IMPORTANT NOTICE

THIS DOCUMENT IS AVAILABLE ONLY TO INVESTORS WHO ARE EITHER (1) QIBs (AS DEFINED BELOW) UNDER RULE 144A PROMULGATED UNDER THE SECURITIES ACT (AS DEFINED BELOW) OR (2) NON-U.S. PERSONS (AS DEFINED IN REGULATION S PROMULGATED UNDER THE SECURITIES ACT) LOCATED OUTSIDE OF THE UNITED STATES.

IMPORTANT: You must read the following before continuing. The following applies to the offering circular (this "Offering Circular") following this page, and you are therefore advised to read this carefully before reading, accessing or making any other use of this Offering Circular. In accessing this Offering Circular, you agree to be bound by the following terms and conditions, including any modifications to them, any time you receive any information from the Issuer (as defined in this Offering Circular) as a result of such access.

NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER OF NOTES FOR SALE IN THE UNITED STATES OR ANY OTHER JURISDICTION WHERE IT IS UNLAWFUL TO DO SO. THE NOTES AND THE GUARANTEE (EACH AS DEFINED IN THIS OFFERING CIRCULAR) HAVE NOT BEEN, AND WILL NOT BE, REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), OR WITH ANY SECURITIES REGULATORY AUTHORITY OF ANY STATE OR OTHER JURISDICTION OF THE UNITED STATES AND MAY NOT BE OFFERED, SOLD OR DELIVERED 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), EXCEPT PURSUANT TO AN EXEMPTION FROM, OR IN A TRANSACTION NOT SUBJECT TO, THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND APPLICABLE STATE SECURITIES LAWS.

THIS OFFERING CIRCULAR MAY NOT BE FORWARDED OR DISTRIBUTED TO ANY OTHER PERSON AND MAY NOT BE REPRODUCED IN ANY MANNER WHATSOEVER, AND IN PARTICULAR, MAY NOT BE FORWARDED TO ANY U.S. ADDRESS. ANY FORWARDING, DISTRIBUTION OR REPRODUCTION OF THIS DOCUMENT 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 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 NOTES.

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 Notes are prescribed capital markets products (as defined in the Securities and Futures (Capital Markets Products) Regulations 2018 of Singapore) and Excluded 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).

Confirmation of your representation: In order to be eligible to view this Offering Circular or make an investment decision with respect to the Notes, investors must be either (i) a qualified institutional buyer ("QIB") (within the meaning of Rule 144A under the Securities Act) or (ii) a non-U.S. person (within the meaning of Regulation S under the Securities Act) purchasing the Notes while located outside of the United States in an offshore transaction in reliance on Regulation S under the Securities Act. This Offering Circular is being sent at your request and by accepting the e-mail and accessing this Offering Circular, you shall be deemed to have represented to the Issuer that (1) you and any customers you represent are either (a) QIBs or (b) non-U.S. persons located outside of the United States and (2) you consent to delivery of this Offering Circular and any amendments and supplements thereto 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 this Offering Circular to any other person.

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 offers or solicitations are not permitted by law. If a jurisdiction requires that the offering be made by a licenced broker or dealer and any of Citigroup Global Markets Inc., Crédit Agricole Corporate and Investment Bank, J.P. Morgan Securities plc, The Korea Development Bank (in its capacity as a joint lead manager), Mizuho Securities Asia Limited and Standard Chartered Bank (collectively, the "Joint Lead Managers") or any affiliate of the Joint Lead Managers is a licenced broker or dealer in that jurisdiction, the offering shall be deemed to be made by such Joint Lead Manager or such affiliate on behalf of the Issuer in such jurisdiction.

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 neither the Joint Lead Managers nor any person who controls any of the Joint Lead Managers or any director, officer, employee or agent of it or affiliate of any such person accepts any liability or responsibility whatsoever 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 Joint Lead Managers.

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.

OFFERING CIRCULAR

Kraton Corporation

(a corporation organised under the laws of Delaware, United States)

U.S.$1,000,000,000 5.00 per cent. Guaranteed Senior Unsecured Notes due 2027
Unconditionally and Irrevocably Guaranteed by

The Korea Development Bank

(a statutory juridical entity established under The Korea Development Bank Act of 1953, as amended, in the Republic of Korea)

Issue Price: 99.295 per cent.

Kraton Corporation (the "Issuer") is offering U.S.$1,000,000,000 in aggregate principal amount of its 5.00 per cent. Guaranteed Senior Unsecured Notes due 2027 (the "Notes") which will be unconditionally and irrevocably guaranteed by The Korea Development Bank (in its capacity as the guarantor, the "Guarantor," and a deed of guarantee evidencing such guarantee, the "Guarantee"). Interest on the Notes will be payable semi-annually in arrears on 15 January and 15 July of each year, commencing on 15 January 2025 until redemption or maturity.

Unless previously redeemed, or purchased and cancelled, the Notes will mature on 15 July 2027 at their principal amount. The Notes are subject to redemption in whole, but not in part, at their principal amount, together with accrued interest, at the option of the Issuer at any time in the event of certain changes affecting taxes of the Relevant Jurisdiction (as defined herein). See "*Terms and Conditions of the Notes – Redemption and Purchase – Redemption for Taxation Reasons*." Each Noteholder (as defined herein) will have the right, at its option, to require the Issuer to redeem all, but not some only, of such Noteholder's Notes, at their principal amount, together with accrued interest, upon the occurrence of a Change of Control (as defined herein). See "*Terms and Conditions of the Notes – Redemption and Purchase – Change of Control Redemption*." Payments on the Notes will be made without deduction for or on account of taxes of the Relevant Jurisdiction to the extent described under "*Terms and Conditions of the Notes – Taxation*."

The Notes will be issued only in registered form in denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof. The Notes constitute direct, general and unconditional obligations of the Issuer which will at all times rank *pari passu* among themselves and at least *pari passu* with all other present and future unsecured obligations of the Issuer. The obligations under the Guarantee constitute direct, general and unconditional obligations of the Guarantor which will at all times rank at least *pari passu* with all other present and future unsecured obligations of the Guarantor. See "*Terms and Conditions of the Notes*."

Approval in-principle has been received from the Singapore Exchange Securities Trading Limited (the "SGX-ST") for the listing and quotation of the Notes 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 the Notes on, the SGX-ST are not to be taken as an indication of the merits of the Notes, the Issuer or the Guarantor. There is currently no public market for the Notes. For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, the Notes, 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). Accordingly, the Notes, if traded on the SGX-ST, will be traded in a minimum board lot size of U.S.$200,000.

The Notes are expected to be rated "Aa2" by Moody's Investor Services, Inc. ("Moody's") and "AA-" by Fitch Ratings Inc. ("Fitch"). A rating does not constitute a recommendation to buy, sell or hold the Notes and may be subject to revision or withdrawal at any time by such rating organisation.

The Notes are expected to be delivered in book-entry form only through the facilities of The Depository Trust Company ("DTC") for the accounts of its participants, including Euroclear Bank NV/SA ("Euroclear") and Clearstream Banking SA ("Clearstream") on or about 15 July 2024.

Neither the Notes nor the Guarantee has been, or will be, registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"), or any state securities laws of the United States, and they may not be offered or sold directly or indirectly within the United States or to or for the account or benefit of a U.S. person (as defined in Regulation S ("Regulation S") under the Securities Act) except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. Accordingly, the Notes are being offered and sold (i) in the United States only to qualified institutional buyers (as defined in Rule 144A ("Rule 144A") under the Securities Act) in reliance on Rule 144A and (ii) outside the United States to non-U.S. persons in reliance on Regulation S, in each case, in compliance with applicable laws, regulations and directives. Prospective investors are hereby notified that the seller of the Notes may be relying on the exemption from the provisions of Section 5 of the Securities Act provided by Rule 144A. The Notes are not transferable except in accordance with the restrictions described under "*Notice to Investors*."

Joint Lead Managers and Bookrunners

Citigroup	**Crédit Agricole CIB**
J.P. Morgan	**Korea Development Bank**
Mizuho	**Standard Chartered Bank**

The date of this Offering Circular is 8 July 2024.

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You should rely only on the information contained in this Offering Circular when making an investment decision. None of the Issuer, the Guarantor or any of the Joint Lead Managers (as defined in "*Subscription and Sale*") has authorised anyone to provide you with information that is different or make any representation other than as contained in this Offering Circular in connection with the offering of the Notes. If anyone provides you with different or inconsistent information, you should not rely on it when making an investment decision.

You should assume the information in this Offering Circular is accurate only as of the date of this Offering Circular. The business, financial condition, results of operations and prospects of the Issuer or the Guarantor may have changed since that date. Neither the delivery of this Offering Circular nor any sale of the Notes made in connection with this Offering Circular will, under any circumstances, constitute a representation or create any implication that the information in this Offering Circular is correct as of any date subsequent to the date of this Offering Circular or that there have been no changes in the affairs of the Issuer or the Guarantor since the date of this Offering Circular. Statements contained in this Offering Circular as to the contents of any contract or other documents referred to in this Offering Circular may not set forth all of the terms and conditions of such contracts or other documents.

In making an investment decision, prospective investors must rely on their own examination of the Issuer and the Guarantor and the terms of the Notes and the Guarantee, including the merits and risks involved. Neither the Issuer nor the Guarantor is making any representation to any purchaser of the Notes regarding the legality of an investment in the Notes by such purchaser under any legal investment or similar laws or regulations. This Offering Circular should not be considered as a recommendation or constituting an invitation or offer by the Issuer or the Guarantor that any recipient of this Offering Circular should purchase the Notes. You should not construe the contents of this Offering Circular as legal, business, accounting or tax advice. You should consult your own attorney, business adviser and tax adviser for legal, business and tax advice regarding an investment in the Notes.

The Issuer and the Guarantor have furnished the information contained in this Offering Circular, which has not been separately verified by the Joint Lead Managers. No representation, undertaking or warranty, express or implied, is made by the Joint Lead Managers or any of their respective affiliates or advisers as to the accuracy or completeness of the information contained in this Offering Circular, and nothing contained in this Offering Circular is, or shall be relied upon as, a promise or representation by the Joint Lead Managers or any of their respective affiliates or advisers. The Joint Lead Managers assume no responsibility for the accuracy or completeness of any of the information contained in this Offering Circular or any other information (financial, legal or otherwise) provided by the Issuer or the Guarantor in connection with the issue of the Notes or their distribution. Each person receiving this Offering Circular acknowledges that such person has not relied on the Joint Lead Managers or any of their respective affiliates or advisers in connection with investigation of the accuracy of such information or such person's investment decisions. To the fullest extent permitted by law, none of the Joint Lead Managers accepts any responsibility for the contents of this Offering Circular or for any other statement, made or purported to be made by any Joint Lead Manager or on its behalf in connection with the Issuer, the Guarantor, the Guarantee or the issue and offering of the Notes. The Joint Lead Managers accordingly disclaim any and all liability whether arising in tort or contract or otherwise (save as referred to above) which it might otherwise have in respect of this Offering Circular or any such statement.

This Offering Circular may only be used where it is legal to sell the Notes. None of the Issuer, the Guarantor or the Joint Lead Managers is making an offer to sell the Notes in any jurisdiction where the offer or sale is not permitted. This Offering Circular may not be used for, or in connection with, any offer to, or solicitation by, anyone in any jurisdiction in which it is unlawful to make such an offer or solicitation. The distribution of this Offering Circular and the offering of the Notes in certain jurisdictions may be restricted by law. Persons into whose possession this Offering Circular may come must inform themselves about and observe these relevant restrictions. No action is being taken in any jurisdiction to permit an offering to the general public of the Notes or the distribution of this Offering Circular in any jurisdiction where action would be required for those purposes.

The Notes are subject to restrictions on transferability and may not be transferred or resold except as permitted under applicable U.S. federal and state securities laws pursuant to a registration statement or an exemption from registration. Any investor who purchases the Notes will be deemed to have made acknowledgements, representations, warranties and agreements intended to restrict the resale or other transfer of the Notes, as set forth under "*Notice to Investors*" in this Offering Circular. As a prospective investor, you should be aware that you may be required to bear the financial risks of this investment for an indefinite period of time. See "*Subscription and Sale*" and "*Notice to Investors*."

In connection with this offering, each of the Joint Lead Managers (each a "Stabilising Manager") or any of its affiliates (or any person acting on behalf of any of them) may, to the extent permitted by applicable laws and regulations, over-allot or effect transactions with a view to supporting the market price of the Notes at a level higher than that which might otherwise prevail for a limited period after their issue date. However, there is no obligation on a Stabilising Manager or any of its affiliates (or any person acting on behalf of any of them), to do this. Such stabilisation, if commenced, may be discontinued at any time, and must be brought to an end after a limited period. For a description of these activities, see "*Subscription and Sale*."

NOTICE TO PROSPECTIVE INVESTORS IN THE UNITED STATES

THE NOTES HAVE NOT BEEN RECOMMENDED BY ANY U.S. FEDERAL OR STATE OR FOREIGN SECURITIES COMMISSION OR REGULATORY AUTHORITY. FURTHERMORE, THE FOREGOING AUTHORITIES HAVE NOT REVIEWED OR PASSED ON THE ACCURACY OR ADEQUACY OF THIS OFFERING CIRCULAR. ANY REPRESENTATION TO THE CONTRARY IS A CRIMINAL OFFENSE.

PROHIBITION OF SALES TO EEA RETAIL INVESTORS – The Notes 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"); 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. Consequently no key information document required by Regulation (EU) No 1286/2014 (as amended, the "PRIIPs Regulation") for offering or selling the Notes or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

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

PROHIBITION OF SALES TO UK RETAIL INVESTORS – The Notes 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 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 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. 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 Notes or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Notes or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

UK MiFIR product governance/Professional investors and ECPs only target market – Solely for the purposes of the manufacturer's product approval process, the target market assessment in respect of the Notes has led to the conclusion that: (i) the target market for the Notes is only eligible counterparties, as defined in the FCA Handbook Conduct of Business Sourcebook ("COBS"), 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 ("UK MiFIR"); and (ii) all channels for distribution of the Notes to eligible counterparties and professional clients are appropriate. Any person subsequently offering, selling or recommending the Notes (a "distributor") should take into consideration the manufacturer'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 Notes (by either adopting or refining the manufacturer's target market assessment) and determining appropriate distribution channels.

IMPORTANT NOTICE TO PROSPECTIVE INVESTORS

Prospective investors should be aware that certain intermediaries in the context of this offering of the Notes, including all Joint Lead Managers, are "capital market intermediaries" ("CMIs") subject to Paragraph 21 of the Code of Conduct for Persons Licenced 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 the Issuer, the Guarantor, a CMI or its group companies would be considered under the SFC Code as having an association ("Association") with the Issuer, the Guarantor, the CMI or the relevant group company. Prospective investors associated with the Issuer, the Guarantor or any CMI (including its group companies) should specifically disclose this when placing an order for the Notes 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 their 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 any Joint Lead Manager, such prospective investor should indicate when placing an order if it is for a fund or portfolio where the Joint Lead Manager or its group company has more than 50 per cent. 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 a "proprietary order." If a prospective investor is otherwise affiliated with any Joint Lead Manager, such that its order may be considered to be a "proprietary order" (pursuant to the SFC Code), such prospective investor should indicate to the Joint Lead Manager 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 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 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 Manager and/or any other third parties as may be required by the SFC Code, including to the Issuer, the Guarantor, 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.

ENFORCEABILITY OF CIVIL LIABILITIES

The Guarantor is a statutory juridical entity established in Korea pursuant to The Korea Development Bank Act, as amended (the "KDB Act"). All of the Guarantor's directors and officers reside in Korea, and all or a significant portion of the assets of the directors and officers and a substantial part of the Guarantor'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 Guarantor 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.

AVAILABLE INFORMATION

To permit compliance with Rule 144A under the Securities Act in connection with sales of the Notes, the Issuer will be required under the terms of the Notes and the Agency Agreement (as defined in this Offering Circular) to furnish upon request of a Noteholder, to such Noteholder and any prospective investor designated by such Noteholder, the information required to be delivered under Rule 144A(d)(4) under the Securities Act unless at the time of the request the Issuer is a reporting company under Section 13 or Section 15(d) of the U.S. Securities Exchange Act of 1934, as amended (the "Exchange Act"), or is exempt from the registration requirements of Section 12(g) of the Exchange Act (and therefore is required to publish on its website, in English, certain information pursuant to Rule 12g3-2(b) under the Exchange Act). In accordance with the Notes and the Agency Agreement, the Fiscal Agent (as defined in this Offering Circular) also will make available for inspection by Noteholders or, in certain cases, arrange for the mailing to such Noteholders, certain documents or communications received from the Issuer.

CERTAIN DEFINED TERMS AND CONVENTIONS

In this Offering Circular, all references to the "Issuer," "Kraton," "we," "our," "ours," and "us" are to Kraton Corporation and, unless otherwise specified or the context otherwise requires, its consolidated subsidiaries.

All references to the "Guarantor" are to The Korea Development Bank, in its capacity as the guarantor of the Notes. All references to "Korea" and the "Republic" are to The Republic of Korea. All references to the "Government" are to the government of Korea.

Unless otherwise indicated, all references to "Won" or "₩" contained in this Offering Circular are to the currency of Korea, references to "U.S. dollars" or "U.S.$" are to the currency of the United States of America, references to "Euro" or "EUR" are to the currency of the European Union, references to "Japanese Yen" or "¥" are to the currency of Japan, references to "Singapore dollar," "S$" or "SGD" are to the currency of Singapore, references to "Swiss franc" or "CHF" are to the currency of Switzerland, references to "sterling" or "GBP" are to the currency of the United Kingdom, references to "Chinese offshore renminbi" or "CNH" are to the currency of the People's Republic of China traded outside of mainland China, references to "Hong Kong dollar" or "HKD" are to the currency of Hong Kong, S.A.R., references to "New Zealand dollar" or "NZD" are to the currency of New Zealand, references to "Australian dollar" or "AUD" are to the currency of Australia, references to "Indonesian Rupiah" or "INR" are to the currency of Indonesia, references to "Indian Rupee" or "INR" are to the currency of India, references to "Norwegian krone" or "NOK" are to the currency of Norway, references to "Swedish Krona" or "SEK" are to the currency of Sweden, references to "Thai Baht" or "THB" are to the currency of Thailand, references to "Mexican Peso" or "MXN" are to the currency of Mexico and references to "Brazilian real" or "BRL" are to the currency of the Federative Republic of Brazil.

In this Offering Circular, where information has been prepared in thousands, millions or billions of units, amounts may have been rounded up or down. Accordingly, actual numbers may differ from those contained herein due to rounding. All discrepancies in any table between totals and the sums of the amounts listed are due to rounding.

PRESENTATION OF FINANCIAL INFORMATION

The Issuer's consolidated financial statements and information as of and for the years ended 31 December 2023 and 2022 (the "Issuer Financial Statements") included in this Offering Circular have been prepared in accordance with International Financial Reporting Standards as issued by the International Accounting Standards Board ("IFRS").

The Guarantor's separate financial statements and information as of and for the years ended 31 December 2023 and 2022 (the "Guarantor Financial Statements") included in this Offering Circular have been prepared in accordance with IFRS as adopted by the Korean Accounting Standards Board ("Korean IFRS"). References in this Offering Circular to "separate" financial statements and information are to financial statements and information prepared on a non-consolidated basis. Unless specified otherwise, the Guarantor's financial and other information included in this Offering Circular is presented on a separate basis in accordance with Korean IFRS and does not include such information with respect to its subsidiaries.

FORWARD-LOOKING STATEMENTS

This Offering Circular includes future expectations, projections or "forward-looking statements," as defined in Section 27A of the Securities Act and Section 21E of the Exchange Act. The words "believe," "expect," "anticipate," "estimate," "project" and similar words identify forward-looking statements. In addition, all statements other than statements of historical facts included in this Offering Circular are forward-looking statements. Although the Issuer and the Guarantor believe that the expectations reflected in the forward-looking statements are reasonable, no assurance can be given that such expectations will prove correct. This Offering Circular discloses important factors that could cause actual results to differ materially from the Issuer's or the Guarantor's expectations, including factors that could adversely affect the future performance of the Korean economy, as described below (collectively, the "Cautionary Statements"). All subsequent written and oral forward-looking statements attributable to the Issuer or the Guarantor or persons acting on behalf of either of them are expressly qualified in their entirety by the Cautionary Statements.

Factors that could adversely affect the future performance of the Korean economy include:

- the occurrence of severe health epidemics, such as the COVID-19 pandemic;
- hostilities, political or social tensions involving Russia (including the invasion of Ukraine by Russia and the ensuing actions that the United States and other countries have taken or may take in the future, such as the imposition of sanctions against Russia) and the resulting adverse effects on the global supply of oil and other natural resources and the global financial markets;
- adverse conditions or developments 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, including as a result of the deterioration of economic and trade relations between the United States and China and increased uncertainties in the global financial markets and industry;
- disruptions in the global supply chain for raw materials, natural resources, consumer goods, rare earth minerals, component parts and other supplies, including semiconductors;
- interest rate fluctuations as well as perceived or actual changes in policy rates, or other monetary and fiscal policies set forth, by the U.S. Federal Reserve, Korea and other central banks;
- rising inflationary pressures leading to increases in the costs of goods and services and a decrease in purchasing power;
- 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 Japanese Yen exchange rates or revaluation of the Chinese Yuan and the depreciation of the Won against such currencies), interest rates, inflation rates or stock markets;
- difficulties in the financial sectors and increased sovereign default risks in select countries and the resulting adverse effects on the global financial markets;
- a substantial decrease in tax revenues and a substantial increase in the Government's expenditures for fiscal stimulus measures, unemployment compensation and other economic and social programmes, in particular in light of the Government's ongoing efforts to provide emergency relief payments to households and corporations in need of funding in light of the COVID-19 pandemic as well as interest rate increases which, together, would lead to an increased Government budget deficit as well as an increase in the Government's debt;

- declines in consumer confidence and a slowdown in consumer spending including as a result of severe health epidemics, such as the COVID-19 pandemic, and increases in market interest rates;
- a continuing rise in the level of household debt and increasing delinquencies and credit defaults by retail or small- and medium-sized enterprise borrowers in Korea;
- substantial changes in the market prices of Korean real estate;
- the continued growth of the Chinese economy, to the extent its benefits (such as increased exports to China) are outweighed by its costs (such as competition in export markets or for foreign investment and the relocation of the manufacturing base from Korea to China), as well as a slowdown in the growth of China's economy, which is Korea's most important export market;
- investigations of large Korean business groups and their senior management for possible misconduct;
- the economic impact of any pending or future free trade agreements or of any changes to existing free trade agreements;
- social and labour unrest;
- financial problems or lack of progress in the restructuring of Korean conglomerates, other large troubled companies, their suppliers or the financial sector;
- loss of investor confidence arising from corporate accounting irregularities or corporate governance issues at certain Korean companies;
- increases in social expenditures to support an aging population in Korea or decreases in economic productivity due to the declining population size in Korea;
- a continued decrease in the population and birthrates;
- geo-political uncertainty and risk of further attacks by terrorist groups around the world;
- 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;
- political uncertainty or increasing strife among or within political parties in Korea;
- natural or man-made disasters that have a significant adverse economic or other impact on Korea or its major trading partners;
- hostilities or political or social tensions involving countries in the Middle East (including those resulting from the escalation of hostilities in the Middle East following the Israel-Hamas war) and Northern Africa and any material disruption in the supply of oil or sudden changes in the price of oil; and
- an increase in the level of tensions or an outbreak of hostilities between North Korea and Korea or the United States.

SUMMARY OF THE OFFERING

The following is a brief summary of certain terms of the Notes and the Guarantee, which are more fully described in the Terms and Conditions of the Notes (the "Conditions"). The Conditions prevail to the extent of any inconsistency with the summary description set out in this section. Terms used and not otherwise defined in this summary have the meaning given to them in the Conditions. Any decision to invest in the Notes should be based on a consideration of this Offering Circular as a whole.

