund	Investment fund is a type of financial instrument where investment funds raise funds from the general public to invest in a group of assets such as stocks or bonds and distribute their income and capital gains to their investors The Group manages assets on behalf of other investors, such as investing in equity in investment funds, collective investment companies, and business members.

(In millions of Korean won)

42. Interests in unconsolidated structured entities (continued)

(a) The nature and extent of interests in unconsolidated structured entities (continued)

The size of unconsolidated structured entities as of December 31, 2021 and 2020 is as follows:

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	112,156,163	169,291,695	177,417,905	458,865,763

		December 31, 2020			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	94,980,971	171,615,120	89,955,772	356,551,863

(b) Nature of risk associated with interests in unconsolidated structured entities

i) The carrying amounts of the assets and liabilities recognized relating to its interests in unconsolidated structured entities as of December 31, 2021 and 2020 are as follows:

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	186,821	6,335,639	114,300	6,636,760
Loans at FVTPL		-	129,079	67,097	196,176
Securities at FVTPL		3,518,434	123,061	6,876,699	10,518,194
Derivative assets		4,343	16,560	-	20,903
Securities at FVOCI		1,797,443	209,667	-	2,007,110
Securities at amortized cost		3,914,914	-	-	3,914,914
Others		-	1,450	-	1,450
	₩	9,421,955	6,815,456	7,058,096	23,295,507
Liabilities:					
Derivative liabilities	₩	3,817	48	-	3,865

		December 31, 2020			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	116,131	5,563,198	80,166	5,759,495
Loans at FVTPL		-	249,937	-	249,937
Securities at FVTPL		4,347,322	103,068	2,133,117	6,583,507
Derivative assets		10,353	1,050	-	11,403
Securities at FVOCI		1,710,430	123,632	-	1,834,062
Securities at amortized cost		4,037,126	-	-	4,037,126
Others		-	61,519	-	61,519
	₩	10,221,362	6,102,404	2,213,283	18,537,049
Liabilities:					
Derivative liabilities	₩	582	-	-	582

(In millions of Korean won)

42. Interests in unconsolidated structured entities (continued)

(b) Nature of risk associated with interests in unconsolidated structured entities (continued)

ii) Exposure to risk relating to interests in unconsolidated structured entities as of December 31, 2021 and 2020 is as follows:

		December 31, 2021			
		Assets-backed securitization	**Structured financing**	**Investment fund**	**Total**
Assets owned	₩	9,421,955	6,815,456	7,058,096	23,295,507
Purchase commitments		843,209	2,210	1,195,977	2,041,396
Providing unused credit		426,565	252,027	-	678,592
Payment guarantee		-	5,550	-	5,550
Others		-	18,758	-	18,758
	₩	10,691,729	7,094,001	8,254,073	26,039,803

		December 31, 2020			
		Assets-backed securitization	**Structured financing**	**Investment fund**	**Total**
Assets owned	₩	10,221,362	6,102,403	2,213,283	18,537,048
Purchase commitments		842,159	-	979	843,138
Providing unused credit		617,977	207,923	12,200	838,100
Others		-	-	5,887	5,887
	₩	11,681,498	6,310,326	2,232,349	20,224,173

(In millions of Korean won)

43. Information of trust business

(a) Total assets with trust business as of December 31, 2021 and 2020 and operating revenue for the years ended December 31, 2021 and 2020 are as follows:

		Total assets		Operating revenue	
		December 31, 2021	December 31, 2020	December 31, 2021	December 31, 2020
Consolidated	₩	4,363,636	4,580,986	137,447	119,765
Unconsolidated		87,663,477	91,688,453	1,230,398	1,243,126
	₩	92,027,113	96,269,439	1,367,845	1,362,891

(b) Significant balances with trust business as of December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Borrowings from trust accounts	₩	5,189,455	5,082,658
Deposits		30,744	18,543
Accrued revenues from asset management fee from trust accounts		11,314	34,796
Accrued interest expenses		1,702	1,342

(c) Significant transactions with trust business for the years ended December 31, 2021 and 2020 are as follows:

		December 31, 2021	December 31, 2020
Asset management fee from trust accounts	₩	183,765	166,960
Termination fee		9,713	7,135
Interest expenses on deposits		275	470
Interest on borrowings from trust accounts		20,522	22,650

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