Issuer	Kraton Corporation (Legal Entity Identifier: 549300UKP7HNTB21X136)
Guarantor	The Korea Development Bank (Legal Entity Identifier: 549300ML2LNRZUCS7149)
Notes	The U.S.$1,000,000,000 5.00 per cent. Guaranteed Senior Unsecured Notes due 2027 (the "Notes") are being offered (i) in the United States to qualified institutional buyers ("QIBs") in reliance on Rule 144A and (ii) outside of the United States to non-U.S. persons in reliance on Regulation S. See "*Subscription and Sale*" and "*Notice to Investors*."
Guarantee	The Guarantor has unconditionally and irrevocably guaranteed to each Noteholder by way of continuing guarantee the due and punctual payment of all amounts payable by the Issuer on or in respect of the Notes as and when the same shall become due according to the Conditions under the Guarantee.
Status of the Notes and the Guarantee	The Notes constitute direct, general and unconditional obligations of the Issuer which will at all times rank *pari passu* among themselves and at least *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer, save for such obligations as may be preferred by provisions of law that are both mandatory and of general application. The obligations of the Guarantor under the Guarantee constitute direct, general and unconditional obligations of the Guarantor which will at all times rank at least *pari passu* with all other present and future unsecured and unsubordinated obligations of the Guarantor, save for such obligations as may be preferred by provisions of law that are both mandatory and of general application.
Issue Price	99.295 per cent.
Issue Date	15 July 2024
Maturity Date	15 July 2027

Interest	The Notes will bear interest at the rate of 5.00 per cent. per annum from the Issue Date to (but excluding) the due date for redemption of the Notes, payable semi-annually in arrear on 15 January and 15 July in each year (each an "Interest Payment Date"). The first Interest Payment Date will be 15 January 2025 in respect of the period from (and including) 15 July 2024 to (but excluding) 15 January 2025.
Denomination	The Notes will be issued in minimum denominations of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof.
Withholding Tax and Additional Amounts	All payments in respect of the Notes by or on behalf of the Issuer or, as the case may be, the Guarantor shall be made without withholding or deduction for, or on account of, Taxes imposed or levied by or on behalf of the Relevant Jurisdiction unless the withholding or deduction of Taxes is required by law. In that event, subject to certain exceptions, the Issuer or, as the case may be, the Guarantor will pay certain additional amounts. See "*Terms and Conditions – Taxation – Payment without Withholding*."
Redemption for Taxation Reasons	The Notes may be redeemed at the option of the Issuer in whole, but not in part, at any time in the event of certain changes affecting Taxes of the Relevant Jurisdiction. See "*Terms and Conditions – Redemption and Purchase – Redemption for Taxation Reasons*."
Change of Control Redemption	Each Noteholder will have the right, at its option, to require the Issuer to redeem all, but not some only, of such Noteholder's Notes, upon the occurrence of a Change of Control. See "*Terms and Conditions – Redemption – Change of Control Redemption*."
Negative Pledge	The terms of the Notes contain a negative pledge provision with respect to the Guarantor. See "*Terms and Conditions – Negative Pledge*."
Form of the Notes	The Notes will be in registered form. The Notes sold in offshore transactions in reliance on Regulation S will be represented by one or more global note certificates (the "Unrestricted Global Note Certificates") issued to the DTC and registered in the name of Cede & Co. as nominee of DTC, and held in New York, New York for the accounts of DTC participants, including Euroclear and Clearstream. Notes sold in reliance on Rule 144A will be represented by one or more global note certificates (the "Restricted Global Note Certificates" and together with the Unrestricted Global Note Certificates, the "Global Note Certificates") issued to DTC and registered in the name of a nominee of DTC. See "*The Global Note Certificates*."

Fiscal Agent	Citicorp International Limited will act as the fiscal agent (the "Fiscal Agent") under the Agency Agreement for the Notes to be dated 15 July 2024 (the "Agency Agreement").
Registrar, Paying Agent and Transfer Agent	Citibank, N.A., London Branch will act as the Registrar, the Paying Agent and the Transfer Agent under the Agency Agreement.
Governing Law	The Notes and the related Deed of Covenant, the Guarantee and the Agency Agreement will be governed by English law.
Listing	Approval in-principle has been received from the SGX-ST for the listing and quotation of the Notes on the SGX-ST. For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, the Notes, 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). Accordingly, the Notes, if traded on the SGX-ST, will be traded in a minimum board lot size of U.S.$200,000.
Use of Proceeds	The Issuer will use the proceeds from the issuance to refinance existing indebtedness and for general corporate purposes.
Security Codes	Rule 144A ISIN: US50077CAA45 Regulation S Temporary ISIN: USU5010CAB38 Regulation S ISIN: USU5010CAA54 Rule 144A CUSIP: 50077C AA4 Regulation S Temporary CUSIP: U5010C AB3 Regulation S CUSIP: U5010C AA5

Payments under the Guarantee may be restricted under certain circumstances.

Under the Foreign Exchange Transactions Act, if the Government deems that (i) it is inevitable due to certain emergency circumstances, such as natural calamities, war, armed conflicts or grave and sudden changes in economic situations in or outside Korea or (ii) a serious difficulty in international balances of payments and international finance, or serious obstacles in implementing currency policies, exchange rate policies or other macroeconomic policies due to capital movements in and out of Korea have occurred or are likely to occur, the Ministry of Economy and Finance may impose any necessary restrictions on the remittance of payments out of Korea, such as temporary suspension, in whole or in part of payments or imposition of obligations to deposit of means of payments in or to the Bank of Korea, the foreign exchange equalisation fund or financial companies, etc. In addition, the Ministry of Economy and Finance may require any Korean resident who intends to make payment from Korea to a foreign country or to any non-Korean resident to obtain prior approval in case where it is inevitable for the faithful fulfilment of treaties entered into by Korea and of generally recognised international laws and regulations or where it is necessary for especially contributing to international endeavour for the maintenance of international peace and security.

If the Guarantor is subject to the above mentioned restrictions of payment or is required to but cannot obtain prior approval from the Ministry of Economy and Finance under the above mentioned circumstances, the Guarantor may not be able to make any payments under the Guarantee.

The Notes and the Guarantee are subject to transfer restrictions.

The Notes and the Guarantee will not be registered under the Securities Act or any state securities laws and may not be offered or sold within the United States except to QIBs in reliance on the exemption provided by Rule 144A, to certain persons in offshore transactions in reliance on Regulation S, or, if available, pursuant to another exemption from, or in another transaction not subject to, the registration requirements of the Securities Act and, in each case, in accordance with applicable state securities laws. In addition, subject to the conditions set forth in the Agency Agreement (as defined in the Conditions), a Note may be transferred only if the principal amount of Notes transferred is at least U.S.$200,000. For a further discussion of the transfer restrictions applicable to the Notes, see "*Notice to Investors*."

The Notes may be redeemed or purchased under certain circumstances.

The Noteholders should be aware that the Notes may be redeemed at the option of the Issuer (in whole but not in part) at any time at their principal amount (together with interest accrued to but excluding the date of redemption) in case of certain tax reasons as further described in Condition 8.2 (Redemption for Taxation Reasons) of the Term and Conditions of the Notes. In addition, the Issuer, the Guarantor or any of their respective subsidiaries may at any time purchase the Notes in the open market or otherwise and at any price as further described in Condition 8.4 (Purchases) of the Conditions.

The date on which the Notes are redeemed or purchased may not accord with the preference of individual Noteholders. This may be disadvantageous to the Noteholders in light of market conditions or the individual circumstances of the Noteholders. In addition, an investor may not be able to reinvest the redemption or sale proceeds in comparable securities at an effective interest rate at the same level as that of the Notes.

The ratings assigned to the Notes may be suspended, lowered or withdrawn in the future.

The Notes are expected to be rated "Aa2" by Moody's and "AA-" by Fitch. The ratings assigned to the Notes will be based primarily on the Guarantee to be issued by the Guarantor with respect to the Notes. Pursuant to the Guarantee, the Guarantor will unconditionally and irrevocably guarantee the due and punctual payment of all sums from time to time payable by the Issuer in respect of the Notes as and when such sums become due (the "Guaranteed Amounts"). The payment of the Guaranteed Amounts will, therefore, depend on the Guarantor performing its obligations under the Guarantee, and the likelihood of payment of the Guaranteed Amounts will depend on the creditworthiness of the Guarantor. Consequently, investors are relying on the creditworthiness of the Guarantor to perform its obligations under the Guarantee. A significant deterioration in the financial condition of the Guarantor could adversely affect the likelihood of investors receiving Guaranteed Amounts under the Guarantee and could result in a downgrade or withdrawal of the rating of the Notes.

A rating is not a recommendation to buy, sell or hold the Notes and may be subject to revision, suspension or withdrawal at any time. There can be no assurance that a rating will remain the same for any given period of time or that a rating will not be lowered, suspended or withdrawn entirely by the relevant rating agency if in its judgment circumstances in the future so warrant. Neither the Issuer nor the Guarantor has an obligation to inform Noteholders of any such revision, downgrade or withdrawal. A reduction, suspension, or withdrawal at any time of the rating assigned to the Notes may adversely affect the market price of the Notes or a Noteholder's ability to dispose of the Notes.

The liquidity and price of the Notes may be volatile.

The price and trading volume of the Notes may be highly volatile. Factors such as the general economic conditions in Korea or internationally, could cause the price of the Notes to fluctuate. Any such developments may result in large and sudden adverse changes in the trading volume and price of the Notes. There can be no assurance that these developments will not occur in the future.

An active trading market for the Notes may not develop.

The Notes are a new issue of securities for which there is currently no trading market. No assurance can be given that the Issuer will obtain or be able to maintain a listing and quotation of the Notes on the SGX-ST or that an active trading market for the Notes will develop or as to the liquidity or sustainability of any such market, the ability of Noteholders to sell their Notes or the price at which Noteholders will be able to sell their Notes. The Joint Lead Managers are not obliged to make a market in the Notes and any such market making, if commenced, may be discontinued at any time at the sole discretion of the Joint Lead Managers.

The Notes contain provisions regarding meetings, modification, waivers and substitution which may affect the rights of Noteholders.

The Conditions and the Agency Agreement contain provisions for calling meetings of Noteholders to consider matters affecting their interests generally. These provisions permit defined majorities to bind all Noteholders including Noteholders who did not attend and vote at the relevant meeting and Noteholders who voted in a manner contrary to the requisite majority.

The Conditions also provide that the Fiscal Agent may agree, without the consent of Noteholders, to any modification of any of the Conditions or any of the provisions of the Agency Agreement either (i) for the purpose of curing any ambiguity or of curing, correcting or supplementing any manifest or proven error or any other defective provision contained therein or (ii) in any other manner which is, in the opinion of the Issuer and the Guarantor, not materially prejudicial to the interests of the Noteholders. Any such modifications will be binding on all current and future Noteholders.

TERMS AND CONDITIONS OF THE NOTES

The following is the text of the Conditions which (subject to modification and except for the paragraphs in italics) will be endorsed on the Note Certificates issued in respect of the Notes:

The Notes, which expression shall in these Conditions, unless the context otherwise requires, include any further notes issued pursuant to Condition 16 (Further Issue) and forming a single series with the Notes, are being issued by the Issuer, and will be unconditionally and irrevocably guaranteed by the Guarantor, subject to and with the benefit of the Agency Agreement made among the Issuer, the Guarantor, Citicorp International Limited as fiscal agent (the "Fiscal Agent") and Citibank, N.A., London Branch as registrar (the "Registrar"), paying agent (together with any other paying agents appointed from time to time, the "Paying Agents") and transfer agent (the "Transfer Agent" and, together with the Fiscal Agent, Registrar and Paying Agents, the "Agents," and each an "Agent").

The statements in these Conditions include summaries of, and are subject to, the detailed provisions of and definitions in the Agency Agreement. Copies of the Agency Agreement are available for inspection during normal business hours by the holders of the Notes (the "Noteholders") upon satisfaction of proof of holding appertaining to the Notes at the specified office of each of the Paying Agents. The Noteholders are entitled to the benefit of, are bound by, and are deemed to have notice of, all the provisions of the Agency Agreement applicable to them. References in these Conditions to the Fiscal Agent, the Registrar, the Paying Agents, the Transfer Agent and the Agents shall include any successor appointed under the Agency Agreement.

The owners shown in the records of Euroclear and Clearstream, as applicable, of book-entry interests in Notes are entitled to the benefit of, are bound by, and are deemed to have notice of, all the provisions of the Agency Agreement applicable to them.

1 FORM, DENOMINATION AND TITLE

1.1 Form and Denomination

The Notes are issued in registered form in amounts of U.S.$200,000 and integral multiples of U.S.$1,000 in excess thereof (referred to as the "principal amount" of a Note). A note certificate (each a "Note Certificate") will be issued to each Noteholder in respect of its registered holding of Notes. Each Note Certificate will be numbered serially with an identifying number which will be recorded on the relevant Note Certificate and in the register of Noteholders which the Issuer will procure to be kept by the Registrar.

The Notes are not issuable in bearer form.

1.2 Title

Title to the Notes passes only by registration in the register of Noteholders. The holder of any Note will (except as otherwise required by law) be treated as its absolute owner for all purposes (whether or not it is overdue and regardless of any notice of ownership, trust or any interest or any writing on, or the theft or loss of, the Note Certificate issued in respect of it) and no person will be liable for so treating the holder. In these Conditions "Noteholder" and (in relation to a Note) "holder" means the person in whose name a Note is registered in the register of Noteholders.

2 TRANSFERS OF NOTES AND ISSUE OF NOTE CERTIFICATES

2.1 Transfers

A Note may be transferred by depositing the Note Certificate issued in respect of that Note, with the form of transfer on the back duly completed and signed, at the specified office of the Registrar or the Transfer Agent.

2.2 Delivery of new Note Certificates

Each new Note Certificate to be issued upon transfer of Notes will, within five business days of receipt by the Registrar or the Transfer Agent of the duly completed form of transfer endorsed on the relevant Note Certificate, be mailed by uninsured mail at the risk of the holder entitled to the Note to the address specified in the form of transfer. For the purposes of this Condition, "business day" shall mean a day on which commercial banks are open for business (including dealings in foreign currencies) in the city in which the specified office of the Transfer Agent with whom a Note Certificate is deposited in connection with a transfer is located.

Except in the limited circumstances described herein, owners of interests in the Notes will not be entitled to receive physical delivery of Note Certificates. Issues of Note Certificates upon transfer of Notes are subject to compliance by the transferor and transferee with the certification procedures described above and in the Agency Agreement.

Where some but not all of the Notes in respect of which a Note Certificate is issued are to be transferred a new Note Certificate in respect of the Notes not so transferred will, within five business days of receipt by the Registrar or the Transfer Agent of the original Note Certificate, be mailed by uninsured mail at the risk of the holder of the Notes not so transferred to the address of such holder appearing on the register of Noteholders or as specified in the form of transfer.

2.3 Formalities free of charge

Registration of transfer of Notes will be effected without charge by or on behalf of the Issuer or any Agent but upon payment (or the giving of such indemnity and/or security and/or pre-funded to its satisfaction as the Issuer or the Transfer Agent may require) in respect of any tax or other governmental charges which may be imposed in relation to such transfer.

2.4 Closed Periods

No Noteholder may require the transfer of a Note to be registered during the period of 15 days ending on the due date for any payment of principal or interest on that Note.

2.5 Regulations

All transfers of Notes and entries on the register of Noteholders will be made subject to the detailed regulations concerning transfer of Notes scheduled to the Agency Agreement. The regulations may be changed by the Issuer with the prior written approval of the Registrar. A copy of the current regulations will be mailed (free of charge) by the Registrar to any Noteholder who requests one.

3 STATUS OF THE NOTES

The Notes constitute direct, general and unconditional obligations of the Issuer which will at all times rank *pari passu* among themselves and at least *pari passu* with all other present and future unsecured and unsubordinated obligations of the Issuer, save for such obligations as may be preferred by provisions of law that are both mandatory and of general application.

4 GUARANTEE

4.1 Guarantee

The Guarantor has unconditionally and irrevocably guaranteed to each Noteholder by way of continuing guarantee the due and punctual payment of all amounts payable by the Issuer on or in respect of the Notes as and when the same shall become due according to the Conditions under the Guarantee executed by the Guarantor.

4.2 Status of the Guarantee

The obligations of the Guarantor under the Guarantee constitute direct, general and unconditional obligations of the Guarantor which will at all times rank at least *pari passu* with all other present and future unsecured and unsubordinated obligations of the Guarantor, save for such obligations as may be preferred by provisions of law that are both mandatory and of general application. The original of the Guarantee is held by the Fiscal Agent on behalf of, and copies are available for inspection by (upon satisfaction of proof of holding), the Noteholders at its specified office.

5 NEGATIVE PLEDGE

5.1 Negative Pledge

So long as any of the Notes remains outstanding, the Guarantor will not create or permit to subsist any Encumbrance upon the whole or any part of its assets, present or future, to secure any indebtedness, or to secure any guarantee of indebtedness, unless the Guarantee is secured equally and rateably therewith, except that the Guarantor may create or permit to arise or subsist:

(a) any Encumbrance over promissory notes or other commercial paper discounted or otherwise provided as security to or issued by the Guarantor where such Encumbrance is created in favour of The Bank of Korea in the normal operation of its discount facilities or its facilities for the funding of loans by the Guarantor to customers of the Guarantor; or

(b) any Encumbrance over or affecting any asset of the Guarantor which has been created or granted in relation to any of the Guarantor's transactions with the Bank of Korea; or

(c) any Encumbrance over any immovable property owned by the Guarantor as security for the repayment by the Guarantor to a tenant of that property of any security deposit paid by such tenant to the Guarantor upon taking a tenancy or lease of that property; or

(d) any Encumbrance or any other agreement or arrangement having a similar effect arising in connection with a sale and repurchase transaction entered under TBMA/ISMA Global Master Repurchase Agreement or any other substantially similar repurchase agreement or arrangement of such kind entered into, or created, or arising in the ordinary course of business of the Guarantor, provided that the amount of such transaction (when aggregated with the amount of any other such transactions) does not exceed 15 per cent. of the borrowing liabilities of the Guarantor as set out in the latest audited separate balance sheet of the Guarantor; or

(e) any Encumbrance over any loan or other indebtedness (the "Loan Asset") denominated in one currency (the "Denominated Currency") owed by a party (together with its subsidiaries, and related entities, the "Secured Counterparty") to the Guarantor, which is granted in favour of the Secured Counterparty in connection with (a) a loan or other indebtedness denominated in a currency other than the Denominated Currency of the Guarantor or any of its subsidiaries or related entities owed to the Secured Counterparty (the "Reciprocal Loan") and (b) the Guarantor or any of its subsidiaries or related entities having been granted the benefit of an Encumbrance over the Reciprocal Loan by the Secured Counterparty, and which transaction or

arrangement described herein is commonly regarded as a parallel loan or back-to-back loan, provided that such transaction or arrangement is entered into in the ordinary course of business of the Guarantor and the aggregate outstanding principal amount of the Loan Assets of the Guarantor which are subject to such Encumbrance does not exceed 5 per cent. of the borrowing liabilities of the Guarantor as set out in the latest audited separate balance sheet of the Guarantor; or

(f) any statutory liens arising in the ordinary course of the Guarantor's business; or

(g) any Encumbrance arising, or preference given under the law of the Republic of Korea ("Korea"), applicable generally to corporations established under the law of Korea, by virtue of a failure by the Guarantor to meet an obligation, provided that such Encumbrance does not subsist for more than 30 days; or

(h) any Encumbrance over any asset purchased by the Guarantor (or documents of title thereto) or arising in connection with improvements to any asset of the Guarantor as security for the unpaid balance of the purchase price thereof or costs of improvement thereto; or

(i) any Encumbrance constituted by any netting or set-off arrangement entered into by the Guarantor in the ordinary course of its banking arrangements for the purpose of netting debit and credit balances; or

(j) any Encumbrance constituted in respect of any payment or close out netting or set-off arrangement pursuant to any hedging transaction entered into by the Guarantor for the purpose of:

(i) hedging any risk to which the Guarantor is exposed in its ordinary course of trading; or

(ii) its interest rate or currency management operations which are carried out in the ordinary course of business and for non-speculative purposes only, excluding, in any case, any Encumbrance under a credit support arrangement in relation to a hedging transaction; or

(k) any Encumbrance securing indebtedness the principal amount of which (when aggregated with the principal amount of any other indebtedness which has the benefit of an Encumbrance given by the Guarantor other than any permitted under paragraphs (a) to (g) above) does not exceed 1 per cent. of the net capital of the Guarantor based on the then most recent annual separate financial statements of the Guarantor.

5.2 Interpretation

For the purposes of these Conditions, "Encumbrance" means any mortgage, charge, encumbrance, pledge or other security interest.

6 INTEREST

6.1 Interest Rate and Interest Payment Dates

The Notes bear interest at the rate of 5.00 per cent. per annum from (and including) 15 July 2024 ("Issue Date") to (but excluding) the due date for redemption of the Notes, payable semi-annually in arrear on 15 January and 15 July in each year (each an "Interest Payment Date"). The first Interest Payment Date will be 15 January 2025 in respect of the period from (and including) 15 July 2024 to (but excluding) 15 January 2025.

6.2 Interest Accrual

Each Note will cease to bear interest from (and including) its due date for redemption unless, upon due presentation, payment of the principal in respect of the Note is improperly withheld or refused or unless default is otherwise made in respect of payment. In such event, interest will continue to accrue until whichever is the earlier of:

(a) the date on which all amounts due in respect of such Note have been paid; and

(b) five days after the date on which the full amount of the moneys payable in respect of such Notes has been received by the Fiscal Agent or the Registrar, as the case may be, and notice to that effect has been given to the Noteholders in accordance with Condition 14 (*Notices*).

6.3 Calculation of Interest

The amount of interest payable on each Interest Payment Date shall be U.S.$25.00 in respect of each Note of U.S.$1,000 denomination. If interest is required to be paid in respect of a Note on any other date, it shall be calculated on the basis of a 360-day year consisting of 12 months of 30 days each and, in the case of an incomplete month, the number of days elapsed on the basis of a month of 30 days.

7 PAYMENTS

7.1 Payments in respect of Notes

Payment of principal and interest will be made by transfer to the registered account of the Noteholder. Payments of principal and payments of interest due otherwise than on an Interest Payment Date will only be made against surrender of the relevant Note Certificate at the specified office of any of the Agents. Interest on Notes due on an Interest Payment Date will be paid to the holder shown on the register of Noteholders at the close of business on the date (the "record date") being the fifteenth day before the due date for the payment of interest.

For the purposes of this Condition, a Noteholder's registered account means the U.S. dollar account maintained by or on behalf of it with a bank that processes payments in New York City, details of which appear on the register of Noteholders at the close of business, in the case of principal on the second Business Day (as defined below) before the due date for payment and, in the case of interest, on the relevant record date, and a Noteholder's registered address means its address appearing on the register of Noteholders at that time.

Notwithstanding the foregoing, so long as the Global Note Certificate is held on behalf of DTC, Euroclear or any other clearing system, each payment in respect of the Global Note Certificate will be made to the person shown as the holder in the register at the close of business of the relevant clearing system on the Clearing System Business Day before the due date for such payments, where "Clearing System Business Day" means a day on which each clearing system for which the Global Note Certificate is being held is open for business.

7.2 Payments subject to Applicable Laws

Payments in respect of principal and interest on Notes are subject in all cases to any fiscal or other laws and regulations applicable in the place of payment, but without prejudice to the provisions of Condition 9 (*Taxation*).

7.3 No commissions

No commissions or expenses shall be charged to the Noteholders in respect of any payments made in accordance with this Condition.

7.4 Payment on Business Days

Where payment is to be made by transfer to a registered account, payment instructions (for value the due date or, if that is not a Business Day (as defined below), for value the first following day which is a Business Day) will be initiated on the Business Day preceding the due date for payment or, in the case of a payment of principal or a payment of interest due otherwise than on an Interest Payment Date, if later, on the Business Day on which the relevant Note Certificate is surrendered at the specified office of an Agent.

Noteholders will not be entitled to any interest or other payment for any delay after the due date in receiving the amount due if the due date is not a Business Day, if the Noteholder is late in surrendering its Note Certificate (if required to do so).

In this Condition, "Business Day" means a day (other than a Saturday or Sunday) on which commercial banks are open for business in London, New York City, Seoul and, in the case of presentation of a Note Certificate, in the place in which the Note Certificate is presented.

7.5 Partial Payments

If the amount of principal or interest which is due on the Notes is not paid in full, the Registrar will annotate the register of Noteholders with a record of the amount of principal or interest in fact paid.

7.6 Agents

The names of the initial Agents and their initial specified offices are set out at the end of these Conditions. The Issuer and the Guarantor reserve the right at any time to vary or terminate the appointment of any Agent and to appoint additional or other Agents provided that there will at all times be:

(a) a Fiscal Agent;

(b) an Agent (as separately appointed by the Issuer) having a specified office in Singapore, so long as the Notes are listed on the Singapore Exchange Securities Trading Limited (the "SGX-ST") and the rules of the SGX-ST so require;

(c) such other agents (as separately appointed by the Issuer) as may be required by the rules of any stock exchange on which the Notes are listed, if any other than the SGX-ST; and

(d) a Registrar.

Notice of any termination or appointment and of any changes in specified offices will be given to the Noteholders promptly by the Issuer in accordance with Condition 14 (*Notices*).

8 REDEMPTION AND PURCHASE

8.1 Redemption at Maturity

Unless previously redeemed or purchased and cancelled as provided below, the Issuer will redeem the Notes at their principal amount on 15 July 2027.

8.2 Redemption for Taxation Reasons

If:

(a) as a result of any change in, or amendment to, the laws or regulations of a Relevant Jurisdiction (as defined in Condition 9 (*Taxation*)), or any change in the application or official interpretation of the laws or regulations of a Relevant Jurisdiction, which change or amendment becomes effective after 8 July 2024, on the next Interest Payment Date either the Issuer or, if a demand was made under the Guarantee, the Guarantor would be required to pay additional amounts as provided or referred to in Condition 9 (*Taxation*); and

(b) the requirement cannot be avoided by the Issuer or, as the case may be, the Guarantor taking reasonable measures available to it,

the Issuer may at its option, having given not less than 30 nor more than 60 days' notice to the Noteholders in accordance with Condition 14 (*Notices*) (which notice shall be irrevocable), redeem all the Notes, but not some only, at any time at their principal amount together with interest accrued to but excluding the date of redemption. Prior to the publication of any notice of redemption pursuant to this paragraph, the Issuer or, as the case may be, the Guarantor shall deliver to the Fiscal Agent a certificate signed by two of its directors stating that the requirement referred to in (a) above will apply on the next Interest Payment Date and cannot be avoided by the Issuer or, as the case may be, the Guarantor taking reasonable measures available to it and an opinion of independent legal advisers of recognised standing to the effect that the Issuer or, as the case may be, the Guarantor has or will become obliged to pay such additional amounts as a result of the change or amendment.

8.3 Change of Control Redemption

Upon the occurrence of a Change of Control, each Noteholder will have the right, at such holder's option, to require the Issuer to redeem all, but not some only, of such holder's Notes on the Change of Control Put Date at their principal amount, together with accrued interest up to, but excluding the Change of Control Put Date. To exercise such right, the holder of the relevant Note must deposit at the specified office of any Paying Agent a duly completed and signed notice of redemption, in the form for the time being current, obtainable from the specified office of any Paying Agent (a "Change of Control Put Exercise Notice"), together with the Note Certificate evidencing the Notes to be redeemed by not later than 60 days following a Change of Control, or, if later, 60 days following the date upon which notice thereof is given to Noteholders by the Issuer in accordance with Condition 14 (*Notices*). The "Change of Control Put Date" shall be the fourteenth day after the expiry of such period of 60 days as referred to above.

A Change of Control Put Exercise Notice, once delivered, shall be irrevocable and the Issuer shall redeem the Notes that are the subject of the Change of Control Put Exercise Notices delivered as aforesaid on the Change of Control Put Date. The Guarantor shall give notice to the Issuer by not later than seven days following the first day on which it becomes aware of the occurrence of a Change of Control. The Issuer shall give notice to Noteholders and the Fiscal Agent in accordance with Condition 14 (*Notices*) by not later than seven days following the date of receipt of such notice from the Guarantor of the occurrence of a Change of Control, which notice shall specify the procedure for exercise by holders of their rights to require redemption of the Notes pursuant to this Condition 8.3 (*Change of Control Redemption*).

The Agents shall not be required to monitor or to take any steps to ascertain whether a Change of Control or any event which could lead to the occurrence of a Change of Control has occurred and shall not be liable to Noteholders or any other person for not doing so.

In these Conditions:

(a) a "Change of Control" occurs when Korea ceases to control (directly or indirectly) the Guarantor or fails to provide financial support for the Guarantor as required under Article 32 of The Korea Development Bank Act of 1953, as amended as of the Issue Date; and

(b) "control" means the acquisition or control of a majority of the Guarantor's voting share capital or the right to appoint and/or remove all or the majority of the members of the Guarantor's board of directors or other governing body, whether obtained directly or indirectly, and whether obtained by ownership of share capital, the possession of voting rights, contract or otherwise.

8.4 Purchases

The Issuer, the Guarantor or any of their respective Subsidiaries (as defined in Condition 12 (*Events of Default*)) may at any time purchase Notes in any manner and at any price.

8.5 Cancellations

All Notes which are (a) redeemed or (b) purchased by or on behalf of the Issuer, the Guarantor or any of their respective Subsidiaries will forthwith be cancelled, and accordingly may not be reissued or resold.

8.6 Notices Final

Upon the expiry of any notice as is referred to in paragraph 8.2 (*Redemption for Taxation Reasons*) or 8.3 (*Change of Control Redemption*) above the Issuer shall be bound to redeem the Notes to which the notice refers in accordance with the terms of such paragraph.

9 TAXATION

9.1 Payment without Withholding

All payments in respect of the Notes by or on behalf of the Issuer or, as the case may be, the Guarantor shall be made without withholding or deduction for, or on account of, any present or future taxes, duties, assessments or governmental charges of whatever nature ("Taxes") imposed or levied by or on behalf of the Relevant Jurisdiction, unless the withholding or deduction of Taxes is required by law. In that event, the Issuer or, as the case may be, the Guarantor will pay such additional amounts as may be necessary in order that the net amounts received by the Noteholders after the withholding or deduction shall equal the respective amounts which would have been receivable in respect of the Notes in the absence of the withholding or deduction; except that no additional amounts shall be payable in relation to any payment in respect of any Note:

(a) held by, or by a third party on behalf of, a Noteholder which is liable to Taxes in respect of the Note by reason of its (or a fiduciary, settlor, member or shareholder, beneficiary of, or possessor of a power over, such Noteholder, if such Noteholder is an estate, trust, partnership or corporation) having some present or former connection with the Relevant Jurisdiction (including, without limitation, being or having been a citizen or resident of the Relevant Jurisdiction or being or having been engaged in trade or business or present therein having or having had a permanent establishment therein) other than the mere holding of the Note; or

(b) held by or on behalf of a Noteholder if the Noteholder or beneficial owner would not be liable for or subject to such withholding or deduction by (i) making a declaration of residence, non-residence or other similar claim for exemption to the relevant tax authority if, after having been requested to make such a declaration or claim, such Noteholder fails to do so or (ii) delivering a valid U.S. Internal Revenue Service From W-8 or W-9 or any successor or substitute form; or

(c) in respect of which the Note Certificate representing it is presented for payment more than 30 days after the Relevant Date (as defined below) except to the extent that a Noteholder would have been entitled to additional amounts on presenting the same for payment on the last day of the period of 30 days assuming that day to have been a Business Day (as defined in Condition 7 (*Payments*)); or

(d) if such tax is (i) an estate, inheritance, gift, sales, transfer or personal property tax or any similar tax, assessment, or governmental charge, or (ii) payable otherwise than by withholding or deduction from a payment on the Notes; or

(e) held by or on behalf of a Noteholder or beneficial owner who does not qualify (or, with respect to the Noteholder or beneficial owner, it is not established that it qualifies) for the portfolio interest exemption under Sections 871(h) or 881(c) of the U.S. Internal Revenue Code of 1986, as amended (the "Code") or any successor provisions (including by failure of the Noteholder, beneficial owner or any intermediary to deliver appropriate valid U.S. Internal Revenue Service forms to the relevant withholding agent); or

(f) where such withholding or deduction is imposed pursuant to Sections 1471 through 1474 of the Code, U.S. Treasury regulations or administrative guidance promulgated thereunder or any law implementing an intergovernmental approach thereto; or

(g) held by or on behalf of a Noteholder that is a U.S. Person, in the case of taxes imposed by the United States; or

(h) to a Noteholder that is a fiduciary or partnership or any person other than the sole beneficial owner of such payment to the extent that a beneficiary or settlor of such fiduciary or partnership or beneficial owner would not have been entitled to such additional amounts had such beneficiary, settlor or beneficial owner been the Noteholder; or

(i) any combination of (a) through (h) above.

9.2 Interpretation

In these Conditions:

(a) "Relevant Date" means the date on which the payment first becomes due but, if the full amount of the money payable has not been received by the Fiscal Agent on or before the due date, it means the date on which, the full amount of the money having been so received, notice to that effect has been duly given to the Noteholders by the Issuer in accordance with Condition 14 (*Notices*);

(b) "Relevant Jurisdiction" means the United States (in the case of the Issuer) or Korea (in the case of the Guarantor) or any political subdivision or any authority thereof or therein having power to tax or any other jurisdiction or any political subdivision or any authority thereof or therein having power to tax to which the Issuer or the Guarantor, as the case may be, becomes subject in respect of payments made by it of principal and interest on the Notes; and

(c) A "U.S. Person" is a person that is, for United States federal income tax purposes, (i) an individual citizen or resident of the United States, (ii) a corporation, partnership or other business entity organised in or under the laws of the United States or its political subdivisions, (iii) a trust subject to the control of a U.S. person and the primary supervision of a U.S. court or (iv) an estate the income of which is subject to United States federal income taxation regardless of its source.

9.3 Additional Amounts

Any reference in these Conditions to any amounts in respect of the Notes shall be deemed also to refer to any additional amounts which may be payable under this Condition.

10 PRESCRIPTION

Claims in respect of principal and interest will become prescribed unless made within 10 years (in the case of principal) and five years (in the case of interest) from the Relevant Date, as defined in Condition 9 (*Taxation*).

11 CONSOLIDATION, MERGER AND SALE OF ASSETS

The Issuer, without the consent of the Noteholders, may consolidate with, or merge into, or sell, transfer, lease or convey its assets as an entirety or substantially as an entirety to any corporation; provided that (i) any successor corporation expressly assumes the applicable obligations of the Issuer under the Notes and the Agency Agreement, (ii) after giving effect to the transaction, with respect to the Issuer or any such successor corporation, no Event of Default (as defined below) and no event which, after notice or lapse of time or both, would become an Event of Default, shall have occurred and be continuing and (iii) the Issuer has delivered to the Fiscal Agent a certificate executed by a duly authorised officer of the Issuer and an opinion of counsel as to matters of law stating that such consolidation, merger, sale, transfer, lease or conveyance and, if a supplemental agency agreement is required in connection with such transaction, such supplemental agency agreement comply with the Agency Agreement, the Notes and the Guarantee and that all conditions precedent herein provided for relating to such transaction have been complied with.

12 EVENTS OF DEFAULT

12.1 Events of Default

The holder of any Note may give notice to the Issuer and the Guarantor that the Note is, and it shall accordingly forthwith become, immediately due and repayable at its principal amount, together with interest accrued to the date of repayment, if any of the following events ("Events of Default") shall have occurred and be continuing:

(a) default in the payment of the principal of, or any interest on, any of the Notes when due and such failure continues for a period of fourteen (14) days (in the case of principal) or twenty-one (21) days (in the case of interest); or

(b) default in the performance of any other covenant, condition or provision contained in the Notes or the Guarantee and such default continues for thirty (30) days or more after written notice thereof shall have been given to the Fiscal Agent or the Registrar, as the case may be, by the holder of any Note; or

the Issuer's Events of Default:

(c) the validity of the Notes is contested by the Issuer or the Issuer shall deny any of the Issuer's obligations under the Notes or it is or will become unlawful for the Issuer to perform or comply with any of its obligations under or in respect of the Notes, the Deed of Covenant or the Agency Agreement or any of such obligations shall be or become unenforceable or invalid; or

(d) a distress, attachment, execution or other legal process is levied, enforced or sued out on or against any part of the property, assets or revenues of the Issuer or any of its Major Subsidiaries which exceeds U.S.$50,000,000, except where such distress, attachment, execution or other legal process is being contested in good faith or stayed within sixty (60) days of having been so levied, enforced or sued out; or

(e) the Issuer or any of its Major Subsidiaries is (or is, or could be, deemed by law or a court to be) insolvent or bankrupt or unable to pay its debts, stops, suspends or threatens to stop or suspend payment of all or a material part of (or of a particular type of) its debts, proposes or makes a general assignment or an arrangement or composition with or for the benefit of the relevant creditors in respect of any of such debts or a moratorium is agreed or declared in respect of or affecting all or any part of (or of a particular type of) the debts of the Issuer or any of its Major Subsidiaries; or

(f) an order is made or an effective resolution passed for the winding-up or dissolution of the Issuer, or the Issuer ceases or threatens to cease to carry on all or substantially all of its respective business or operations, except for the purpose of a consolidation, merger, sale, transfer or conveyance (i) pursuant to Condition 11 or (ii) on terms approved by an Extraordinary Resolution of the Noteholders; or

(g) any event occurs which under the laws of any relevant jurisdiction has an analogous effect to any of the events referred to in paragraphs of above, (d) to (f);

the Guarantor's Events of Default:

(h) the Guarantee ceases to be in full force and effect; or

(i) the validity of the Guarantee is contested by the Guarantor or the Guarantor shall deny any of the Guarantor's obligations under the Guarantee or it is or will become unlawful for the Guarantor to perform or comply with any of its obligations under or in respect of the Guarantee, the Deed of Guarantee or the Agency Agreement or any of such obligations shall be or become unenforceable or invalid; or any External Indebtedness (as defined below) of the Guarantor in an aggregate principal amount of U.S.$10,000,000 or more either (i) becomes due and payable prior to the due date for payment thereof by reason of default by the Guarantor or (ii) is not repaid at maturity as extended by the period of grace, if any, applicable thereto, or any guarantee given by the Guarantor in respect of External Indebtedness of any other person in an aggregate principal amount of U.S.$10,000,000 or more is not honoured when due and called; or

(j) Korea declares a moratorium on the payment of any External Indebtedness (including obligations arising under guarantees) of Korea or Korea becomes liable to repay prematurely any sums in respect of such External Indebtedness (including obligations arising under guarantees) as a result of a default under, or breach of the terms applicable to, such External Indebtedness or such obligations, or the international monetary reserves of Korea become subject to any Encumbrance (as defined in Condition 5.2) or any segregation or other preferential arrangement (whether or not constituting an Encumbrance) for the benefit of any creditor or class of creditors; or

(k) the Guarantor is adjudicated or found bankrupt or insolvent or any order is made by a competent court or administrative agency or any resolution is passed by the Guarantor to apply for judicial composition proceedings with its creditors or for the appointment of a receiver or trustee or other similar official in insolvency proceedings in relation to the Guarantor or a substantial part of its assets or the Guarantor is wound up or dissolved or the Guarantor ceases to carry on the whole or substantially the whole of its business.

12.2 Interpretation

For the purposes of this Condition:

(a) "External Indebtedness" means any obligation for the payment or repayment of money borrowed which is denominated in a currency other than the currency of Korea.

(b) "Major Subsidiary" means at any relevant time a Subsidiary of the Issuer:

(i) whose total assets or gross revenues (or, where the Subsidiary in question itself has Subsidiaries, whose total consolidated assets or gross consolidated revenues, as the case may be) attributable to the Issuer represent not less than 20 per cent. of the total consolidated assets or the gross consolidated revenues of the Issuer, all as calculated by reference to the then latest audited accounts of such Subsidiary and of any other entity which is a Subsidiary of that Subsidiary and which would, if the latter Subsidiary produced consolidated accounts, be included in such consolidated accounts and the then latest consolidated accounts of the Issuer; or

(ii) to which all or substantially all the assets and undertakings of a Subsidiary, which immediately prior to such transfer is a Major Subsidiary, are transferred.

(c) "Subsidiary" means, any company or other business entity of which one person owns or controls (either directly or indirectly or through one or more other Subsidiaries) more than 50 per cent. of the issued share capital or other ownership interest having ordinary voting power to elect directors, managers or trustees of such company or other business entity or any company or other business entity which at any time has its accounts consolidated with those of that person or which, under the law, regulations or generally accepted accounting principles of the jurisdiction of incorporation of such person from time to time, should have its accounts consolidated with those of that person.

13 REPLACEMENT OF NOTE CERTIFICATES

If any Note Certificate is lost, stolen, mutilated, defaced or destroyed it may be replaced at the specified office of the Registrar upon payment by the claimant of the expenses incurred in connection with the replacement and on such terms as to evidence and indemnity as the Issuer may reasonably require. Mutilated or defaced Note Certificates must be surrendered before replacements will be issued.

14 NOTICES

14.1 Notices to the Noteholders

All notices to the Noteholders will be valid if mailed to them at their respective addresses in the register of Noteholders maintained by the Registrar and, in addition, for so long as any notes are listed on a stock exchange and the rules of that exchange so require, such notice will be published in a daily newspaper of general circulation in the place or places required by the rules of that stock

exchange and/or on the website of that stock exchange if permitted by such stock exchange. Any notice shall be deemed to have been given on the second day after being so mailed or on the date of publication or, if so published more than once or on different dates, on the date of the first publication.

So long as the Notes are represented by the Global Note Certificate and the Global Note Certificate is held on behalf of DTC or Euroclear or Clearstream or an alternative clearing system appointed in accordance with the terms of the Notes and the Agency Agreement, notices to Noteholders may be given by delivery of the relevant notice to the clearing systems in accordance with the applicable rules and procedures of the clearing systems for communication by them to entitled accountholders. Any such notice shall be deemed validly given on the day after it has been delivered to DTC, Euroclear, Clearstream or an alternative clearing system as aforesaid.

14.2 Notices from the Noteholders

Notices to be given by any Noteholder shall be in writing and given by lodging the same, together with the relative Note Certificate, with the Fiscal Agent or, if the Note Certificates are held in a clearing system, may be given through the clearing system in accordance with its standard rules and procedures.

15 MEETINGS OF NOTEHOLDERS AND MODIFICATION

15.1 Meetings of Noteholders

The Agency Agreement contains provisions for convening meetings of the Noteholders to consider any matter affecting their interests, including the modification by Extraordinary Resolution of any of these Conditions or the Guarantee or any of the provisions of the Agency Agreement. The quorum at any meeting for passing an Extraordinary Resolution will be one or more persons present holding or representing more than 50 per cent. in principal amount of the Notes for the time being outstanding, or at any adjourned meeting one or more persons present whatever the principal amount of the Notes held or represented by him or them, except that at any meeting the business of which includes the modification of certain of these Conditions the necessary quorum for passing an Extraordinary Resolution will be one or more persons present holding or representing not less than two-thirds, or at any adjourned meeting not less than one-third, of the principal amount of the Notes for the time being outstanding. An Extraordinary Resolution passed at any meeting of the Noteholders will be binding on all Noteholders, whether or not they are present at the meeting.

15.2 Modification

The Fiscal Agent may agree, without the consent of the Noteholders, to any modification of any of these Conditions or any of the provisions of the Agency Agreement either (i) for the purpose of curing any ambiguity or of curing, correcting or supplementing any manifest or proven error or any other defective provision contained herein or therein or, (ii) in any other manner which is, in the opinion of the Issuer and the Guarantor, not materially prejudicial to the interests of the Noteholders. Any determination as to material prejudice applying to the interests of the Noteholders pursuant to these Conditions (including this Condition 15.2 (*Modification*)) shall be made by the Issuer and the Guarantor and none of the Agents shall have any responsibility or liability whatsoever with respect to such determination. Any modification shall be binding on the Noteholders and, unless the Fiscal Agent agrees otherwise, any modification shall be notified by the Issuer to the Noteholders as soon as practicable thereafter in accordance with Condition 14 (*Notices*).

16 FURTHER ISSUE

The Issuer may from time to time without the consent of the Noteholders create and issue further notes, having terms and conditions the same as those of the Notes, or the same except for the amount and date of the first payment of interest, which may be consolidated and form a single series with the outstanding Notes, provided, however, that any such issuance of notes shall be subject to the prior written consent of the Guarantor.

17 GOVERNING LAW AND SUBMISSION TO JURISDICTION

17.1 Governing Law

The Agency Agreement, the Guarantee and the Notes, and any non-contractual obligations arising out of or in connection with them, are governed by, and will be construed in accordance with, English law.

17.2 Jurisdiction of English courts

(a) Subject to Condition 17.2(b) below, the Issuer and the Guarantor hereby irrevocably agree for the benefit of the Noteholders that the courts of England are to have exclusive jurisdiction to settle any dispute (including a dispute relating to any non-contractual obligations arising out of or in connection with the Notes and the Guarantee) which may arise out of or in connection with the Notes and accordingly any legal action or proceedings arising out of or in connection with any Notes ("Proceedings") may be brought in such courts and each of the Issuer and the Guarantor irrevocably submits to the exclusive jurisdiction of the English courts. The Issuer and the Guarantor have waived any objection to the courts of England on the grounds of venue or that they are an inconvenient or inappropriate forum.

(b) The Noteholders may take any Proceeding arising out of or in connection with the Notes (including any Proceedings relating to any non-contractual obligations arising out of or in connection with the Notes and the Guarantee) against the Issuer or the Guarantor in any other court of competent jurisdiction and concurrent Proceedings in any number of jurisdictions.

17.3 Appointment of Process Agent

Each of the Issuer and the Guarantor hereby irrevocably and unconditionally appoints The Korea Development Bank, London Branch at its address for the time being at Level 11, West, 22 Bishopsgate, London EC2N 4BQ, United Kingdom as its agent for service of process in England in respect of any Proceedings and undertakes that in the event of such agent ceasing so to act it will appoint another person as its agent for that purpose. Nothing herein shall affect the right to serve process in any other manner permitted by law.

17.4 Sovereign Immunity

To the fullest extent permitted by law, the Guarantor irrevocably and unconditionally:

(a) waives and agrees not to claim any sovereign or other immunity from jurisdiction of the English courts in relation to any Proceedings (including to the extent that such immunity may be attributed to it), and agrees to ensure that no such claim is made on its behalf;

(b) submits to the jurisdiction of the English courts and the courts of any other jurisdiction in relation to the recognition of any order or judgment of the English courts or courts of any other jurisdiction in relation to any Proceedings and waives and agrees not to claim any sovereign or other immunity from the jurisdiction of the English courts or the courts of any other jurisdiction in relation to the recognition of any such judgment or court order and agrees to ensure that no such claim is made on its behalf; and

(c) consents to the enforcement of any order or judgment made or given in connection with any Proceedings and the giving of any relief in the English courts and the courts of any other jurisdiction whether before or after final judgment including, without limitation: (i) relief by way of interim or final injunction or order for specific performance or recovery of any property; (ii) attachment of its assets; and (iii) enforcement or execution against any property, revenues or other assets whatsoever (irrespective of their use or intended use) and waives and agrees not to claim any sovereign or other immunity from the jurisdiction of the English courts or the courts of any other jurisdiction in relation to such enforcement and the giving of such relief (including to the extent that such immunity may be attributed to it), and agrees to ensure that no such claim is made on its behalf.

17.5 Other Documents

Each of the Issuer and the Guarantor has in the Agency Agreement and the Guarantee submitted to the jurisdiction of the English courts and appointed an agent in England for service of process, in terms substantially similar to those set out above. In addition, the Guarantor has, in such documents, waived any rights to sovereign immunity and other similar defences which it may have.

18 RIGHTS OF THIRD PARTIES

No rights are conferred on any person under the Contracts (Rights of Third Parties) Act 1999 to enforce any term or Condition of this Note, but this does not affect any right or remedy of any person which exists or is available apart from that Act.

THE GLOBAL NOTE CERTIFICATES

Capitalised terms used in this section and not otherwise defined shall have the meanings given to them in the Conditions.

Upon issuance, the Notes are expected to be represented by the Global Note Certificates in registered form. The Global Note Certificates will be deposited with or on behalf of DTC and registered in the name of a nominee of DTC. A Global Note Certificate may not be transferred except as a whole by DTC to a nominee of DTC or by a nominee of DTC to DTC or another nominee of DTC or by DTC or any such nominee to a successor of or a nominee of such successor.

Notes that are offered and sold outside the United States to non-U.S. persons in reliance on Regulation S will initially be represented by a temporary unrestricted Global Note Certificate (the "Temporary Unrestricted Global Note Certificate"). On and after the date (the "Exchange Date") which is the later of (i) 40 days after the date on which any Temporary Unrestricted Global Note Certificate is issued and (ii) 40 days after the completion of the distribution of the relevant tranche, interests in such Temporary Unrestricted Global Note Certificate will be exchangeable (free of charge), in whole or in part, upon a request as described therein either for interests in a permanent unrestricted Global Note Certificate (the "Unrestricted Global Notes Certificate") against certification of beneficial ownership as described above and applicable U.S. securities laws in accordance with the terms of the Temporary Unrestricted Global Note Certificate. In no event shall the Temporary Unrestricted Global Note Certificate be exchanged by the Issuer for unrestricted individual note certificate prior to (i) the Exchange Date and (ii) the receipt by the Fiscal Agent of the certificate with respect to the beneficial interests in the Temporary Unrestricted Global Note Certificate.

Upon the issuance of the Global Note Certificates, DTC will credit, on its book-entry registration and transfer system, the respective principal amounts of the Notes represented by such Global Note Certificates to the accounts of persons that have accounts with DTC ("participants"), including depositaries for Euroclear and Clearstream. The accounts to be initially credited shall be designated by the Joint Lead Managers participating in the initial offer and sale of the Notes. Ownership of beneficial interests in the Global Note Certificates will be limited to participants or persons that may hold interests through participants. Ownership of beneficial interests in such Global Note Certificates will be shown on, and the transfer of that ownership will be effected only through, records maintained by DTC for such Global Note Certificates (with respect to interests of participants) or by participants or persons that hold through participants (with respect to interests of persons other than participants).

DTC or its nominee, as the case may be, as registered Noteholder of the Global Note Certificates will be considered the sole owner or Noteholder represented by each Global Note Certificate for all purposes under the Notes and the Agency Agreement.

Principal and interest payments on Notes represented by the Global Note Certificates registered in the name of DTC or its nominee will be made to DTC or its nominee, as the case may be, as the registered owner of such Global Note Certificates. None of the Issuer, the Guarantor, the Fiscal Agent or any paying agent for such Notes will have any responsibility or liability for any aspect of the records relating to or payments made on account of beneficial ownership interests in such Global Note Certificates or for maintaining, supervising or reviewing any records relating to such beneficial ownership interests.

The Issuer expects that DTC, upon receipt of any payment of principal or interest, will credit participants' accounts with payments in amounts proportionate to their respective beneficial interests in the principal amount of such Global Note Certificates as shown on the records of DTC. The Issuer also expects that payments by participants to owners of beneficial interests in such Global Note Certificates held through such participants will be governed by standing instructions and customary practices, as is now the case with securities held for the account of customers registered in "street names," and will be the responsibility of such participants.

For so long as the Notes are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that a Global Note Certificate is exchanged for individual Note Certificates, the Issuer will appoint and maintain a paying agent in Singapore, where the Notes may be presented or surrendered for payment or redemption. In addition, in the event that a Global Note Certificate is exchanged for individual Note Certificates, 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 individual Note Certificates, including details of the paying agent in Singapore.

USE OF PROCEEDS

The aggregate net proceeds from the offering of the Notes is U.S.$988,950,000, after deducting a combined management and underwriting commission but prior to deducting expenses related to the offering. We will use the proceeds from the issuance of the Notes to refinance existing indebtedness and for general corporate purposes.

THE ISSUER

GENERAL

We are a leading global sustainable specialty chemicals company that manufactures styrenic block copolymers ("SBCs"), specialty polymers, and high-value bio-based products primarily derived from pine wood pulping co-products. Our operations are managed through two operating segments: (i) Polymer segment and (ii) Pine Chemical segment.

We have 13 global manufacturing facilities across three continents (North America, Europe and Asia), where we are the only major SBC producer, and cover markets across more than 70 countries in the Americas, Europe, the Middle East, Africa, and the Asia Pacific. Our principal executive office is located at 9950 Woodloch Forest Drive, Suite 2400, Houston, Texas 77380, United States.

CORPORATE HISTORY

Kraton Corporation was incorporated in 2009 under Delaware law and is the successor to a Delaware limited liability company formed in 2003. In December 2009, we completed our initial public offering and our common stock commenced trading on the New York Stock Exchange. On 6 January 2016, we completed the acquisition of Arizona Chemical. We conduct our business through Kraton Corporation and its consolidated subsidiaries.

On 6 March 2020, we completed the sale of our Cariflex business to Daelim Industrial Co, Ltd. (subsequently renamed "DL Holdings Co., Ltd."), and after DL Group's restructuring that took place in 2021, DL Chemical Co., Ltd., incorporated in Korea, ("DL Chemical") currently wholly owns our Cariflex business.

On 15 March 2022, DL Chemical, through subsidiaries DLC US Holdings and DLC US Inc., acquired Kraton Corporation in an all-cash transaction valued at approximately $2.5 billion (the "Merger"). DL Chemical owns 100 per cent. of DLC US Holdings. DLC US Holdings owns 100 per cent. of DLC US Inc. DLC US Inc. was incorporated on 21 September 2021 for the purpose of acquiring and merging with Kraton Corporation. Prior to the Merger, DLC US Inc., as a newly formed entity, lacked any operations other than transaction costs related to the Merger. DLC US Holdings transferred cash on behalf of DLC US Inc., which was the merging entity with us. DLC US Inc. acquired Kraton Corporation and then DLC US Inc. merged into Kraton Corporation, with Kraton Corporation being the surviving corporation.

Following the Merger, DL Chemical now owns 100 per cent. of the parent entity of Kraton Corporation, DLC US Holdings Inc. incorporated under Delaware law.

POLYMER SEGMENT PRODUCTS AND COMMERCIAL APPLICATIONS

SBCs are highly-engineered synthetic elastomers, which we invented and commercialised over 50 years ago. We developed the first unhydrogenated styrenic block copolymers ("USBCs") in 1964 and the first hydrogenated styrenic block copolymers ("HSBCs") in the late 1960s. Our SBCs enhance the performance of numerous products by imparting greater flexibility, resilience, strength, durability, and processability, and are used in a wide range of applications, including adhesives, coatings, consumer and personal care products, sealants, lubricants, medical, packaging, automotive, paving and roofing, and footwear products.

We believe our SBCs offer many characteristics that help our customers drive towards their sustainability goals. Among others, our SBCs may offer features such as greater recyclability, increased durability that reduces the costly need for maintenance and replacement, and alternatives to less environmentally friendly materials, such as PVCs.

Our SBCs are high performance elastomers that are engineered for a wide range of applications. Our SBCs possess a combination of high strength and low viscosity, which facilitates ease of processing at elevated temperatures and high processing speeds. Our products can be processed in a variety of manufacturing applications, including injection moulding, blow moulding, compression moulding, extrusion and hot melt, and solution applied coatings.

The majority of worldwide SBC production is dedicated to USBCs, which are primarily used in paving, roofing, adhesives, sealants, coatings, and footwear applications. HSBCs, which are significantly more complex and capital-intensive to manufacture than USBCs, are used in applications such as lubricant additives, soft touch and flexible materials, personal hygiene products, medical products, automotive components, certain adhesive and sealant applications, and protective films.

Our Polymer segment products are manufactured and our commercial activities are organised in the following product groups based upon polymer chemistry and process technologies: Performance Products, Specialty Polymers and IR.

Performance Products

Our Performance Products are comprised of USBC product grades, which impart characteristics such as:

- resistance to temperature and weather extremes in roads and roofing;
- resistance to cracking, reduced road noise, and better water dispersion; and
- increased processing flexibility in adhesive formulations for packaging tapes and labels, and materials used in disposable diapers.

In paving and roofing applications, our Performance Products primarily consist of styrene-butadiene-styrene ("SBS") for use in modified asphalt applications, which in roofing applications produces stronger and more durable felts and shingles, and in paving applications enhances the strength and elasticity of asphalt-based paving compositions over an extended temperature range. In paving applications, we believe our polymers extend road life by allowing pavements to withstand heavy traffic loads and varying climate conditions, and our HiMA technology can reduce required inputs while extending road life in new road construction. Our roofing applications provide a more sustainable alternative by increasing durability and system life. Our sustainable paving applications allow thinner full-depth pavements and longer road life, reducing raw materials required for paving and lessening pollution caused by congestion arising from frequent repairs of roads. Our products primarily compete with chemicals such as styrene-butadiene rubber latex, acetates, polyphosphoric acids and thermoplastic materials like ethylene-propylene-diene-monomer, polyethylene, atactic polypropylene and unmodified asphalts. We believe that customer choice for these markets is driven principally by total end-product cost, temperature performance, bitumen source and application.

In personal care applications, our Performance Products primarily consist of SBS and styrene-isoprene-styrene ("SIS") for the manufacturing of ultra-thin stretchable films used for the production of diapers. In addition, our SIS polymers are also used in the lamination process for other personal care products. Our products primarily compete against low priced alternatives such as metallocene. We believe that customer choice for these markets is driven principally by total end-product cost and performance.

In adhesives applications, our Performance Products primarily compete with ethylene-vinyl acetate, polyolefins, and metallocene polyolefins. The choice between these materials is influenced by bond strength, specific adhesion, consistent performance to specification, processing speed, hot-melt application, resistance to water and cost. Our SBCs are compatible with many other formulating ingredients. We believe demand for utilisation of SBC-based adhesives is primarily driven by cost reduction and higher performance.

Specialty Polymers. Our Specialty Polymers are comprised of HSBCs that are significantly more complex to produce than our Performance Products. As a result, our Specialty Polymers generally generate higher margins than our Performance Products.

Our Specialty Polymers impart characteristics such as:

- improved flow characteristics for many industrial and consumer sealant and lubricating fluids;
- soft feel in numerous consumer products such as razor handles, power tools, and automobile components;
- impact resistance for demanding engineered plastic applications;
- flexibility for wire and cable plastic outer layers;
- stretch properties in disposable diapers and adult incontinence products;
- resistance to ultraviolet light;
- processing stability and viscosity; and
- elevated temperature resistance.

We believe our HSBC offerings are often the more sustainable choice when compared to alternatives. Among other features, our HSBCs can offer improved recyclability of polyethylene-terephthalate and polypropylene streams, and function as replacements for less sustainable alternatives such as PVC, mainly in medical applications.

Our products primarily compete against a variety of chemical and non-chemical alternatives including, but not limited to, thermoplastic vulcanizate, thermoplastic polyurethane, PVC, thermoplastic polyolefin, polyethylene terephthalate, polycarbonate, polyamide, and ethylene-propylene-diene-monomer based products. We believe demand for our Specialty Polymers portfolio is principally driven by customer-specific needs and the ability to balance performance characteristics such as soft-touch, durability, stretch and impact.

Because many of our products are highly engineered and customised formulations, they require specialised product testing and validation, production and process evaluation. This results in potentially long lead times to achieve customer and industry established approvals. Our innovation-led growth strategy focuses on translating the inherent strengths of our product technologies such as flexibility, resilience, impact and moisture resistance, and aesthetics (clarity and haptics) to target opportunities in which we can expand and/or have the potential to create new market spaces for our solutions.

Isoprene Rubber. We continue to produce and sell Isoprene Rubber to Cariflex Pte. Ltd., an entity formed following our sale of the Cariflex business in 2020 and wholly owned by DL Chemical.

PINE CHEMICAL SEGMENT PRODUCTS AND COMMERCIAL APPLICATIONS

We manufacture and sell sustainable, high value products primarily derived from pine wood pulping co-products. We refine and further upgrade two primary feedstocks, crude tall oil ("CTO") and crude sulphate turpentine ("CST"), both of which are co-products of the wood pulping process, into value-added biobased specialty chemicals. We refine CTO through a distillation process into four primary constituent fractions: tall oil fatty acids ("TOFA"); tall oil rosin ("TOR"); distilled tall oil ("DTO"); and tall oil pitch. We further upgrade TOFA and TOR into derivatives such as dimer acids, polyamide resins, rosin resins, dispersions, and disproportionated resins. We refine CST into terpene monomer fractions, which can be further upgraded into specialty terpene resins. The various fractions and derivatives resulting from our CTO and CST refining process provide for distinct functionalities and properties, determining their respective applications and end markets. Our products derived from CTO and CST offer sustainable, non-genetically modified ("GMO"), bio-based alternatives.

Our Pine Chemical segment is based predominantly on the refining and upgrading of CTO and CST. We also have the capacity to upgrade hydrocarbon-based raw materials, such as alpha-methyl-styrene ("AMS"), and bio-based gum rosins, where appropriate, and are able to offer tailored solutions for our customers.

The segment's products are manufactured and our commercial activities are organised in the following product groups based upon end markets and process technologies: Adhesives, Performance Chemicals, and Tires.

Adhesives. We offer a broad range of products to service target adhesives submarkets, including rosin-based tackifiers for packaging and pressure-sensitive adhesive applications, terpene-based tackifiers for bookbinding, hygiene and pressure-sensitive adhesive applications, AMS resins for bookbinding and pressure-sensitive adhesive applications, and hot melt polyamides for flexible packaging, industrial applications, and road marking. We seek to position our renewable, non-GMO, bio-based offerings as the material of choice for producers seeking to meet consumer demand for products that do not use less sustainable and GMO materials, like hydrocarbon-based solutions. We provide rosin based tackifiers with similar performance to hydrocarbon-based alternatives.

Our tackifiers are primarily used in hot melt adhesives, which are heavily used in the packaging submarket. Our focus in packaging is to improve our competitive position by introducing higher quality tackifiers that work in new polymer systems. We believe our efforts to improve functionality of tackifier offerings will enable differentiated and profitable growth in emerging markets.

Roads and Construction. Within the pavement marking submarket, we provide rosin-based binders for the thermoplastic pavement marking submarket and produce insoluble maleic-based tackifiers. We believe our advanced bio-based offerings in the pavement marking submarket enable our customers to formulate more durable road markings, improving sustainability by lessening raw material use.

Performance Chemicals. We serve various submarkets with a wide product offering, providing value across several different applications including, among others, fuel additives, oilfield chemicals, mining fluids, coatings, and metalworking fluids and lubricants. Our products include:

TOFA. Compared to other fatty acids obtained from various vegetable and animal origins, TOFA has a chemical composition characterised by distinctive features used as components in various applications. For the following end use markets (as examples) there are following features:

End use market (examples)	Features
Coatings	• serves as a binder in solvent-based paints as well as in hybrid coatings • preferred over soybean oil due to its higher unsaturation, better reactivity, flexibility, compatibility, and superior sustainability
Mining	• lower viscosity and higher affinity with the ore extract allows for a higher recovery yield • preferred over oleic acid
Oilfield chemicals	• easier handling, better solubility in drilling muds, as well as higher surface activity and emulsifying power • preferred over oleic acid
Fuel additives	• improves the lubricity of low-sulphur diesel fuel, preventing engine fuel pump wear

Dimer Acids. Our dimer acids are used for the production of polyamide resins used in applications such as epoxy coatings, flexographic inks, and high-performance adhesive applications. In addition, dimer acids are building blocks in the production of corrosion inhibitors and emulsifiers used in the production and recovery of petroleum and natural gas. Our dimer acids compete with dimer acids derived from other feedstocks such as rapeseed and cottonseed oil.

TOR. TOR is used in all major rosin applications for the manufacture of adhesives, inks, pavement markers, rubber, and paper.

DTO. DTO is a mixture of TOFA and rosin acids. Our DTO is primarily used as an emulsifier for metalworking fluids and lubricants, in which our product offers improved performance attributes and, in many cases, offers a more sustainable alternative by replacing less environmentally friendly hydrocarbon-based chemicals. In these applications, it is sometimes used in place of TOFA.

Terpene Fractions. We supply terpene fractions, alpha-pinene and beta-pinene, and upgrade them mainly as specialty tackifiers for the adhesives market and tread enhancers for the tires market.

Tires. We sell a range of products that enhance the performance and manufacturing of high performance, winter, and all-season tires. Our terpene-based tread enhancement resins optimise wet grip of tire treads while maintaining reduced rolling resistance and enhanced durability which contribute to improved vehicle fuel efficiency. We market our AMS-based tread enhancement additives through product attributes that include reduced rolling resistance, increased durability, wet grip enhancement, and exceptional compatibility with rubber compounds, especially solution styrene-butadiene rubber polymers. We also sell TOFA, DTO, and rosins as processing aids, which provide select functionalities at various steps in the rubber and tire manufacturing process.

We were one of the first companies to supply tread enhancement resins to the tire industry and won early qualifications with innovative tire manufacturers. We believe our tires products are a key enabler for our customers to achieve their sustainability goals. The quest for improved fuel economy has prompted the introduction of silica-based "green tires" in which certain of our products are a key component. AMS resins were the first tread enhancement additive commercialised beyond basic hydrocarbon tackifiers, and we believe they offer a good balance of properties, price, and performance for current generation tires. Our SYLVATRAXXTM terpene-base tread enhancement additives are made of up to 100 per cent. bio-renewable materials.

EMPLOYEES

As of 31 December 2023, we had approximately 1,875 employees worldwide, the majority of which were substantial full-time employees. We have collective bargaining agreements in place in multiple global Kraton locations, and employee representatives or employee representative bodies, such as works councils, are established at Kraton facilities across the world. As of 31 December 2023, approximately 17 per cent. of our employees in the United States were unionised.

COMPETITION

In each of our markets, we compete on a range of factors, including price, breadth of product availability, product quality, sustainability features, and the speed of service from order to delivery. We believe our customers also base their supply decisions on the supplier's ability to design and produce customised products and the availability of technical support. We also compete against a broad range of alternative materials throughout our product groups, including petrochemical, animal and vegetable-based substitutes. Major competitors in our market include large domestic and international companies. No one or small number of competitors is dominant across all industries in which we compete.

SOURCES AND AVAILABILITY OF RAW MATERIALS

We use butadiene, styrene, and isoprene as our primary raw materials in our Polymer segment and CTO and CST in our Pine Chemical segment as our primary raw materials.

For our Polymer segment, we procure our raw materials from multiple sources in the U.S. and foreign countries, through a range of short-term and long-term supply agreements.

For our Pine Chemical segment, we have an exclusive long-term supply contract with International Paper, which extends through 2027, under which it has agreed to sell to us, and we have agreed to purchase from it, all of the CTO and CST produced at its paper mills. We also maintain long-standing relationships with other major suppliers of our raw materials in the U.S. and Europe. Additionally, our CTO supply sources are further diversified by our ability to refine and process black liquor soap into CTO in the U.S. Most of our Pine Chemical segment manufacturing facilities are located in close proximity to the facilities of our raw material suppliers, allowing us to procure our raw materials at a low delivered cost. Furthermore, we work directly with our suppliers at their production facilities to enhance their CTO and CST yields through technological improvements, which we believe allows us to maximise our raw material supplies, to improve the efficiency of our suppliers' operations, and to foster strong, long-lasting relationships with them.

We believe that raw material supplies for both segments will be available in quantities sufficient to meet demand in 2024. The cost of these raw materials has generally correlated with changes in energy prices and is generally influenced by supply and demand factors, and for our isoprene monomers the prices of natural and synthetic rubber. Each of our reportable segments were impacted in 2023 by the inflationary environment of raw material costs and these conditions may continue in 2024.

RESEARCH, DEVELOPMENT, AND TECHNOLOGY

Our primary research and development activities are conducted in laboratories in Almere, the Netherlands; Amsterdam, the Netherlands; Houston, Texas and Savannah, Georgia in the United States; and Shanghai, China. We also have a world class facility located at our Belpre, Ohio, site that accelerates polymer development efforts and the commercialisation of new products and reduces customer qualification lead times. In addition to our core research activities, research and development personnel also support maintenance of ongoing business activities and other support functions. The below details our significant research and development activities:

Core research and development

- new product and process development
- technical support and new application development
- technology platform development

Business support

- safety and regulatory compliance
- operations and quality support
- technical support to sales team and customers

PATENTS, TRADEMARKS, COPYRIGHTS, AND OTHER INTELLECTUAL PROPERTY RIGHTS

We rely on a variety of intellectual property rights to conduct our business, including patents, trademarks, and trade secrets. We had 802 granted patents and 286 pending patent applications at 31 December 2023. These patents protect our innovative technologies and applications against infringement, and create long-term, sustainable competitive advantages in our core growth markets. Since patents are generally in effect for a period of 20 years from the filing date, and therefore, assuming most of these applications will be granted, we expect a significant portion of our patent portfolio to remain in effect for a significant

period. The granted patents and the applications cover both the U.S. and foreign countries. We do not expect that the expiration of any single patent or specific group of patents would have a material impact on our business, and the overall profitability of our business is not dependent on any single patent, trademark, licence, or franchise.

Our material trademarks will remain in effect unless we decide to abandon any of them, subject to possible third-party claims challenging our rights. Similarly, our trade secrets will preserve their status as such for as long as they are the subject of reasonable efforts, on our part, to maintain their secrecy. We maintain a number of trade names that are protected by trademark laws.

GOVERNMENTAL REGULATION

Our operations in the U.S. and abroad are subject to a wide range of environmental laws and regulations at the international, national, state, and local levels.

We have made, and intend to continue to make, the expenditures necessary for compliance with applicable laws and regulations relating to health, safety, environmental, risk reduction, and security matters.

Costs of remediation at our current and former facilities are covered by indemnification agreements, insurance or through allocated reserves. We currently estimate that the costs of remediation will not materially affect our operations or cause us to materially exceed our anticipated level of capital expenditures. Although resolution of environmental liabilities will require future cash outlays, it is not expected that such outlays will materially impact our liquidity position, although there can be no assurance that such impacts would not occur.

Many of our products and operations are subject to laws of the countries in which our products are manufactured or imported. These laws include the Registration, Evaluation, and Authorisation of Chemicals ("REACH") regulation in the European Union. REACH places great responsibility on companies to manage the risks that chemical substances may pose to health and the environment by requiring additional testing, documentation, risk assessments and registrations. These registrations of our chemical substances are a licence to operate and are a prerequisite for us to manufacture or import our products in the European Union. We have successfully registered all required chemical substances to allow manufacturing and import of our products into the European Union. We are also actively preparing for future registration needs. The cost of compliance with any new laws or regulations cannot be estimated until the manner in which they will be implemented has been precisely defined.

THE GUARANTOR

OVERVIEW

The Guarantor was established in 1954 as a government-owned financial institution pursuant to The Korea Development Bank Act, as amended, or the KDB Act. Since its establishment, the Guarantor has been the leading bank in the Republic with respect to the provision of long-term financing for projects designed to assist the nation's economic growth and development. The Government directly owns all of the Guarantor's paid-in capital. The Guarantor's registered office is located at 14, Eunhaeng-ro, Yeongdeungpo-gu, Seoul, The Republic of Korea. The Guarantor's primary purpose, as stated in the KDB Act, the KDB Decree and the Guarantor's Articles of Incorporation, is to "furnish funds in order to expedite the development of the national economy". The Guarantor makes loans available to major industries for equipment, capital investment and the development of high technology, as well as for working capital.

As of 31 December 2023, the Guarantor had ₩203,067.3 billion of loans outstanding (including loans, call loans, domestic usance, bills of exchange bought, local letters of credit negotiation and loan-type suspense accounts pursuant to the applicable guidelines without adjusting for allowance for loan losses, present value discounts and deferred loan fees), total assets of ₩316,361.8 billion and total equity of ₩38,912.4 billion, as compared to ₩202,032.2 billion of loans outstanding, ₩312,845.3 billion of total assets and ₩35,668.4 billion of total equity as of 31 December 2022. In 2023, the Guarantor recorded interest income of ₩11,489.0 billion, interest expense of ₩9,927.5 billion and net income of ₩2,508.9 billion, as compared to ₩6,846.7 billion of interest income, ₩5,102.9 billion of interest expense and ₩465.0 billion of net income in 2022. See "– *Selected Financial Statement Data*".

Currently, the Government directly holds 100 per cent. of the Guarantor's paid-in capital. In addition to contributions to the Guarantor's capital, the Government provides direct financial support for the Guarantor's financing activities, in the form of loans or guarantees. The Government has the power to elect or dismiss the Guarantor's Chairman and Chief Executive Officer, members of the Guarantor's Board of Directors and Auditor. The Government may dismiss each such person if he/she (i) violates the KDB Act, an order issued thereunder, or the Articles of Incorporation or (ii) is unable to perform his/her duties due to physical or mental disability. The Chairman may be dismissed by the President of the Republic at the recommendation of the chairman of the Financial Services Commission. The Chief Executive Officer and members of the Board of Directors may be dismissed by the Financial Services Commission at the recommendation of the Chairman and the Auditor may be dismissed by the Financial Services Commission. There is no prescribed timeline for dismissal. Pursuant to the KDB Act, the Financial Services Commission has supervisory power and authority over matters relating to the Guarantor's general business including, but not limited to, capital adequacy and managerial soundness.

The Government supports the Guarantor's operations pursuant to Article 32 of the KDB Act. Article 32 provides that "the annual net losses of the Korea Development Bank shall be offset each year by the reserve, and if the reserve be insufficient, the deficit shall be replenished by the Government". As a result of the KDB Act, the Government is generally responsible for the Guarantor's operations and is legally obligated to replenish any deficit that arises if the Guarantor's reserve, consisting of its surplus and capital surplus items, is insufficient to cover its annual net losses. In light of the above, if the Guarantor had insufficient funds to make any payment under any of its obligations, including the debt securities and guarantees covered by this Offering Circular, the Government would take appropriate steps, such as by making a capital contribution, by allocating funds or by taking other action, to enable the Guarantor to make such payment when due. The provisions of Article 32 do not, however, constitute a direct guarantee by the Government of the Guarantor's obligations under the debt securities or the guarantees, and the provisions of the KDB Act, including Article 32, may be amended at any time by action of the National Assembly.

In January 1998, the Government amended the KDB Act to:

- subordinate the Guarantor's borrowings from the Government to other indebtedness incurred in the Guarantor's operations;

- allow the Government to offset any deficit that arises if the Guarantor's reserve fails to cover the Guarantor's annual net losses by transferring Government-owned property, including securities held by the Government, to the Guarantor; and

- allow direct injections of capital by the Government without prior National Assembly approval.

The Government amended the KDB Act in May 1999 and the KDB Decree in March 2000, to allow the Financial Services Commission to supervise and regulate the Guarantor in terms of capital adequacy and managerial soundness.

In March 2002, the Government amended the KDB Act to enable the Guarantor, among other things, to:

- obtain low-cost funds from The Bank of Korea and from the issuance of debt securities (in addition to already permitted industrial finance bonds), which funds may be used for increased levels of lending to small- and medium-sized enterprises;

- broaden the scope of borrowers to which the Guarantor may extend working capital loans to include companies in the manufacturing industry, enterprises which are "closely related" to enhancing the corporate competitiveness of the manufacturing industry and leading-edge high-tech companies; and

- extend credits to mergers and acquisitions projects intended to facilitate corporate restructuring efforts.

In July 2005 and May 2009, the Government amended the KDB Act to provide that:

(1) the Guarantor's annual net profit, after adequate allowances are made for depreciation in assets, shall be distributed as follows:

    (i) 40 per cent. or more of the net profit shall be credited to reserve, until the reserve amounts equal the total amount of paid-in capital; and

    (ii) any net profit remaining following the apportionment required under subparagraph (i) above shall be distributed in accordance with the resolution of the Guarantor's Board of Directors and the approval of the Guarantor's shareholders;

(2) accumulated amounts in reserve may be capitalised after offsetting any net losses; and

(3) any distributions made in accordance with paragraph (1)(ii) above may be in the form of cash dividends or dividends in kind, provided that any distributions of dividends in kind must be made in accordance with applicable provisions of the KDB Decree.

In February 2008, the Government further amended the KDB Act, primarily to transfer most of the Government's supervisory authority over the Guarantor from the Ministry of Economy and Finance to the Financial Services Commission.

In May 2009, the Government amended the KDB Act to facilitate the Guarantor's privatisation. The amendment provided for, among others:

- the preparation for the transformation of the Guarantor from a special statutory entity into a corporation, including the application of the Banking Act as applicable;

- the expansion of the Guarantor's operation scope that enables the Guarantor to engage in commercial banking activities, including retail banking (which was subsequently adjusted due to a change in the Government's decision to halt its plan for the Guarantor's privatisation and to consolidate and strengthen the Guarantor's public financing role, utilising the Guarantor's rich experience and expertise in public policy financing);

- the provision of government guarantees for the Guarantor's mid-to-long term foreign currency debt outstanding at the time of initial sale of the Government's stake in KDBFG (subject to the National Assembly's authorisation of the Government guarantee amount) and possible guarantees for the Guarantor's foreign currency debt incurred for the refinancing of such mid-to-long term foreign currency debt with the government guarantee during the period when the Government owns more than 50 per cent. of the Guarantor's shares; and

- the establishment of KDBFG and KoFC and application of the Financial Holding Company Act to KDBFG.

In May 2014, the Government and the National Assembly amended the KDB Act to streamline the financial policy roles among Government-owned banks and financial corporations in order to better respond systematically to rapidly changing domestic and international economic conditions by merging KDBFG and KoFC into the Guarantor. The amended KDB Act provides, among others, that:

- the Government will halt its plan for the Guarantor's privatisation;

- public policy financing will be consolidated and strengthened through the newly merged entity;

- the Guarantor will comprehensively succeed to the properties, rights and obligations of KDBFG and KoFC upon the consummation of the merger;

- the bonds issued by KDBFG and the policy bank bonds issued by the KoFC shall be deemed as the industrial financial bonds issued by the Guarantor;

- the business engaged in by KoFC in accordance with the Korea Finance Corporation Act or other laws and decrees will be continuously performed by the Guarantor; and

- the repayment of the principal of and interest on foreign currency debt (with an original maturity of one year or more at the time of issuance) incurred by KoFC and the Guarantor before this amended KDB Act comes into force shall be guaranteed by the Government at the time of initial sale by the Government of its equity interest in the Guarantor, subject to the approval by the National Assembly.

In May 2020, the Government amended the KDB Act in order to provide statutory grounds for the establishment of the Key Industry Stabilisation Fund to support businesses in certain key industries that face financial difficulties resulting from the COVID-19 pandemic.

CAPITALISATION

As of 31 December 2023, the Guarantor's authorised capital was ₩30,000 billion and the Guarantor's capitalisation was as follows:

	31 December 2023[1]
	(billions of Won)
Long-term debt[2]	
Won currency borrowings	4,368.3
Industrial finance bonds	153,172.4
Foreign currency borrowings	4,668.4
Total long-term debt	162,209.1[3][4]
Capital	
Paid-in capital	23,926.6
Capital surplus	2,468.7
Retained earnings[5]	10,358.8
Accumulated other comprehensive income	2,158.4
Total capital	38,912.4
Total capitalisation	201,121.5

Notes:

(1) Except as disclosed in this Offering Circular, there has been no material adverse change in the Guarantor's capitalisation since 31 December 2023.

(2) Defined as debt that has a maturity at issuance of one year or more.

(3) The Guarantor has translated borrowings in foreign currencies into Won at the rate of ₩1,289.4 to U.S.$1.00, which was the market average exchange rate, as announced by the Seoul Monetary Brokerage Services Ltd., on 29 December 2023.

(4) As of 31 December 2023, the Guarantor had confirmed acceptances and guarantees totalling ₩10,804.7 billion under outstanding guarantees issued on behalf of its clients. See Note 40 of Notes to the Guarantor Financial Statements included elsewhere in this Offering Circular.

(5) Includes regulatory reserve for credit losses of ₩212.0 billion as of 31 December 2023. If the Guarantor's allowance for credit losses is deemed insufficient for regulatory purposes, the Guarantor compensates for the difference by recording a regulatory reserve for credit losses, which is shown as a separate item included in retained earnings. See Note 24 of Notes to the Guarantor Financial Statements included elsewhere in this Offering Circular.

BUSINESS

Purpose and Authority

Since its establishment, the Guarantor has been the leading bank in the Republic in providing long-term financing for projects designed to assist the nation's economic growth and development.

Under the KDB Act, the KDB Decree and the Guarantor's Articles of Incorporation, the Guarantor's primary purpose is to "contribute to the sound development of the financial industry and the national economy by supplying and managing funds necessary for the development and promotion of industries, expansion of social infrastructure, development of regions, stabilisation of the financial markets and facilitation of sustainable growth". Since the Guarantor serves the public policy objectives of the Government, the Guarantor does not seek to maximise profits. The Guarantor does, however, strive to maintain a level of profitability to strengthen its equity base and support growth in the volume of its business.

Under the KDB Act, the Guarantor may:

- carry out activities necessary to accomplish the expansion of the national economy, subject to the approval of the Financial Services Commission;
- provide loans or discount notes;
- subscribe to, underwrite or invest in securities, subject to certain restrictions;
- guarantee or assume indebtedness;
- raise funds by accepting demand deposits and time and savings deposits from the general public, issuing securities, borrowing from the Government, The Bank of Korea or other financial institutions, and borrowing from overseas;
- execute foreign exchange transactions, including currency and interest swap transactions;
- provide planning, management, research and other support services at the request of the Government, public bodies, financial institutions or enterprises;
- manage and operate various funds established pursuant to Government-led initiatives; and
- carry out other businesses incidental to the foregoing (subject to the approval of the Financial Services Commission).

Government Support and Supervision

The Government owns directly all of the Guarantor's paid-in capital. Since the Guarantor's establishment, the Government has made capital contributions not only in cash but also in the form of shares of common stock of Government-affiliated entities. Recent examples include the Government's contributions to the Guarantor's capital of (i) ₩500 billion in cash and ₩55 billion in cash in March 2019 and September 2019, respectively, (ii) ₩451 billion in cash and ₩1,652 billion in cash in April 2020 and July 2020, respectively, (iii) ₩510 billion in cash and ₩611 billion in cash in January 2021 and May 2021, respectively, (iv) ₩392 billion in cash in March 2022, ₩308 billion in cash in July 2022 and ₩565 billion in the form of shares of common stock of Korea Land and Housing Corporation in December 2022, and (v) ₩435 billion in the form of shares of common stock of Korea Land and Housing Corporation in March 2023, ₩120 billion in cash in May 2023 and ₩220 billion in cash in October 2023.

Taking into account these capital contributions, as of 31 December 2023, the Guarantor's total paid-in capital was ₩23,926.6 billion. See Note 24 of Notes to the Guarantor Financial Statements included elsewhere in this Offering Circular. In March 2024, the Government contributed ₩2 trillion in the form of shares of common stock of Korea Land and Housing Corporation to the Guarantor's capital.

In addition to capital contributions, the Government directly supports the Guarantor's financing activities by:

- lending the Guarantor funds to on-lend;
- allowing the Guarantor to administer Government loans made from a range of special Government funds;
- allowing the Guarantor to administer some of The Bank of Korea's surplus foreign exchange holdings; and
- allowing the Guarantor to receive credit from The Bank of Korea.

The Government also supports the Guarantor's operations pursuant to Articles 31 and 32 of the KDB Act. Article 31 provides that "40 per cent. or more of the annual net profit of the Korea Development Bank shall be transferred to reserve, until the reserve amounts equal the total amount of authorised capital" and that accumulated amounts in reserve may be capitalised. Article 32 provides that "the net losses of the Korea Development Bank shall be offset each fiscal year by the reserve, and if the reserve be insufficient, the deficit shall be replenished by the Government".

As a result of the KDB Act, the Government is generally responsible for the Guarantor's operations and is legally obligated to replenish any deficit that arises if the Guarantor's reserve, consisting of its surplus and capital surplus items, is insufficient to cover its annual net losses. In light of the above, if the Guarantor had insufficient funds to make any payment under any of its obligations, including the debt securities and the guarantees covered by this Offering Circular, the Government would take appropriate steps, such as by making a capital contribution, by allocating funds or by taking other action, to enable the Guarantor to make such payment when due. The provisions of Article 32 do not, however, constitute a direct guarantee by the Government of the Guarantor's obligations under the debt securities or the guarantees, and the provisions of the KDB Act, including Article 32, may be amended at any time by action of the National Assembly.

The Government closely supervises the Guarantor's operations in the following ways:

- the Government has the power to elect or dismiss the Guarantor's Chairman and Chief Executive Officer, members of the Guarantor's Board of Directors and Auditor;

- within three months after the end of each fiscal year, the Guarantor must submit the Guarantor's financial statements for the fiscal year to the Financial Services Commission;

- the Financial Services Commission has broad authority to require reports from the Guarantor on any matter and to examine the Guarantor's books, records and other documents. On the basis of the reports and examinations, the Financial Services Commission may issue any orders deemed necessary to enforce the KDB Act;

- the Financial Services Commission must approve the Guarantor's operating manual, which sets out the guidelines for all principal operating matters;

- the Financial Services Commission may supervise the Guarantor's operations to ensure managerial soundness based upon the KDB Decree and the Bank Supervisory Regulations of the Financial Services Commission and may issue orders deemed necessary for such supervision; and

- the Guarantor may amend its Articles of Incorporation only with the approval of the Financial Services Commission.

The Guarantor has had its annual financial statements for years commencing 1998 audited by an external auditor. See "– *Financial Statements and the Auditors*".

Pursuant to its most recently approved programme of operations, the Guarantor expects to support the reform and restructuring of the Republic's economic and industrial structure, including financing of promising small- and medium-sized enterprises, providing export finance and encouraging investments in infrastructure necessary to promote consumer demand and industrial reorganisation.

The Guarantor also pays dividends on a regular basis to the Government. For fiscal years 2021, 2022 and 2023, the Guarantor paid to the Government dividends amounting to ₩833.1 billion, ₩164.7 billion and ₩878.1 billion, respectively.

SELECTED FINANCIAL STATEMENT DATA

Unless specified otherwise, the information provided below is stated on a separate basis in accordance with Korean IFRS.

Consolidated Financial Statement Data

The following table presents selected statements of financial position data regarding the Guarantor's assets, liabilities and shareholders' equity on a consolidated basis as of 31 December 2023 and 2022, which have been derived from the Guarantor Financial Statements included elsewhere in this Offering Circular.

	As of 31 December	
	2022	2023
	(billions of Won)	
Statements of Financial Position Data		
Total Loans (measured at amortised cost)[(1)]	213,076.2	217,196.1
Total Borrowings[(2)]	266,914.2	266,741.1
Total Assets	352,605.4	346,830.5
Total Liabilities	315,780.0	307,921.1
Equity	36,825.4	38,909.4

Notes:

(1) Gross amount, which includes loans for facility development, loans for working capital, loans for households, inter-bank loans, private loans, off-shore loan receivables, loans borrowed from overseas financial institutions, bills bought in foreign currencies, advance payments on acceptances and guarantees and other loans without adjusting for allowance for loan losses, present value discounts and deferred loan fees.

(2) Total Borrowings include deposits, financial liabilities measured at fair value through profit or loss, borrowings and debentures.

Consolidated Income Statement Data

The Guarantor's selected income statement data included in the following table have been derived from the Guarantor Financial Statements included elsewhere in this Offering Circular.

	Year Ended 31 December	
	2022	2023
	(billions of Won)	
Income Statement Data		
Total Interest Income	8,080.6	12,831.8
Total Interest Expense	5,368.9	10,396.2
Net Interest Income	2,711.7	2,435.6
Operating Income	846.5	1,472.8
Non-operating Expense	(9,957.8)	(1,018.4)
Profit (Loss) before Income Taxes	(9,111.3)	454.3
Income Tax Benefit	(2,286.4)	(696.1)
Net Income (Loss)	(7,895.3)	3,478.6

Separate Financial Statement Data

The following tables present selected separate financial information as of and for the years ended 31 December 2023 and 2022, which has been derived from the Guarantor Financial Statements included elsewhere in this Offering Circular. You should read the following financial statement data together with the financial statements and notes included elsewhere in this Offering Circular.

	As of 31 December	
	2022	2023
	(billions of Won)	
Statements of Financial Position Data		
Total Loans (measured at amortised cost)[(1)]	202,032.2	203,067.3
Total Borrowings[(2)]	253,937.5	252,497.3
Total Assets	312,845.3	316,361.8
Total Liabilities	277,176.9	277,449.4
Equity	35,668.4	38,912.4

Notes:

(1) Gross amount, which includes loans for facility development, loans for working capital, loans for households, inter-bank loans, private loans, off-shore loan receivables, loans borrowed from overseas financial institutions, bills bought in foreign currencies, advance payments on acceptances and guarantees and other loans without adjusting for allowance for loan losses, present value discounts and deferred loan fees.

(2) Total Borrowings include deposits, financial liabilities measured at fair value through profit or loss, borrowings and debentures.

As of 31 December 2023, the Guarantor's total assets increased by 1.1 per cent. to ₩316,361.8 billion from ₩312,845.3 billion as of 31 December 2022, primarily due to an increase in securities measured at fair value through profit or loss to ₩16,058.6 billion as of 31 December 2023 from ₩11,951.9 billion as of 31 December 2022, an increase in assets held for sale to ₩3,228.4 billion as of 31 December 2023 from nil as of 31 December 2022, an increase in other assets to ₩10,175.8 billion as of 31 December 2023 from ₩7,711.2 billion as of 31 December 2022, an increase in securities measured at amortised cost to ₩8,583.2 billion as of 31 December 2023 from ₩6,355.9 billion as of 31 December 2022 and an increase in loans measured at amortised cost to ₩199,981.8 billion as of 31 December 2023 from ₩198,045.6 billion as of 31 December 2022. The effects of such increases were offset in large part by a decrease in securities measured at fair value through other comprehensive income to ₩33,888.1 billion as of 31 December 2023 from ₩37,684.9 billion as of 31 December 2022, a decrease in cash and due from banks to ₩8,659.8 billion as of 31 December 2023 from ₩11,538.8 billion as of 31 December 2022, a decrease in derivative financial assets to ₩7,383.3 billion as of 31 December 2023 from ₩9,794.5 billion as of 31 December 2022 and a decrease in investments in subsidiaries and associates to ₩26,870.6 billion as of 31 December 2023 from ₩27,992.3 billion as of 31 December 2022.

As of 31 December 2023, the Guarantor's total liabilities increased by 0.1 per cent. to ₩277,449.4 billion from ₩277,176.9 billion as of 31 December 2022, primarily due to an increase in other liabilities to ₩12,100.4 billion as of 31 December 2023 from ₩6,993.7 billion as of 31 December 2022, an increase in borrowings to ₩27,745.6 billion as of 31 December 2023 from ₩25,429.2 billion as of 31 December 2022 and an increase in financial liabilities measured at fair value through profit or loss to ₩1,920.1 billion as of 31 December 2023 from ₩1,469.7 billion as of 31 December 2022, among others. The effects of such increases were mostly offset by a decrease in derivative financial liabilities to ₩7,654.9 billion as of 31 December 2023 from ₩11,317.0 billion as of 31 December 2022, a decrease in deposits to ₩65,897.7 billion as of 31 December 2023 from ₩68,326.7 billion as of 31 December 2022 and a decrease in debentures to ₩156,933.9 billion as of 31 December 2023 from ₩158,711.9 billion as of 31 December 2022.

As of 31 December 2023, the Guarantor's total equity increased by 9.1 per cent. to ₩38,912.4 billion from ₩35,668.4 billion as of 31 December 2022, primarily due to an increase in retained earnings to ₩10,358.8 billion as of 31 December 2023 from ₩7,222.2 billion as of 31 December 2022.

The Guarantor's selected income statement data included in the following table have been derived from the Guarantor Financial Statements included elsewhere in this Offering Circular.

	Year Ended 31 December	
	2022	2023
	(billions of Won)	
Income Statement Data		
Total Interest Income	6,846.7	11,489.0
Total Interest Expense	5,102.9	9,927.5
Net Interest Income	1,743.8	1,561.5
Operating Income	1,757.7	2,996.9
Profit before Income Taxes	592.7	3,261.7
Income Tax Expense	127.7	752.7
Net Income	465.0	2,508.9

2023

The Guarantor had net income of ₩2,508.9 billion in 2023 compared to ₩465.0 billion in 2022, on a separate basis. The principal factors for the increase in net income included:

- a reversal of impairment loss on investments in subsidiaries and associates of ₩562.6 billion in 2023 compared to an impairment loss on such investments of ₩1,168.6 billion in 2022, primarily due to an increase in the recoverable amount of the Guarantor's investment in Hanwha Ocean Co., Ltd. (formerly, Daewoo Shipbuilding & Marine Engineering Co., Ltd., or DSME), resulting from an increase in the fair value of such investment following its acquisition by the Hanwha Group;

- a reversal of provisions for credit losses of ₩802.6 billion in 2023 compared to provisions for credit losses of ₩260.4 billion in 2022, primarily due to a reversal of the Guarantor's loan loss allowances in 2023, which was in turn primarily due to a decrease in the Guarantor's expected credit losses resulting from a general improvement in the credit ratings of companies in the Korean shipbuilding sector to which the Guarantor provided loans, including Hanwha Ocean Co., Ltd., K Shipbuilding Co., Ltd. (formerly, STX Offshore & Shipbuilding) and Daehan Shipbuilding Co., Ltd.;

- a change in net foreign currency transaction gain (loss) to a net gain of ₩302.4 billion in 2023 from a net loss of ₩300.9 billion in 2022, which was primarily due to foreign currency fluctuations; and

- a change in net gain (loss) on securities measured at fair value through profit or loss to a net gain of ₩518.8 billion in 2023 from a net loss of ₩39.4 billion in 2022, which was primarily due to the stabilisation of interest rate levels in 2023 compared to 2022.

The above factors were partially offset by the following factors:

- an increase in income tax expense to ₩752.7 billion in 2023 from ₩127.7 billion in 2022, primarily due to an increase in profit before income taxes to ₩3,261.7 billion in 2023 from ₩592.7 billion in 2022;

- a change to a net loss on financial liabilities measured at fair value through profit or loss of ₩148.1 billion in 2023 from a net gain of ₩465.1 billion in 2022, primarily due to fluctuations in the interest rate levels of structured industrial finance debentures and structured deposits; and

- an increase in other non-operating expense to ₩314.3 billion in 2023 from ₩10.3 billion in 2022, primarily due to an increase in impairment loss on assets held for sale to ₩294.2 billion in 2023 from nil in 2022, which in turn mainly resulted from an increase in the impairment loss recognised on the Guarantor's shares of HMM Company Limited.

2022

The Guarantor had net income of ₩465.0 billion in 2022 compared to ₩2,461.8 billion in 2021, on a separate basis. The principal factors for the decrease in net income included:

- a change in net other operating income (expense) to a net expense of ₩349.8 billion in 2022 from a net income of ₩1,738.6 billion in 2021, primarily due to a change in net gain (loss) on disposal of loans measured at fair value through profit or loss to a net loss of ₩0.6 billion in 2022 from a net gain of ₩1,850.7 billion in 2021, which in turn was primarily due to the gains recognised in connection with the conversion of the Guarantor's convertible bonds issued by HMM Company Limited into common shares in 2021, which was not repeated in 2022; and

- an impairment loss on investments in subsidiaries and associates of ₩1,168.6 billion in 2022, primarily due to decreases in the recoverable amounts of the Guarantor's investments in HMM Company Limited, DSME and Hanjin KAL, each resulting from decreases in the fair value of such investments, compared to a reversal of impairment loss on investments in subsidiaries and associates of ₩363.1 billion in 2021.

The above factors were partially offset by the following factors:

- a decrease in income tax expense to ₩127.7 billion in 2022 from ₩1,193.5 billion in 2021, primarily due to a decrease in profit before income taxes to ₩592.7 billion in 2022 from ₩3,655.4 billion in 2021; and

- a decrease in provisions for credit losses to ₩260.4 billion in 2022 from ₩847.4 billion in 2021, primarily due to a decrease in expected credit losses in anticipation of an improvement in the overall asset quality of the Guarantor's loan portfolio resulting from a recovery from the COVID-19 pandemic.

Allowances for Loan Losses and Loans in Arrears

The Guarantor establishes allowances for losses from problem loans, including guarantees and other extensions of credit, based on the length of the delinquent periods and the nature of the loans, including guarantees and other extensions of credit. Under K-IFRS 1109, the Guarantor establishes allowances for credit losses based on expected credit losses instead of incurred losses by assessing changes in expected credit losses and recognising such changes as impairment loss (or reversal of impairment loss) in profit or loss. The allowance required to be established with respect to a loan or receivable is the amount of the expected 12-month credit loss or the expected lifetime credit loss for the applicable loan or receivable, according to three stages of credit risk deterioration since initial recognition.

As of 31 December 2023, the Guarantor established allowances of ₩3,100.0 billion for loan losses, which was 22.4 per cent. lower than the allowances as of 31 December 2022 of ₩3,997.2 billion, primarily due to a decrease in expected credit losses in light of an improvement in the credit ratings of certain shipbuilding companies to which the Guarantor extended loans. Allowances for loan losses under K-IFRS are recorded for loans based on expected credit losses, depending on whether there has been a significant increase in credit risk or a credit impairment since initial recognition and, if the Guarantor's allowances for loan losses are deemed insufficient for regulatory purposes, the Guarantor compensates for the difference by recording a regulatory reserve for loan losses within retained earnings. See Notes 3(27), 9(1), 24(4) and 24(5) of Notes to the Guarantor Financial Statements included elsewhere in this Offering Circular.

Certain of the Guarantor's customers have restructured loans with their creditor banks. As of 31 December 2023, the Guarantor has provided loans of ₩811.0 billion for companies under workout, court receivership, court mediation and other restructuring procedures. As of 31 December 2023, the Guarantor had established allowances of ₩409.0 billion for loan losses with respect to such companies. The Guarantor cannot assure you that actual results of the credit loss from the loans to these customers will not exceed the allowances established.

The following table provides information on the Guarantor's loan loss allowances.

		As of 31 December 2022[(1)]		As of 31 December 2023[(1)]	
		Loan Amount	**Loan Loss Allowances**	**Loan Amount**	**Loan Loss Allowances**
			(billions of Won)		
Loan Classification	Normal[(2)]	197,801.8	1,931.8	201,239.1	2,127.3
	Precautionary	2,944.3	1,213.0	412.3	77.1
	Substandard	572.0	274.8	624.1	223.6
	Doubtful	130.9	119.1	163.6	139.6
	Expected Loss	583.2	458.5	628.2	532.4
	Total	202,032.2	3,997.2	203,067.3	3,100.0

Notes:

(1) These figures include loans for facility development, loans for working capital, loans for households, inter-bank loans, private loans, off-shore loan receivables, loans borrowed from overseas financial institutions, bills bought in foreign currencies, advance payments on acceptances and guarantees and other loans.

(2) Includes loans guaranteed by the Government. Under Korean IFRS, the Guarantor establishes loan loss allowances for all loans including loans guaranteed by the Government.

As of 31 December 2023, the Guarantor's non-performing loans totalled ₩1,416.0 billion, representing 0.7 per cent. of its outstanding loans as of such date. Non-performing loans are defined as loans that are classified as substandard or below. On 31 December 2023, the Guarantor's legal reserve was ₩2,721.9 billion, representing 1.3 per cent. of its outstanding loans as of such date.

Loans to Financially Troubled Companies

The Guarantor has credit exposure to a number of financially troubled Korean companies including HMM Company Limited (formerly, Hyundai Merchant Marine Co., Ltd.), HJ Shipbuilding & Construction Co., Ltd. (formerly, Hanjin Heavy Industries and Construction Co., Ltd.), Daehan Shipbuilding Co., Ltd., K Shipbuilding Co., Ltd. (formerly, STX Offshore & Shipbuilding), GM Korea Company and Taeyoung E&C. As of 31 December 2023, the Guarantor's credit extended to these companies totalled ₩9,961.4 billion, accounting for 3.1 per cent. of its total assets as of such date.

The following table shows the changes in credit exposure (including loans classified as substandard or below, guarantees and equity investments classified as estimated loss or below) extended to these companies as of the dates indicated:

	As of 31 December		
Company	**2022**	**2023**	**Primary Reason for Change**
	(billions of Won)		
Hanwha Ocean	7,954.9	–	No longer considered a financially troubled company subsequent to acquisition by Hanwha in May 2023
HMM Company Limited	7,265.7	6,549.4	Decrease due to conversion of convertible bonds into stocks and a decrease in the value of stocks
HJ Shipbuilding & Construction	996.5	1,195.7	Increase due to an increase in refund guarantees

Company	As of 31 December 2022	As of 31 December 2023	Primary Reason for Change
		(billions of Won)	
Daehan Shipbuilding	859.9	977.2	Increase due to an increase in working capital loans
K Shipbuilding	659.4	645.2	Decrease due to a decrease in working capital loans
GM Korea Company	376.5	455.9	Increase due to an increase in the value of stocks
Taeyoung E&C	162.0	138.0	Decrease due to a decrease in commercial papers
Total	18,274.9	9,961.4	

As of 31 December 2023, the Guarantor established allowances of ₩0.7 billion for HMM Company Limited, ₩86.7 billion for HJ Shipbuilding & Construction, ₩99.7 billion for Daehan Shipbuilding, ₩31.9 billion for K Shipbuilding, none for GM Korea Company and ₩116.1 billion for Taeyoung E&C.

During 2015, DSME (now Hanwha Ocean Co., Ltd.), one of the largest shipbuilding and offshore construction companies in Korea, suffered from financial difficulties primarily due to significant losses incurred in connection with the construction of offshore plants resulting from a prolonged slowdown in the global shipbuilding industry. Since then, the Guarantor and The Export-Import Bank of Korea, together with certain other creditors, had provided various forms of financial support to DSME, including debt-to-equity swaps, extension of loans and other forms of liquidity support. In May 2023, Hanwha Group acquired newly issued shares of DSME through a paid-in capital increase, acquiring a 49.3 per cent. equity stake in DSME and thereby becoming its largest shareholder. Hanwha Group subsequently re-named DSME to Hanwha Ocean Co., Ltd. Since its acquisition by Hanwha Group, the Guarantor no longer considers Hanwha Ocean Co., Ltd. to be a financially troubled company.

In July 2016, HMM Company Limited executed a debt-to-equity swap with the Guarantor and other creditors, as part of its continued restructuring led by the Guarantor as its largest creditor, and affiliates of the Hyundai group reduced their shareholdings in HMM Company Limited, which resulted in the Guarantor becoming the largest shareholder of HMM Company Limited. In October 2018, the Guarantor injected ₩1 trillion in emergency aid into HMM Company Limited in order to normalise its operations by purchasing bonds with warrants and convertible bonds issued by HMM Company Limited. The Guarantor also concurrently entered into an agreement to jointly manage HMM Company Limited together with Korea Ocean Business Corporation until December 2020, which was subsequently extended to January 2022. In June 2021, the Guarantor exercised its right to convert ₩300 billion of its convertible bonds into 60 million common shares of HMM Company Limited. Following an improvement in the financial performance of HMM Company Limited, the Guarantor ended its joint management of HMM Company Limited in January 2022, upon which Korea Ocean Business Corporation became its sole manager. The Guarantor and Korea Ocean Business Corporation are each pursuing the sale of the Guarantor's respective equity shares in HMM Company Limited. In July 2023, the Guarantor and Korea Ocean Business Corporation jointly announced a combined sale of an aggregate of approximately 38.9 per cent. of the equity interest in HMM Company Limited through a competitive bidding process. Although a consortium led by Harim Group was initially selected as the preferred bidder in December 2023, the Guarantor concluded its negotiations with them in February 2024 upon failure to reach an agreement on certain commercial issues. In May 2024, the Guarantor exercised its right to convert ₩100 billion of its convertible bonds into 20 million common shares of HMM Company Limited. As of 20 May 2024, the Guarantor's equity stake in HMM Company Limited amounted to 29.8 per cent.

In January 2019, HJ Shipbuilding & Construction Philippines, a subsidiary of HJ Shipbuilding & Construction at Subic Bay in the Philippines, declared bankruptcy and filed for corporate rehabilitation with a regional trial court following its failure to comply with loan obligations to its Philippine lenders. In March 2019, creditors in Korea (including the Guarantor) and lenders in the Philippines agreed on, and executed, a business normalisation plan including a debt-to-equity swap and capital reduction for HJ Shipbuilding & Construction, as a result of which the Guarantor became the largest shareholder of HJ Shipbuilding & Construction. In September 2021, creditors of HJ Shipbuilding & Construction (including the Guarantor) sold a 66.85 per cent. interest in the company to a consortium led by Dongbu Corporation.

K Shipbuilding has faced financial difficulties for the past several years due to prolonged slowdowns in the Korean shipbuilding and shipping industries. K Shipbuilding, which had filed for court receivership in May 2016 and executed debt-to-equity swaps with their creditors (including the Guarantor) in December 2016 under a rehabilitation plan through which the Guarantor increased its equity interest to 43.9 per cent. and became its largest shareholder, exited court receivership in July 2017. In November 2020, the Guarantor selected a consortium consisting of KH Investment and UAMCO., Ltd. as the preferred bidder for the sale of shares of K Shipbuilding. In July 2021, the consortium acquired a 97 per cent. interest in K Shipbuilding for ₩250 billion. In December 2021, the Guarantor terminated its creditor management of K Shipbuilding, and in December 2022, sold all of its equity stake in K Shipbuilding.

In January 2024, Taeyoung Engineering & Construction Co., or Taeyoung E&C, commenced workout procedures, pursuant to which its creditors, including the Guarantor, agreed to temporarily defer all of its debt payment obligations. Subsequently, the Guarantor, as the lead creditor, worked together with external consultants to evaluate Taeyoung E&C's ability to maintain its business and repay its loans. In April 2024, the Guarantor proposed a corporate improvement plan to restructure Taeyoung E&C based on such evaluation, which would involve debt-to-equity swaps and capital reductions, among others, and the creditors approved such corporate improvement plan, following which the Guarantor entered into an agreement with Taeyoung E&C to implement such plan.

In 2023, the Guarantor sold non-performing loans worth ₩271.7 billion to Kiwoom F&I Co., Ltd.

The Guarantor's large exposure to financially troubled companies in Korea means that the Guarantor is also exposed to financial difficulties experienced by its borrowers as a result of, among other things, adverse economic conditions in Korea and globally, which could disrupt the business, activities and operations of many of its borrowers, which in turn could have an adverse impact on the ability of its borrowers to meet existing payment or other obligations to the Guarantor. For example, the recent COVID-19 pandemic resulted in significant global and domestic economic and financial disruptions, and had an especially direct negative impact on certain of the Guarantor's borrowers, among them the airline industry, which required significant liquidity following a sharp decline in aircraft traffic and a dramatic increase in the number of suspended flights due to entry restrictions imposed by many countries in response to COVID-19 during the course of the pandemic.

In April 2020, the Guarantor provided Asiana Airlines, a subsidiary of Kumho Asiana Group and the second-largest airline in Korea, with liquidity support in the aggregate amount of approximately ₩1.2 trillion, in the form of the provision of a credit line and an investment in its perpetual convertible bonds. The Guarantor's decision to take such measure was largely driven by a need to address Asiana Airlines' financial difficulties resulting from the negative impact of the COVID-19 pandemic on the airline industry, although the Guarantor had previously provided Asiana Airlines with liquidity support in similar amount and form in 2019 as well with the aim of enhancing its financial condition. In the fourth quarter of 2020, the Guarantor injected ₩0.3 trillion into Asiana Airlines through the Key Industry Stabilisation Fund, which was established by the Government to support businesses in certain key industries that faced financial difficulties resulting from the COVID-19 pandemic, in order to normalise its operations following the cancellation of plans by a consortium led by HDC Hyundai Development to acquire Asiana Airlines. In November 2020, the Guarantor signed an investment agreement with Hanjin KAL, the parent company of Korean Air Lines, to inject ₩800 billion (consisting of ₩500 billion through participation in a rights offering and ₩300 billion through purchase of exchangeable bonds) into Hanjin KAL in

connection with Korean Air Lines' contemplated acquisition of a 63.9 per cent. stake in Asiana Airlines through a transaction valued at ₩1.8 trillion (the "Asiana Acquisition"), subsequent to which the Guarantor expects its equity interest in Hanjin KAL to amount to approximately 10.6 per cent. In December 2020, Asiana Airlines' shareholders approved a 3-to-1 share capital reduction plan, which was aimed at offsetting part of Asiana Airlines' deficits and improving its capital structure. However, the consummation of the Asiana Acquisition currently remains subject to a number of factors, including uncertainties regarding approval of the Asiana Acquisition by the antitrust authorities of a number of jurisdictions, including Korean Air Lines' ability to meet the conditions imposed by certain jurisdictions that have granted conditional approvals. If the Asiana Acquisition is completed, Asiana Airlines would become Korean Air Lines' consolidated subsidiary.

In addition, adverse economic conditions in Korea have prompted the Government in recent years to implement various emergency aid initiatives involving Korean banks, including the Guarantor, to provide liquidity assistance to a range of financially troubled companies. Such initiatives include, among others, the provision of new loans to financially troubled companies, extension of maturity dates for existing loans and suspension of interest payment obligations for an extended period of time. For example, in February 2024, the Government announced a financial support programme amounting to ₩75.9 trillion mostly aimed at helping small- and medium-sized enterprises overcome adverse economic conditions resulting from the prevailing high interest rate environment and expand their businesses into new industries, to which the Guarantor plans to contribute ₩25.8 trillion. The Guarantor's participation in such Government-led initiatives may lead the Guarantor to extend credit to financially troubled borrowers that the Guarantor would not otherwise extend, or offer terms for such credit that the Guarantor would not otherwise offer, in the absence of such initiatives. Furthermore, there is no guarantee that the financial condition and liquidity position of the Guarantor's financially troubled borrowers benefiting from such initiatives will improve sufficiently for them to service their debt on a timely basis, or at all. Accordingly, increases in the Guarantor's exposure to financially troubled borrowers resulting from such Government-led initiatives may have a material adverse effect on the Guarantor's financial condition and results of operations.

A deterioration in the financial condition of the Guarantor's borrowers, including those under workout, court receivership, court mediation or other restructuring procedures, could result in a deterioration in the quality of the Guarantor's loan portfolio. This, in turn, could result in an increase in delinquency ratios, increased charge-offs and higher provisioning, as well as an increase in impairment losses on such loans, which could have a material adverse impact on the Guarantor's business, financial condition or results of operations.

OPERATIONS

Loan Operations

The Guarantor mainly provides equipment capital loans, project loans and working capital loans to private Korean enterprises that undertake major industrial projects either directly or indirectly through on-lending. The loans generally cover over 50 per cent., and in some cases as much as 100 per cent., of the total project cost. Equipment capital loans include loans to major industries for development of high technology and for acquisition, improvement or repair of machinery and equipment. The Guarantor disburses loan proceeds in instalments to ensure that the borrower uses the loan for its intended purpose.

Before approving a loan, the Guarantor considers:

- the economic benefits of the project to the Republic;
- the extent to which the project serves priorities established by the Government's industrial policy;
- the project's operational feasibility;

- the loan's and the project's profitability; and

- the quality of the borrower's management.

The interest rate the Guarantor charges on its loans varies based on a number of factors, including the purpose of the loan, maturity date and the borrower's credit ratings. Certain loans bear interest at below market rates. Equipment capital loans generally have original maturities of three to five years, although the Guarantor occasionally makes equipment capital loans with longer maturities. Working capital loans usually mature within two years.

The Business Planning Department functions as the Guarantor's centralised policy-making and planning division with respect to the Guarantor's lending activities. The Business Planning Department formulates and revises the Guarantor's internal regulations on loan programmes as well as setting basic lending guidelines.

The Guarantor has multiple levels of loan approval authority, depending on the loan amount and other factors such as the availability of collateral or guarantee, debt repayment ability and business prospects. The Credit Review Committee, Division Credit Review Committee, Division Credit Review Sub-Committee, Credit Officer, Head of the Regional Head Office and General Manager each has authority to approve loans up to a specified amount. The amount differs depending on the type of loan and certain other factors, for example, whether a loan is collateralised or guaranteed.

The Guarantor's overall risk management policy is set by the Risk Management Committee. For detailed information regarding the Guarantor's risk management policy and procedures, see Note 49 of Notes to the Guarantor Financial Statements included elsewhere in this Offering Circular.

The following table sets out, by currency and category of loan, the Guarantor's total outstanding loans:

Loans[(1)]

	31 December	
	2022	**2023**
	(billions of Won)	
Equipment Capital Loans		
Domestic Currency	60,391.6	61,149.1
Foreign Currency	11,661.1	11,861.3
	72,052.7	73,010.4
Working Capital Loans		
Domestic Currency[(2)]	69,906.9	69,497.3
Foreign Currency	15,702.2	17,458.0
	85,609.2	86,955.4
Other Loans[(3)]	44,370.3	43,101.6
Total Loans	202,032.2	203,067.3

Notes:

(1) Includes loans extended to affiliates.

(2) Includes loans on households.

(3) Includes inter-bank loans, private loans, off-shore loan receivables, loans borrowed from overseas financial institutions, bills bought in foreign currencies, advance payments on acceptances and guarantees and other loans.

As of 31 December 2023, the Guarantor had ₩203,067.3 billion in outstanding loans, which represents a 0.5 per cent. increase from ₩202,032.2 billion of outstanding loans as of 31 December 2022.

Maturities of Outstanding Loans

The following table categorises the Guarantor's outstanding equipment capital and working capital loans by their remaining maturities:

Outstanding Equipment Capital and Working Capital Loans by Remaining Maturities[(1)]

	31 December		As % of 31 December 2023 Total
	2022	2023	
	(billions of Won, except percentages)		
Loans with Remaining Maturities of One Year or Less	66,799.3	69,771.0	43.6
Loans with Remaining Maturities of More Than One Year	90,862.6	90,194.7	56.4
Total	157,661.9	159,965.7	100.0

Note:

(1) Includes loans extended to affiliates.

Loans by Industrial Sector

The following table sets out the total amount of the Guarantor's outstanding equipment capital and working capital loans, categorised by industry sector:

Outstanding Equipment Capital and Working Capital Loans by Industry Sector[(1)]

	31 December		As % of 31 December 2023 Total
	2022	2023	
	(billions of Won, except percentages)		
Manufacturing	69,869.7	72,985.3	45.6
Banking and Insurance	37,855.0	38,223.0	23.9
Transportation	10,868.0	10,493.9	6.6
Public Administration	574.0	539.4	0.3
Electric, Gas and Water Supply Industry	5,640.2	5,562.0	3.5
Others[(2)]	32,855.1	32,162.2	20.1
Total	157,661.9	159,965.7	100.0
Percentage increase (decrease) from previous period	9.8%	1.5%	

Notes:

(1) Includes loans extended to affiliates.

(2) Includes wholesale and retail trade, real estate and leasing, and construction.

Industrial Bank of Korea was the Guarantor's single largest borrower as of 31 December 2023, accounting for 4.2 per cent. of its outstanding equipment capital and working capital loans. As of 31 December 2023, the Guarantor's five largest borrowers and 20 largest borrowers accounted for 9.9 per cent. and 19.7 per cent., respectively, of its outstanding equipment capital and working capital loans.

The following table breaks down the equipment capital and working capital loans to the Guarantor's 20 largest borrowers outstanding as of 31 December 2023 by industry sector:

20 Largest Borrowers by Industry Sector

	As % of 31 December 2023 Total Outstanding Equipment Capital and Working Capital Loans to the Guarantor's 20 Largest Borrowers
Manufacturing	25.9
Banking and Insurance	50.9
Transportation	15.8
Electric, Gas and Water Supply Industry	3.9
Others[(1)]	3.5
Total	100.0

Note:

(1) Includes wholesale and retail trade, real estate and leasing, and construction.

The following table categorises the new loans made by the Guarantor by industry sector:

New Loans by Industry Sector

	Year Ended 31 December		As % of Year Ended 31 December 2023 Total
	2022	2023	
	(billions of Won, except percentages)		
Manufacturing	34,686.9	40,217.9	49.9
Banking and Insurance	17,961.5	17,283.5	21.4
Transportation	3,799.3	4,249.5	5.3
Electric, Gas and Water Supply Industry	2,616.8	2,752.8	3.4
Public Administration	161.7	163.9	0.2
Others[(1)]	18,303.7	15,940.9	19.8
Total	77,529.9	80,608.5	100.0
Percentage increase (decrease) from previous period	(4.0)%	4.0%	

Note:

(1) Includes wholesale and retail trade, real estate and leasing, and construction.

Loans by Categories

In addition to dividing its loans into equipment capital and working capital loans, the Guarantor classifies loans into several groupings, the most important being:

- industrial fund loans;
- on-lending loans;
- foreign currency loans;
- local currency loans denominated in foreign currencies;

- offshore loans in foreign countries; and
- government fund loans.

The following table sets out equipment capital and working capital loans by categories as of 31 December 2023:

	Equipment Capital Loans[1]		Working Capital Loans[1]	
	31 December 2023	%	31 December 2023	%
	(billions of Won, except percentages)			
Industrial fund loans	55,189.0	75.6	54,711.8	62.9
On-lending loans	2,520.7	3.5	14,086.3	16.2
Foreign currency loans	7,809.5	10.7	1,618.1	1.9
Local currency loans denominated in foreign currencies	0.8	0.0	16.9	0.0
Offshore loans in foreign currencies	3,863.2	5.3	14,021.7	16.1
Government fund loans	76.5	0.1	0.0	0.0
Overdraft	0.0	0.0	59.6	0.1
Others[1]	3,550.8	4.9	2,440.9	2.8
Total	73,010.4	100.0	86,955.4	100.0

Note:

(1) Includes loans on households and loans extended to affiliates.

Industrial Fund Loans. Industrial fund loans are equipment capital and working capital loans denominated in Won to borrowers in major industries to finance equipment and facilities.

The Guarantor currently makes equipment capital industrial fund loans at floating or fixed rates for terms of up to 10 years and for up to 100 per cent. of the equipment cost being financed. The Guarantor makes working capital industrial fund loans at floating or fixed rates and in amounts constituting up to 40 per cent. of the borrower's estimated annual sales, excluding depreciation expenses.

On-lending Loans. On-lending is a form of indirect financing that involves intermediary financial institutions which on-lend the funds provided by the Guarantor to industrial borrowers and are responsible for repayment to the Guarantor. Most of the funds provided by the Guarantor through on-lending are ultimately lent to small- and medium-sized enterprises for their equipment purchases and working capital. The Guarantor explicitly sets detailed guidelines (including scope of borrowers, maturity and interest rates) for intermediary financial institutions to be followed when on-lending to the ultimate borrowers. The Guarantor monitors its exposure to, and the credit standing of, each financial institution to which the Guarantor lends. Borrowers do not apply directly to the Guarantor and may only apply for the Guarantor's on-lending loans through their regular bank or another bank of their choice. The intermediary bank appraises the financial and business situation of the applicant and generally assumes liability for repayment to the Guarantor. Although the processing of individual loans requires two formally separate loan approvals for each borrower, first by the intermediary bank and then by the Guarantor, the ultimate borrower need only apply to the intermediary bank for approval.

Foreign Currency Loans. The Guarantor extends loans denominated in U.S. dollars, Japanese Yen or other foreign currencies principally to finance the purchase of industrial equipment from abroad or the implementation of overseas industrial development projects by Korean companies. The Guarantor makes these loans at floating interest rates with original maturities, in the case of equipment capital foreign currency loans, of up to 10 years and, in the case of working capital foreign currency loans, of up to three years.

Local Currency Loans Denominated in Foreign Currencies. The Guarantor makes local currency loans denominated in foreign currencies for the same purposes, and to the same borrowers, as foreign currency loans. Although the Guarantor denominates the loans in foreign currency, the borrower receives and repays the loans in Won based on foreign exchange rates at the time of receipt and repayment. The Guarantor currently makes loans of this type at floating interest rates, with original maturities, in the case of equipment capital loans, of up to 10 years and, in the case of working capital loans, of up to three years.

Offshore Loans in Foreign Currencies. The Guarantor extends offshore loans in foreign currencies to finance:

- the purchase of industrial equipment and the implementation of overseas industrial projects by overseas subsidiaries and branches of Korean companies; and

- the overseas industrial development projects of foreign government entities, international organisations and foreign companies.

The Guarantor makes these loans at floating interest rates with original maturities, in the form of equipment capital foreign currency loans, generally of up to 10 years and, working capital foreign currency loans, generally of up to three years. However, longer maturities may be negotiated on an individual basis.

Government Fund Loans. The Guarantor makes government fund loans primarily to finance:

- water supply and drainage facilities;

- the Seoul subway system;

- freight terminal facilities;

- hospitals; and

- other facilities.

Government fund loans that are equipment capital loans require approval by the appropriate Government ministry. The Guarantor currently makes government fund loans in Won at floating interest rates with original maturities of 10 to 20 years.

Other Loans. The Guarantor also makes special purpose fund loans for particular industries or projects using funds lent to the Guarantor by the Government and foreign financial institutions. The Government funds that finance these loans include, among others:

- the Tourism Promotion Fund (hotel and resort projects);

- the Rational Use of Energy Fund (energy conservation projects and collective energy supply projects); and

- the Small- and Medium-sized Enterprises Promotion Fund (small- and medium-sized enterprises).

For further information relating to such loans, see "– *Sources of Funds*".

Guarantee Operations

The Guarantor extends guarantees to its clients to facilitate their other borrowings and to finance major industrial projects. The Guarantor guarantees Won-denominated corporate debentures, local currency loans, and other Won liabilities and foreign currency loans from domestic and overseas Korean financial institutions and from foreign institutions. The KDB Act and the Guarantor's Articles of Incorporation limit the aggregate amount of the Guarantor's industrial finance bond obligations and guarantee obligations. See "*– Sources of Funds*".

The Guarantor generally obtains collateral valued in excess of the original guarantee. The Guarantor appraises the value of its collateral at least once a year. Depending on the borrower, the collateral may be industrial plants, real estate and/or marketable securities.

The following table shows the Guarantor's outstanding guarantees:

Guarantees Outstanding

	As of 31 December	
	2022	**2023**
	(billions of Won)	
Acceptances	220.4	179.8
Guarantees on local borrowing	816.2	795.7
Guarantees on foreign borrowing	7,828.8	9,793.3
Letter of guarantee for importers	64.9	35.9
Total	8,930.4	10,804.7

INVESTMENTS

The Guarantor invests in a range of Korean private and Government-owned enterprises but the Guarantor will not take a controlling interest in a company unless the acquisition is necessary for the corporate restructuring of the company. Although generally a long-term investor, the Guarantor sells investments from time to time. In recent years, sales resulted principally from the Government's privatisation program, and the Guarantor expects to continue such sales in the future. The Government plans to sell its direct or indirect interest in certain private sector companies acquired during previous restructuring programmes, including Daewoo Engineering & Construction Co., Ltd., depending on market conditions. In accordance with such plan, the Guarantor expects to sell the Guarantor's equity holdings in certain private sector companies if favourable opportunities for sale arise. The Guarantor's equity investments increased to ₩45,040.4 billion as of 31 December 2023 from ₩41,768.4 billion as of 31 December 2022.

The KDB Act and the Guarantor's Articles of Incorporation provide that the cost basis of the Guarantor's total equity investments may not exceed twice the sum of the Guarantor's paid-in capital and the Guarantor's reserve from profit. In addition, pursuant to the KDB Decree, the Guarantor may not acquire equity securities of a single company in excess of 15 per cent. of its entire voting shares. The 15 per cent. limit, however, does not apply to certain investments, including those in companies financed by capital contributions from the Government. As of 31 December 2023, the cost basis of the Guarantor's equity investments subject to restriction under the KDB Act and the Guarantor's Articles of Incorporation totalled ₩21,445.2 billion, equal to 39.9 per cent. of the Guarantor's equity investment ceiling. For a discussion of Korean accounting principles relating to the Guarantor's equity investments, see "*– Financial Statements and the Auditors*".

The following table sets out the Guarantor's equity investments by industry sector on a book value basis as of 31 December 2023:

Equity Investments

	Book Value as of 31 December 2023
	(billions of Won)
Electric, Gas and Water Supply Industry	16,997.9
Construction	960.5
Banking and Insurance	12,275.8
Real Estate Business	9.3
Manufacturing	2,670.7
Transportation and Communication	3,925.0
Others	8,201.2
Total	45,040.4

As of 31 December 2023, the Guarantor held total equity investments, on a book value basis, of ₩680.8 billion in one of its five largest borrowers and ₩2,508.0 billion in three of its 20 largest borrowers. The Guarantor has not established a policy addressing loans to enterprises in which the Guarantor holds equity interests or equity interests in enterprises to which the Guarantor has extended loans.

When possible, the Guarantor uses the prevailing market price of a security to determine the value of its interest. However, if no readily ascertainable market value exists for its holdings, the Guarantor records these investments at the cost of acquisition. With respect to its equity interests in enterprises in which the Guarantor holds more than 15 per cent. of interest, the Guarantor values these investments annually, with certain exceptions, on a net asset value basis when the investee company releases its financial statements. As of 31 December 2023, the aggregate value of the Guarantor's equity investments accounted for approximately 75.4 per cent. of their aggregate cost basis.

As part of the Guarantor's investment activities, the Guarantor underwrites straight and convertible bond issuances in Won for domestic corporations. The Guarantor also invests in municipal bonds, extending funds to municipalities at subsidised interest rates, mostly to finance water supply and drainage infrastructure projects.

OTHER ACTIVITIES

The Guarantor engages in a range of industrial development activities in addition to providing loans and guarantees, including:

- conducting economic and industrial research;
- performing engineering surveys;
- providing business analyses and managerial assistance; and
- offering trust services.

As of 31 December 2023, the Guarantor held in trust cash and other assets totalling ₩32,834.0 billion, and the Guarantor generated in 2023 trust fee income equalling ₩449.1 billion. As of 31 December 2022, the Guarantor held in trust cash and other assets totalling ₩28,806.9 billion, and the Guarantor generated in 2022 trust fee income equalling ₩181.9 billion. Pursuant to Korean law, the Guarantor segregates trust assets from its other assets; trust assets are not available to satisfy claims of its depositors or other creditors. Accordingly, the Guarantor accounts for its trust accounts separately from its banking accounts. However, if the Guarantor's trust operations fail to preserve the principal of its clients' trust assets, the Guarantor is responsible for covering the deficit either from previously established provisions in its trust

accounts or by a transfer from its banking accounts. In 2022 and 2023, the Guarantor did not transfer any funds from its banking accounts to cover deficits in its trust accounts. Surplus funds generated by the trust assets may be deposited into the clients' accounts and earn interest. The Guarantor reflects trust fees earned by the Guarantor on its trust account management services as other operating revenues in the income statement of the banking accounts.

SOURCES OF FUNDS

In addition to its capital and reserves, the Guarantor obtains funds primarily from:

- borrowings from the Government;
- issuances of bonds in the domestic and international capital markets;
- borrowings from international financial institutions or foreign banks; and
- deposits.

All of the Guarantor's borrowings are unsecured.

Borrowings from the Government

The Guarantor borrows from the Government's general purpose funds and its special purpose funds. General purpose loans generally are in Won and have fixed interest rates and maturities ranging from five to 20 years. The Guarantor incurs special purpose loans, principally from the Tourism Promotion Fund, the Rational Use of Energy Fund and the Small- and Medium-sized Enterprises Promotion Fund, in connection with specific projects the Guarantor finances. The Government links the interest rate and maturity of each special purpose borrowing to the terms of the financing the Guarantor provides for the specific project.

The following table sets out the Guarantor's Government borrowings as of 31 December 2023:

Type of Funds Borrowed	**As of 31 December 2023**
	(billions of Won)
General Purpose	77.6
Special Purpose	4,709.6
Total	4,787.2

Domestic and International Capital Markets

The Guarantor issues industrial finance bonds both in Korea and abroad, some of which the Government directly guarantees. The Guarantor generally issues domestic bonds at fixed interest rates with original maturities of one to ten years.

The following table sets out the outstanding balance of the Guarantor's industrial finance bonds as of 31 December 2023:

Outstanding Balance	**As of 31 December 2023**
	(billions of Won)
Denominated in Won	116,321.8
Denominated in Other Currencies	43,168.1
Total	159,489.9

The KDB Act provides that the aggregate outstanding principal amount of the Guarantor's industrial finance bonds, other than those directly guaranteed or purchased by the Government, plus the aggregate outstanding amount of debt (including bonds and loans) guaranteed or purchased by the Guarantor, other than those excepted by the KDB Act, may not exceed 30 times the sum of the Guarantor's paid-in capital and the Guarantor's reserve from profit. As of 31 December 2023, the aggregate amount of the Guarantor's industrial finance bonds and guarantee obligations (including guarantee obligations relating to loans that had not been borrowed as of 31 December 2023) was ₩173,745.6 billion, equal to 21.6 per cent. of its authorised amount under the KDB Act, which was ₩805,813.2 billion.

In 2023, the Guarantor issued ₩54.5 trillion in Won-denominated industrial finance bonds and ₩11.9 trillion in industrial finance bonds denominated in other currencies. In 2024, the Guarantor is targeting to issue approximately ₩58 trillion in Won-denominated industrial finance bonds and approximately ₩15 trillion in industrial finance bonds denominated in other currencies, subject to change depending on its funding needs and market conditions.

Foreign Currency Borrowings

The Guarantor borrows money from institutions, principally syndicates of commercial banks, outside the Republic in foreign currencies. The Guarantor frequently enters into related interest rate and currency swap transactions. The loans generally have original maturities of one to five years. As of 31 December 2023, the outstanding amount of its foreign currency borrowings was U.S.$17.8 billion.

The Guarantor's long term and short term foreign currency borrowings increased to ₩22,934.4 billion as of 31 December 2023 from ₩20,820.6 billion as of 31 December 2022.

Deposits

The Guarantor takes demand deposits and time and savings deposits from the general public. Time and savings deposits generally have maturities shorter than three years and bear interest at fixed rates. As of 31 December 2023, demand deposits held by the Guarantor totalled ₩1,896.3 billion and time and savings deposits held by the Guarantor totalled ₩57,060.8 billion.

DEBT

Debt Repayment Schedule

The following table sets out the Guarantor's principal repayment schedule as of 31 December 2023:

Debt Principal Repayment Schedule[(1)]

	Maturing on or before 31 December				
Currency[(2)(3)]	**2024**	**2025**	**2026**	**2027**	**Thereafter**
			(billions of Won)		
Won	51,478.7	32,099.2	14,951.5	9,728.4	12,851.1
Foreign	31,216.8	10,791.1	10,021.1	3,707.7	10,365.9
Total Won Equivalent	82,695.5	42,890.3	24,972.6	13,436.1	23,217.0

Notes:

(1) Excludes bonds sold under repurchase agreements and call money.

(2) Borrowings in foreign currencies have been translated into Won at the market average exchange rates on 29 December 2023, as announced by the Seoul Money Brokerage Services Ltd.

(3) The Guarantor categorises debt with respect to which the Guarantor has entered into currency swap agreements by its repayment currency under such agreements.

The following table summarises, as of 31 December of the years indicated, the Guarantor's outstanding direct internal debt:

Direct Internal Debt

	(billions of Won)
2019	97,087.8
2020	113,091.4
2021	115,318.8
2022	126,854.0
2023	121,108.9

The following table summarises, as of 31 December of the years indicated, the Guarantor's outstanding direct external debt:

Direct External Debt

	(billions of Won)
2019	41,640.2
2020	42,207.6
2021	52,412.9
2022	60,771.2
2023	66,102.6

The following table sets out, by currency and the equivalent amount in U.S. dollars, the Guarantor's outstanding external bonds as of 31 December 2023:

External Bonds

	Amount in Original Currency	**Equivalent Amount in U.S. Dollars[(1)]**
	(millions)	
U.S.$	U.S.$24,733	24,733
Euro (EUR)	EUR 2,400	2,655
New Zealand dollar (NZD)	NZD 140	89
Hong Kong dollar (HKD)	HKD 7,121	912
Chinese offshore renminbi (CNH)	CNH 8,845	1,241
Swiss franc (CHF)	CHF 925	1,095
Brazilian real (BRL)	BRL 4,741	977
Australian dollar (AUD)	AUD 2,031	1,386
Great Britain Sterling (GBP)	GBP 86	110
Norwegian Krone (NOK)	NOK 400	39
Indonesian Rupiah (IDR)	IDR 1,295,000	84
Indian Rupee (INR)	INR 3,713	45
Swedish Krona (SEK)	SEK 1,410	141
Mexican Peso (MXN)	MXN 3,500	206
Thai Baht (THB)	THB 4,580	134
Singapore dollar (SGD)	SGD 63	48
Total		U.S.$33,894

Note:

(1) Amounts expressed in currencies other than U.S.$ are converted to U.S.$ at the exchange rate announced by the Seoul Money Brokerage Services, Ltd. in effect on 29 December 2023.

For further information on the Guarantor's outstanding indebtedness, see "– *Tables and Supplementary Information*".

Debt Record

The Guarantor has never defaulted in the payment of principal or interest on any of its obligations.

OVERSEAS OPERATIONS

The Guarantor operates overseas subsidiaries in Hong Kong, Dublin, Budapest, Sao Paulo, Tashkent, Jakarta and Mountain View. The subsidiaries engage in a variety of banking and merchant banking services, including:

- managing and underwriting new securities issues;
- syndicating medium and long-term loans;
- trading securities;
- trading in the money market; and
- providing investment management and advisory services.

The Guarantor currently maintains eleven branches in Tokyo, Shanghai, Singapore, New York City, London, Beijing, Guangzhou, Qingdao, Shenyang, Yangon and Hong Kong, and seven overseas representative offices in Frankfurt, Ho Chi Minh City, Abu Dhabi, Moscow, Sydney, Bangkok and Jakarta.

PROPERTY

The Guarantor's head office is located at 14 Eunhaeng-ro, Yeongdeungpo-gu, Seoul, Korea, a 35,996 square metre building completed in July 2001 and owned by the Guarantor. In addition to the head office, the Guarantor maintains 60 branches in major cities throughout the Republic, including 18 in Seoul. The Guarantor generally leases its domestic and overseas offices under long-term leases.

DIRECTORS AND MANAGEMENT; EMPLOYEES

The Guarantor's Board of Directors has ultimate responsibility for management of its affairs. Under the KDB Act and the Guarantor's Articles of Incorporation, its Board of Directors is to consist of one Chief Executive Officer (who also serves as the Chairman of the Board of Directors), one Chief Operating Officer and not more than eight directors. Under the KDB Act, the President of the Republic appoints the Guarantor's Chief Executive Officer and Chairman of the Board of Directors upon the recommendation of the Chairman of the Financial Services Commission. The Financial Services Commission appoints all of the Guarantor's directors upon the recommendation of the Guarantor's Chief Executive Officer. Under the Guarantor's Articles of Incorporation, the Guarantor's executive directors serve for three-year terms and they may be re-appointed, and the Guarantor's independent non-executive directors serve for two-year terms and they may be re-appointed; provided, however, that the Guarantor's independent non-executive directors shall not serve more than one year for each reappointment and shall not serve more than five years consecutively.

Currently, the members of the Guarantor's Board of Directors are:

Position	Name	Expiration of Term
Chief Executive Officer and Chairman of the Board of Directors	Seog Hoon Kang	6 June 2025
Chief Operating Officer and Vice Chairman of the Board of Directors	Bock Kyu Kim	22 March 2026
Auditor	Tae Hyun Joo	14 March 2024[(1)]
Independent Non-executive Directors	Seog Hwan Lee	27 September 2024
	Sam Mo Kang	27 September 2024
	Yong Hi Lee	2 April 2025
	Hee Rak Kim	28 January 2026
	Sun Key You	28 January 2026

Note:

(1) Although Tae Hyun Joo's term of office as auditor has expired, he is continuing his duties as auditor until the appointment of a successor, as permitted under the Korean Commercial Code.

As of 31 December 2023, the Guarantor employed 3,486 persons with 2,022 persons located in its Seoul head office.

TABLES AND SUPPLEMENTARY INFORMATION

(A) External Debt of KDB

(1) External Bonds of KDB

Currency	Original Principal Amount	Interest Rate	Issue Date	Maturity Date	Principal Amount Outstanding as of 31 December 2023
		(%)			
USD	750,000,000	3.750	22 January 2014	22 January 2024*	750,000,000
USD	200,000,000	3.850	20 February 2014	20 February 2024*	200,000,000
USD	20,000,000	3.720	9 April 2014	9 April 2024*	20,000,000
USD	30,000,000	3.720	10 April 2014	10 April 2024*	30,000,000
USD	30,000,000	3.700	11 April 2014	11 April 2024*	30,000,000
USD	50,000,000	3.700	11 April 2014	11 April 2024*	50,000,000
USD	30,000,000	3.605	29 April 2014	29 April 2024*	30,000,000
USD	50,000,000	3.620	29 April 2014	29 April 2024*	50,000,000
USD	20,000,000	3.615	30 April 2014	30 April 2024*	20,000,000
USD	50,000,000	3.250	14 November 2014	14 November 2024	50,000,000
USD	50,000,000	2.730	6 February 2015	6 February 2027	50,000,000
USD	30,000,000	3.010	24 June 2015	24 June 2025	30,000,000
USD	50,000,000	3.376	9 July 2015	9 July 2025	50,000,000
USD	50,000,000	3.330	22 July 2015	22 July 2025	50,000,000
USD	50,000,000	3.200	6 August 2015	6 August 2025	50,000,000
USD	350,000,000	3.375	16 September 2015	16 September 2025	350,000,000
USD	400,000,000	3.375	16 September 2015	16 September 2025	400,000,000
USD	1,000,000,000	3.000	13 January 2016	13 January 2026	1,000,000,000
USD	50,000,000	2.690	30 March 2016	30 March 2026	50,000,000
USD	53,000,000	2.180	10 August 2016	10 August 2026	53,000,000
USD	500,000,000	2.000	12 September 2016	12 September 2026	500,000,000
USD	50,000,000	2.530	10 November 2016	10 November 2028	50,000,000
USD	50,000,000	3.088	17 January 2017	17 January 2027	50,000,000
USD	50,000,000	3.800	29 January 2018	29 January 2038	50,000,000
USD	50,000,000	4.100	19 March 2018	19 March 2048	50,000,000
USD	500,000,000	3.250	19 February 2019	19 February 2024*	500,000,000
USD	500,000,000	2.125	1 October 2019	1 October 2024	500,000,000
USD	750,000,000	1.750	18 February 2020	18 February 2025	750,000,000
USD	32,000,000	3M USD Libor+1.35	22 April 2020	22 October 2025	32,000,000
USD	30,000,000	3M USD Libor+1.30	22 April 2020	22 April 2024*	30,000,000
USD	50,000,000	3M USD Libor+1.30	28 April 2020	28 April 2025	50,000,000
USD	40,000,000	3M USD Libor+1.25	29 April 2020	29 April 2025	40,000,000
USD	50,000,000	3M USD Libor+1.20	7 May 2020	7 May 2025	50,000,000
USD	50,000,000	3M USD Libor+1.13	15 May 2020	15 May 2025	50,000,000
USD	500,000,000	1.250	3 June 2020	3 June 2025	500,000,000
USD	500,000,000	1.250	3 June 2020	3 June 2025	500,000,000
USD	500,000,000	0.800	27 October 2020	27 April 2026	500,000,000
USD	700,000,000	0.400	19 January 2021	19 June 2024	700,000,000
USD	500,000,000	0.800	19 January 2021	19 July 2026	500,000,000
USD	300,000,000	1.625	19 January 2021	19 January 2031	300,000,000
USD	100,000,000	0.470	29 January 2021	29 January 2024*	100,000,000
USD	100,000,000	3M USD Libor+0.17	26 February 2021	26 February 2024*	100,000,000
USD	400,000,000	0.400	9 March 2021	9 March 2024*	400,000,000
USD	300,000,000	SOFR+0.25	9 March 2021	9 March 2024*	300,000,000

Currency	Original Principal Amount	Interest Rate	Issue Date	Maturity Date	Principal Amount Outstanding as of 31 December 2023
		(%)			
USD	500,000,000	1.000	9 March 2021	9 September 2026	500,000,000
USD	50,000,000	0.645	15 March 2021	15 March 2024*	50,000,000
USD	50,000,000	0.590	26 March 2021	26 March 2024*	50,000,000
USD	300,000,000	2.000	1 April 2021	1 April 2031	300,000,000
USD	30,000,000	0.590	1 April 2021	1 April 2024*	30,000,000
USD	200,000,000	SOFR+0.29	18 May 2021	18 May 2025	200,000,000
USD	100,000,000	1.146	18 May 2021	18 May 2026	100,000,000
USD	100,000,000	1.035	18 June 2021	18 June 2026	100,000,000
USD	50,000,000	0.610	2 June 2021	2 June 2024*	50,000,000
USD	100,000,000	1.015	4 June 2021	4 December 2025	100,000,000
USD	100,000,000	1.145	4 June 2021	4 June 2026	100,000,000
USD	100,000,000	3M USD Libor+0.25	11 June 2021	11 June 2026	100,000,000
USD	50,000,000	0.710	8 July 2021	8 July 2024	50,000,000
USD	50,000,000	2.470	24 August 2021	24 August 2051	50,000,000
USD	50,000,000	0.710	19 August 2021	19 August 2024	50,000,000
USD	200,000,000	1.750	27 September 2021	27 September 2031	200,000,000
USD	50,000,000	0.700	2 September 2021	2 September 2024	50,000,000
USD	20,000,000	2.850	12 October 2021	12 October 2051	20,000,000
USD	20,000,000	2.925	18 October 2021	18 October 2051	20,000,000
USD	700,000,000	0.750	25 October 2021	25 January 2025	700,000,000
USD	500,000,000	1.375	25 October 2021	25 April 2027	500,000,000
USD	300,000,000	2.000	25 October 2021	25 October 2031	300,000,000
USD	20,000,000	2.870	19 November 2021	19 November 2051	20,000,000
USD	20,000,000	1.448	2 December 2021	2 December 2025	20,000,000
USD	38,000,000	1.950	25 January 2022	25 January 2027	38,000,000
USD	200,000,000	2.250	26 January 2022	26 January 2032	200,000,000
USD	750,000,000	2.000	24 February 2022	24 February 2025	750,000,000
USD	250,000,000	2.000	24 February 2022	24 February 2025	250,000,000
USD	500,000,000	2.250	24 February 2022	24 February 2027	500,000,000
USD	40,000,000	2.643	18 March 2022	18 March 2032	40,000,000
USD	50,000,000	SOFR+0.40	19 April 2022	19 April 2024*	50,000,000
USD	100,000,000	3.130	21 April 2022	21 April 2025	100,000,000
USD	20,000,000	3.050	29 April 2022	29 April 2024*	20,000,000
USD	50,000,000	3.170	13 May 2022	13 May 2024*	50,000,000
USD	50,000,000	3.400	18 May 2022	18 May 2027	50,000,000
USD	50,000,000	3.240	18 May 2022	18 November 2024	50,000,000
USD	300,000,000	3.125	7 June 2022	7 June 2025	300,000,000
USD	20,000,000	3.830	22 August 2022	22 February 2024*	20,000,000
USD	25,000,000	SOFR+0.48	17 August 2022	17 August 2024	25,000,000
USD	1,000,000,000	4.000	8 September 2022	8 September 2025	1,000,000,000
USD	450,000,000	4.250	8 September 2022	8 September 2032	450,000,000
USD	50,000,000	SOFR+1.00	14 October 2022	14 October 2027	50,000,000
USD	50,000,000	SOFR+1.005	17 October 2022	17 October 2027	50,000,000
USD	50,000,000	SOFR+0.995	17 October 2022	17 October 2027	50,000,000
USD	50,000,000	SOFR+1.00	19 October 2022	19 October 2027	50,000,000
USD	50,000,000	SOFR+1.03	26 October 2022	26 October 2027	50,000,000
USD	50,000,000	SOFR+1.03	27 October 2022	27 October 2027	50,000,000
USD	50,000,000	SOFR+1.03	28 October 2022	28 October 2027	50,000,000
USD	50,000,000	SOFR+0.75	3 November 2022	3 November 2025	50,000,000
USD	200,000,000	3.125	3 November 2022	7 June 2025	200,000,000
USD	20,000,000	SOFR+1.30	4 November 2022	4 November 2027	20,000,000
USD	130,000,000	5.450	21 November 2022	21 November 2028	130,000,000
USD	35,000,000	SOFR+1.30	22 November 2022	22 November 2027	35,000,000
USD	20,000,000	5.450	28 November 2022	28 November 2028	20,000,000
USD	20,000,000	SOFR+1.30	28 November 2022	28 November 2027	20,000,000
USD	20,000,000	SOFR+1.30	8 December 2022	8 December 2027	20,000,000
USD	200,000,000	SOFR+0.80	13 December 2022	13 November 2024	200,000,000
USD	60,000,000	SOFR+1.29	14 December 2022	14 December 2027	60,000,000
USD	20,000,000	5.050	19 December 2022	19 December 2024	20,000,000
USD	71,000,000	5.343	17 January 2023	17 January 2024*	71,000,000
USD	45,000,000	SOFR+0.50	2 February 2023	2 August 2024	45,000,000
USD	55,000,000	SOFR+0.60	3 February 2023	3 February 2025	55,000,000
USD	40,000,000	SOFR+0.95	10 February 2023	10 February 2028	40,000,000

Currency	Original Principal Amount	Interest Rate	Issue Date	Maturity Date	Principal Amount Outstanding as of 31 December 2023
		(%)			
USD	1,000,000,000	4.375	15 February 2023	15 February 2028	1,000,000,000
USD	1,000,000,000	4.375	15 February 2023	15 February 2033	1,000,000,000
USD	50,000,000	SOFR+0.75	16 February 2023	16 February 2026	50,000,000
USD	10,000,000	5.375	23 February 2023	23 August 2024	10,000,000
USD	50,000,000	5.250	27 February 2023	27 February 2025	50,000,000
USD	10,000,000	5.010	3 March 2023	3 March 2026	10,000,000
USD	20,000,000	5.500	7 March 2023	7 March 2025	20,000,000
USD	100,000,000	5.231	26 April 2023	26 April 2024*	100,000,000
USD	50,000,000	5.250	26 April 2023	26 April 2024*	50,000,000
USD	10,000,000	4.640	8 May 2023	8 May 2025	10,000,000
USD	40,000,000	SOFR+0.85	11 May 2023	11 May 2028	40,000,000
USD	20,000,000	5.200	24 May 2023	24 May 2024*	20,000,000
USD	50,000,000	SOFR+0.80	5 June 2023	5 June 2026	50,000,000
USD	30,000,000	5.560	14 June 2023	14 June 2024	30,000,000
USD	50,000,000	SOFR+0.80	15 June 2023	15 June 2026	50,000,000
USD	100,000,000	5.630	16 June 2023	18 June 2024	100,000,000
USD	50,000,000	SOFR+0.80	20 June 2023	20 June 2026	50,000,000
USD	100,000,000	5.700	21 June 2023	21 June 2024	100,000,000
USD	23,000,000	5.650	22 June 2023	22 June 2024	23,000,000
USD	50,000,000	SOFR+0.82	26 June 2023	26 June 2026	50,000,000
USD	20,000,000	5.715	30 June 2023	30 June 2024	20,000,000
USD	30,000,000	5.860	12 July 2023	12 July 2024	30,000,000
USD	22,000,000	SOFR+0.80	12 July 2023	12 July 2024	22,000,000
USD	50,000,000	5.320	14 July 2023	14 July 2026	50,000,000
USD	300,000,000	SOFR+0.90	1 August 2023	1 August 2028	300,000,000
USD	50,000,000	5.240	2 August 2023	2 August 2026	50,000,000
USD	50,000,000	5.430	8 August 2023	8 August 2025	50,000,000
USD	50,000,000	5.250	11 August 2023	11 August 2026	50,000,000
USD	50,000,000	SOFR+0.55	18 August 2023	18 August 2025	50,000,000
USD	50,000,000	SOFR+0.55	18 August 2023	18 August 2025	50,000,000
USD	50,000,000	5.500	29 August 2023	29 August 2043	50,000,000
USD	75,000,000	SOFR+0.50	13 September 2023	13 March 2025	75,000,000
USD	30,000,000	SOFR+0.35	25 September 2023	25 September 2024	30,000,000
USD	300,000,000	SOFR+0.70	23 October 2023	23 October 2026	300,000,000
USD	700,000,000	5.375	23 October 2023	23 October 2026	700,000,000
USD	500,000,000	5.375	23 October 2023	23 October 2028	500,000,000
USD	500,000,000	5.625	23 October 2023	23 October 2033	500,000,000
USD	38,000,000	SOFR+0.70	31 October 2023	30 October 2026	38,000,000
USD	10,000,000	5.710	15 November 2023	15 November 2024	10,000,000
USD	33,000,000	SOFR+0.87	15 November 2023	15 November 2028	33,000,000
USD	21,000,000	5.780	29 November 2023	29 November 2024	21,000,000
USD	50,000,000	SOFR+0.87	29 November 2023	29 November 2028	50,000,000
USD	25,000,000	5.680	5 December 2023	5 December 2024	25,000,000
USD	100,000,000	5.680	12 December 2023	12 December 2024	100,000,000
USD	20,000,000	SOFR+0.55	20 December 2023	20 December 2024	20,000,000
USD	20,000,000	SOFR+0.79	20 December 2023	20 December 2028	20,000,000
USD	30,000,000	4.780	29 December 2023	29 August 2025	30,000,000
		Subtotal in Original Currency			USD 24,791,000,000
		Subtotal in Equivalent Amount of Won[(1)]			₩31,965,515,400,000
NZD	27,000,000	2.600	1 June 2021	1 June 2031	27,000,000
NZD	27,000,000	2.600	9 June 2021	9 June 2031	27,000,000
NZD	27,000,000	2.600	16 June 2021	16 June 2031	27,000,000
NZD	29,000,000	3.000	8 October 2021	8 October 2031	29,000,000
NZD	30,000,000	5.450	27 January 2023	27 January 2028	30,000,000
		Subtotal in Original Currency			NZD 140,000,000
		Subtotal in Equivalent Amount of Won[(2)]			₩ 114,303,000,000
HKD	390,000,000	2.053	8 November 2019	8 November 2024	390,000,000
HKD	243,000,000	2.214	26 November 2019	26 November 2024	243,000,000
HKD	160,000,000	2.100	25 March 2020	25 March 2025	160,000,000
HKD	250,000,000	3M Hibor+1.03	27 April 2020	27 April 2024*	250,000,000

Currency	Original Principal Amount	Interest Rate	Issue Date	Maturity Date	Principal Amount Outstanding as of 31 December 2023
		(%)			
HKD	200,000,000	0.740	1 September 2021	12 September 2025	200,000,000
HKD	390,000,000	3.450	10 May 2022	10 May 2029	390,000,000
HKD	169,000,000	3.600	12 May 2022	12 May 2029	169,000,000
HKD	390,000,000	2.675	8 June 2022	8 January 2024*	390,000,000
HKD	390,000,000	3.460	23 June 2022	23 January 2024*	390,000,000
HKD	349,000,000	4.200	28 June 2022	17 June 2032	349,000,000
HKD	260,000,000	3.100	15 July 2022	15 July 2024	260,000,000
HKD	264,000,000	3.615	28 July 2022	28 July 2024	264,000,000
HKD	390,000,000	3.510	16 August 2022	16 August 2024	390,000,000
HKD	320,000,000	4.150	23 September 2022	25 September 2025	320,000,000
HKD	466,000,000	4.600	18 January 2023	18 January 2024*	466,000,000
HKD	230,000,000	4.100	25 April 2023	25 April 2030	230,000,000
HKD	200,000,000	4.150	26 April 2023	26 April 2030	200,000,000
HKD	255,000,000	4.575	12 June 2023	12 June 2024	255,000,000
HKD	400,000,000	3.030	19 July 2023	19 July 2024	400,000,000
HKD	135,000,000	5.140	2 August 2023	2 August 2024	135,000,000
HKD	500,000,000	5.280	10 August 2023	10 August 2024	500,000,000
HKD	500,000,000	4.930	8 September 2023	8 September 2024	500,000,000
HKD	170,000,000	4.620	11 September 2023	11 September 2026	170,000,000
HKD	100,000,000	4.630	13 September 2023	13 September 2026	100,000,000
		Subtotal in Original Currency			HKD 7,121,000,000
		Subtotal in Equivalent Amount of Won[3]			₩1,175,392,260,000
CNH	287,000,000	3.010	6 May 2020	6 May 2025	287,000,000
CNH	250,000,000	3.510	28 March 2022	28 March 2024*	250,000,000
CNH	150,000,000	3.550	7 April 2022	7 April 2024*	150,000,000
CNH	215,000,000	3.570	11 April 2022	11 April 2024*	215,000,000
CNH	200,000,000	3.570	12 April 2022	12 April 2024*	200,000,000
CNH	140,000,000	3.460	19 May 2022	19 May 2026	140,000,000
CNH	330,000,000	3.300	7 June 2022	7 June 2024	330,000,000
CNH	150,000,000	3.550	16 June 2022	16 June 2024	150,000,000
CNH	150,000,000	3.590	22 June 2022	15 June 2024	150,000,000
CNH	150,000,000	3.720	28 June 2022	15 June 2024	150,000,000
CNH	260,000,000	3.300	30 June 2022	20 June 2032	260,000,000
CNH	230,000,000	3.400	29 July 2022	29 July 2025	230,000,000
CNH	235,000,000	3.200	19 August 2022	19 August 2025	235,000,000
CNH	130,000,000	3.310	19 August 2022	19 August 2025	130,000,000
CNH	400,000,000	3.490	22 September 2022	22 September 2025	400,000,000
CNH	330,000,000	3.700	30 November 2022	30 November 2027	330,000,000
CNH	500,000,000	2.720	17 January 2023	17 January 2024*	500,000,000
CNH	670,000,000	2.770	18 January 2023	18 January 2024*	670,000,000
CNH	250,000,000	2.820	19 January 2023	19 January 2024*	250,000,000
CNH	250,000,000	3.410	19 January 2023	19 January 2026	250,000,000
CNH	250,000,000	3.510	19 January 2023	19 January 2026	250,000,000
CNH	600,000,000	2.700	25 April 2023	25 April 2024*	600,000,000
CNH	355,000,000	2.950	14 June 2023	14 June 2026	355,000,000
CNH	325,000,000	2.950	15 June 2023	15 June 2026	325,000,000
CNH	330,000,000	3.050	26 June 2023	26 June 2026	330,000,000
CNH	187,000,000	3.080	30 June 2023	30 June 2026	187,000,000
CNH	181,000,000	3.000	26 July 2023	26 July 2026	181,000,000
CNH	350,000,000	3.000	31 July 2023	31 July 2026	350,000,000
CNH	330,000,000	2.965	30 August 2023	30 August 2025	330,000,000
CNH	160,000,000	3.150	5 September 2023	5 September 2024	160,000,000
CNH	150,000,000	3.120	14 September 2023	14 September 2026	150,000,000
CNH	350,000,000	2.870	12 December 2023	12 December 2024	350,000,000
		Subtotal in Original Currency			CNH 8,845,000,000
		Subtotal in Equivalent Amount of Won[4]			₩1,599,529,800,000

Currency	Original Principal Amount	Interest Rate	Issue Date	Maturity Date	Principal Amount Outstanding as of 31 December 2023
		(%)			
EUR	300,000,000	0.000	10 July 2019	10 July 2024	300,000,000
EUR	200,000,000	0.000	10 July 2019	10 July 2024	200,000,000
EUR	10,000,000	3M Euribor+0.70	12 December 2019	12 December 2024	10,000,000
EUR	500,000,000	2.625	8 September 2022	8 September 2027	500,000,000
EUR	50,000,000	2.810	13 October 2022	13 October 2026	50,000,000
EUR	50,000,000	2.810	14 October 2022	14 October 2026	50,000,000
EUR	100,000,000	3.180	19 October 2022	19 October 2026	100,000,000
EUR	100,000,000	3.180	19 October 2022	19 October 2026	100,000,000
EUR	750,000,000	3.375	23 May 2023	23 May 2028	750,000,000
EUR	250,000,000	3.375	September 2023	23 May 2028	250,000,000
EUR	90,000,000	3M Euribor+0.22	12 December 2023	12 December 2024	90,000,000
		Subtotal in Original Currency			EUR 2,400,000,000
		Subtotal in Equivalent Amount of Won[5]			₩3,423,816,000,000
CHF	300,000,000	0.445	8 May 2020	8 May 2025	300,000,000
CHF	200,000,000	0.170	22 July 2021	22 July 2031	200,000,000
CHF	225,000,000	0.940	28 April 2022	28 April 2027	225,000,000
CHF	200,000,000	2.2225	24 July 2024	24 July 2026	200,000,000
		Subtotal in Original Currency			CHF 925,000,000
		Subtotal in Equivalent Amount of Won[6]			₩1,412,308,500,000
BRL	562,500,000	10.865	10 December 2021	4 January 2024*	562,500,000
BRL	371,000,000	9.880	14 February 2022	20 February 2024*	371,000,000
BRL	506,000,000	10.480	3 March 2022	26 January 2024*	506,000,000
BRL	1,285,000,000	11.150	3 March 2022	4 March 2024*	1,285,000,000
BRL	517,500,000	10.410	8 March 2022	7 March 2024*	517,500,000
BRL	250,500,000	10.725	12 May 2022	13 May 2024*	250,500,000
BRL	253,000,000	10.750	13 May 2022	13 May 2024*	253,000,000
BRL	253,500,000	10.800	24 May 2022	24 May 2024*	253,500,000
BRL	245,000,000	8.820	13 December 2023	13 December 2025	245,000,000
BRL	496,500,000	9.000	20 December 2023	20 December 2024	496,500,000
		Subtotal in Original Currency			BRL 4,740,500,000
		Subtotal in Equivalent Amount of Won[7]			₩1,259,693,065,000
AUD	100,000,000	3.966	30 November 2016	30 November 2026	100,000,000
AUD	60,000,000	3.760	18 January 2018	18 January 2028	60,000,000
AUD	100,000,000	3M BBSW+0.78	29 August 2019	29 August 2024	100,000,000
AUD	400,000,000	3M BBSW+0.78	29 August 2019	29 August 2024	400,000,000
AUD	200,000,000	1.500	29 August 2019	29 August 2024	200,000,000
AUD	74,000,000	1.460	24 February 2020	24 February 2025	74,000,000
AUD	74,000,000	1.460	24 February 2020	24 February 2025	74,000,000
AUD	74,000,000	1.450	25 February 2020	25 February 2025	74,000,000
AUD	74,000,000	1.450	25 February 2020	25 February 2025	74,000,000
AUD	56,000,000	2.565	7 April 2021	1 April 2036	56,000,000
AUD	30,000,000	2.550	28 September 2021	28 September 2041	30,000,000
AUD	40,000,000	2.500	28 September 2021	28 September 2041	40,000,000
AUD	40,000,000	3M BBSW+0.70	28 September 2021	28 September 2031	40,000,000
AUD	60,000,000	2.550	30 September 2021	30 September 2036	60,000,000
AUD	50,000,000	2.780	18 October 2021	18 October 2041	50,000,000
AUD	30,000,000	3.190	26 November 2021	26 November 2041	30,000,000
AUD	50,000,000	3.240	30 November 2021	30 November 2041	50,000,000
AUD	28,000,000	3.040	8 February 2022	8 February 2032	28,000,000
AUD	30,000,000	3.000	17 March 2022	17 March 2027	30,000,000
AUD	40,000,000	5.550	23 June 2022	23 June 2032	40,000,000
AUD	27,000,000	4.030	10 August 2022	10 August 2027	27,000,000
AUD	30,000,000	5.060	27 January 2023	27 January 2033	30,000,000
AUD	30,000,000	4.090	21 April 2023	21 April 2026	30,000,000
AUD	30,000,000	5.050	26 April 2023	26 April 2033	30,000,000
AUD	70,000,000	3M BBSW + 0.905	28 April 2023	28 April 2028	70,000,000

Currency	Original Principal Amount	Interest Rate	Issue Date	Maturity Date	Principal Amount Outstanding as of 31 December 2023
		(%)			
AUD	37,000,000	5.100	28 April 2023	28 April 2033	37,000,000
AUD	30,000,000	5.000	15 May 2023	15 May 2033	30,000,000
AUD	60,000,000	6.340	2 November 2023	2 November 2033	60,000,000
AUD	40,000,000	6.310	2 November 2023	2 November 2033	40,000,000
AUD	35,000,000	6.120	28 November 2023	28 November 2038	35,000,000
AUD	32,000,000	6.150	8 December 2023	8 December 2038	32,000,000
		Subtotal in Original Currency			AUD 2,031,000,000
		Subtotal in Equivalent Amount of Won[8]			₩ 1,787,442,480,000
IDR	680,000,000,000	6.000	22 January 2020	22 January 2025	680,000,000,000
IDR	615,000,000,000	6.000	23 January 2020	23 January 2025	615,000,000,000
		Subtotal in Original Currency			IDR 1,295,000,000,000
		Subtotal in Equivalent Amount of Won[9]			₩ 108,262,000,000
INR	3,712,500,000	5.980	13 October 2021	13 October 2026	3,712,500,000
		Subtotal in Original Currency			INR 3,712,500,000
		Subtotal in Equivalent Amount of Won[10]			₩ 57,543,750,000
NOK	400,000,000	2.905	21 July 2015	21 July 2025	400,000,000
		Subtotal in Original Currency			NOK 400,000,000
		Subtotal in Equivalent Amount of Won[11]			₩ 50,564,000,000
THB	1,500,000,000	1.580	14 January 2020	14 January 2025	1,500,000,000
THB	1,500,000,000	1.530	15 January 2020	15 January 2025	1,500,000,000
THB	1,580,000,000	1.170	3 March 2020	3 March 2025	1,580,000,000
		Subtotal in Original Currency			THB 4,580,000,000
		Subtotal in Equivalent Amount of Won[12]			₩ 172,299,600,000
GBP	36,000,000	2.045	18 March 2022	18 March 2029	36,000,000
GBP	25,000,000	2.190	6 April 2022	6 April 2032	25,000,00
GBP	25,000,000	SONIA+0.45	15 January 2022	15 January 2024*	25,000,00
		Subtotal in Original Currency			GBP 86,000,000
		Subtotal in Equivalent Amount of Won[13]			₩ 141,193,940,000
SGD	28,000,000	3.050	16 August 2022	28 June 2024	28,000,000
SGD	20,000,000	3.700	8 September 2023	8 September 2026	20,000,000
SGD	15,000,000	3.950	17 November 2023	15 November 2024	15,000,000
		Subtotal in Original Currency			SGD 63,000,000
		Subtotal in Equivalent Amount of Won[14]			₩ 61,542,180,000
SEK	400,000,000	1.830	10 August 2017	10 August 2027	400,000,000
SEK	400,000,000	1.815	16 August 2017	16 August 2027	400,000,000
SEK	410,000,000	1.740	30 November 2017	30 November 2027	410,000,000
SEK	200,000,000	2.010	27 February 2018	27 February 2028	200,000,000
		Subtotal in Original Currency			SEK 1,410,000,000
		Subtotal in Equivalent Amount of Won[15]			₩ 181,890,000,000
MXN. . . .	3,500,000,000	TIIE28+0.20	14 July 2022	9 July 2026	3,500,000,000
		Subtotal in Original Currency			MXN 3,500,000,000
		Subtotal in Equivalent Amount of Won[16]			₩ 265,895,000,000
Total External Bonds of KDB in Equivalent Amount of Won					₩43,777,190,975,000

Notes:

* Repaid on the respective maturity dates.

(1) U.S. dollar amounts are converted to Won amounts at the rate of U.S.$1.00 to Won 1,289.40, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(2) New Zealand dollar amounts are converted to Won amounts at the rate of NZD 1.00 to Won 816.45, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(3) Hong Kong dollar amounts are converted to Won amounts at the rate of HKD1.00 to Won 165.06, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(4) Chinese offshore renminbi amounts are converted to Won amounts at the rate of CNH 1.00 to Won 180.84, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(5) Euro amounts are converted to Won amounts at the rate of EUR 1.00 to Won 1,426.59, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(6) Swiss franc amounts are converted to Won amounts at the rate of CHF 1.00 to Won 1,526.82, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(7) Brazilian real amounts are converted to Won amounts at the rate of BRL 1.00 to Won 265.73, the prevailing market rate on 29 December 2023.

(8) Australian dollar amounts are converted to Won amounts at the rate of AUD 1.00 to Won 880.08, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(9) Indonesian rupiah amounts are converted to Won amounts at the rate of IDR 100.00 to Won 8.36, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(10) Indian Rupee amounts are converted to Won amounts at the rate of INR 1.00 to Won 15.50, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(11) Norwegian Krone amounts are converted to Won amounts at the rate of NOK 1.00 to Won 126.41, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(12) Thai Baht amounts are converted to Won amounts at the rate of THB 1.00 to Won 37.62, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(13) Great Britain Sterling amounts are converted to Won amounts at the rate of GBP 1.00 to Won 1,641.79, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(14) Singapore dollar amounts are converted to Won amounts at the rate of SGD 1.00 to Won 976.86, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(15) Swedish Krona amounts are converted to Won amounts at the rate of SEK 1.00 to Won 129.00, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(16) Mexican Peso amounts are converted to Won amounts at the rate of MXN 1.00 to Won 75.97, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(2) External Borrowings of KDB

Lender	**Classifications**	**Range of Interest Rate**	**Range of Years of Issue**	**Range of Years of Maturity**	**Principal Amount Outstanding as of 31 December 2023[(1)]**
		(%)			*(millions of Won)*
Mizuho and others	Bank loans from foreign funds	4.21~6.24	2022~2023	2024~2028	2,076,759
The Export-Import Bank of Korea	Exchange equalisation fund borrowings in foreign currencies	6.30~6.43	2014~2015	2024	23,931
Central Bank of the Republic of Uzbekistan and others	Off-shore short-term borrowings	5.05~5.80	2023	2024	2,185,972
China Development Bank and others	Off-shore long-term borrowings	2.42~6.18	2023	2024~2026	1,825,674
Others	Short-term borrowings in foreign currency	0.14~7.24	2023	2024	13,730,337
	Long-term borrowings in foreign currency	0.41~7.38	2021~2023	2024~2027	824,280
Total External Borrowings of KDB					20,666,953

Note:

(1) Converted to Won amounts at the relevant market average exchange rates in effect on 29 December 2023 as announced by Seoul Money Brokerage Services, Ltd.

(B) Internal Debt of KDB

Title	Range of Interest Rates	Range of Years of Issue	Range of Years of Original Maturity	Principal Amounts Outstanding as of 31 December 2023
	(%)			*(millions of Won)*
1. Bonds				
Short-term Industrial Finance Bonds	3.50~4.15	2023	2024	6,220,109
Long-term Industrial Finance Bonds	0.96~7.05	2007~2023	2013~2053	110,101,634
Total Bonds	0.96~7.05	2007~2023	2013~2053	116,321,743
2. Borrowings				
Borrowings from the Ministry of Economy and Finance	3.23~3.31	2004~2012	2024~2032	77,629
Borrowings from Korea SMEs and Startups Agency	1.26~2.40	2016~2023	2024~2033	59,171
Borrowings from the Ministry of Culture, Sports and Tourism	1.48~2.73	2011~2023	2024~2035	3,080,914
Borrowings from Korea Energy Agency	1.00~1.75	2009~2023	2024~2043	256,472
Others[(1)]	0.10~3.41	2003~2023	2024~2044	1,312,996
Total Borrowings[(2)]				4,787,182
3. Other Debt[(3)]				30,095
Total Internal Floating Debt[(4)]				6,669,070
Total Internal Funded Debt[(5)]				114,469,950
Total Internal Debt				121,139,020

Notes:

(1) Includes borrowings from local governments, The Bank of Korea, the petroleum enterprises support fund and others.

(2) Consist of short term borrowings in the amount of ₩418,866 million and long term borrowings in the amount of ₩4,368,316 million.

(3) Other debt includes bonds sold under repurchase agreements and call money.

(4) Floating debt is debt that has a maturity at issuance of less than one year.

(5) Funded debt is debt that has a maturity at issuance of one year or more.

FINANCIAL STATEMENTS AND THE AUDITORS

The Government elects the Guarantor's Auditor who is responsible for examining the Guarantor's financial operations and auditing the Guarantor's financial statements and records. The present Auditor is Tae Hyun Joo, who was appointed by the Financial Services Commission for a three-year term on 15 March 2021. Although his term of office expired on 14 March 2024, he is continuing his duties as the Guarantor's Auditor until a successor is appointed, as permitted under the Korean Commercial Code.

The Guarantor prepares its financial statements annually for submission to the Financial Services Commission, accompanied by an opinion of the Auditor. Although the Guarantor is not legally required to have financial statements audited by external independent auditors, an independent public accounting firm has audited the Guarantor's separate and consolidated financial statements commencing with such financial statements as of and for the year ended 31 December 1998. As of the date of this Offering Circular, the Guarantor's external independent auditor is Nexia Samduk, located at 12th Floor, S&S Building, 48 Ujeongguk-ro, Jongno-gu, Seoul 03145, Korea, which has audited the Guarantor Financial Statements included elsewhere in this Offering Circular.

The Guarantor Financial Statements appearing in this Offering Circular were prepared in conformity with Korean IFRS, as summarised in Note 2 of Notes to the Guarantor Financial Statements included elsewhere in this Offering Circular. These principles and procedures differ in certain material respects from generally accepted accounting principles in the United States.

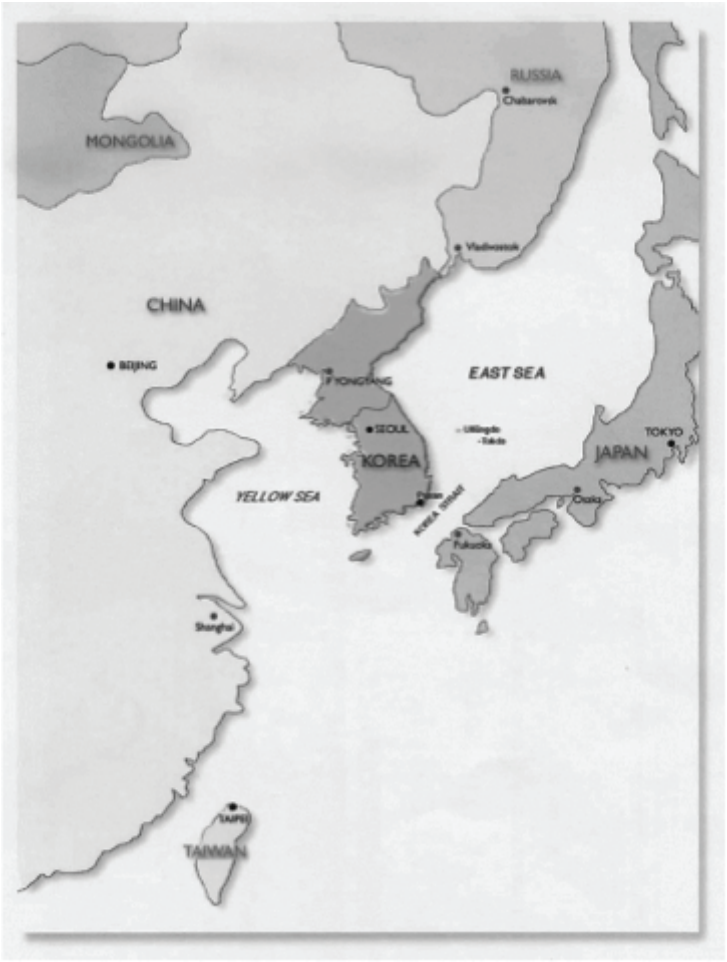
THE REPUBLIC OF KOREA

LAND AND HISTORY

Territory and Population

Located generally south of the 38th parallel on the Korean peninsula, The Republic of Korea covers about 38,000 square miles, approximately one-fourth of which is arable. The Republic has a population of approximately 51 million people. The country's largest city and capital, Seoul, has a population of about 10 million people.

Map of the Republic of Korea



POLITICAL HISTORY

Dr Rhee Seungman, who was elected President in each of 1948, 1952, 1956 and 1960, dominated the years after the Republic's founding in 1948. Shortly after President Rhee's resignation in 1960 in response to student-led demonstrations, a group of military leaders headed by Park Chung Hee assumed power by coup. The military leaders established a civilian government, and the country elected Mr Park as President in October 1963. President Park served as President until his assassination in 1979 following a period of increasing strife between the Government and its critics. The Government declared martial law and formed an interim government under Prime Minister Choi Kyu Hah, who became the next President. After clashes between the Government and its critics, President Choi resigned, and General Chun Doo Hwan, who took control of the Korean army, became President in 1980.

In late 1980, the country approved, by national referendum, a new Constitution, providing for indirect election of the President by an electoral college and for certain democratic reforms, and shortly thereafter, in early 1981, re-elected President Chun.

Responding to public demonstrations in 1987, the legislature revised the Constitution to provide for direct election of the President. In December 1987, Roh Tae Woo won the presidency by a narrow plurality, after opposition parties led by Kim Young Sam and Kim Dae Jung failed to unite behind a single candidate. In February 1990, two opposition political parties, including the one led by Kim Young Sam, merged into President Roh's ruling Democratic Liberal Party.

In December 1992, the country elected Kim Young Sam as President. The election of a civilian and former opposition party leader considerably lessened the controversy concerning the legitimacy of the political regime. President Kim's administration reformed the political sector and deregulated and internationalised the Korean economy.

In December 1997, the country elected Kim Dae Jung as President. President Kim's party, the Millennium Democratic Party (formerly known as the National Congress for New Politics), formed a coalition with the United Liberal Democrats led by Kim Jong Pil, with Kim Jong Pil becoming the first prime minister in President Kim's administration. The coalition, which temporarily ended before the election held in April 2000, continued with the appointment of Lee Han Dong of the United Liberal Democrats as the Prime Minister in June 2000. The coalition again ended in September 2001.

In December 2002, the country elected Roh Moo Hyun as President. President Roh and his supporters left the Millennium Democratic Party in 2003 and formed a new party, the Uri Party, in November 2003. On 15 August 2007, 85 members of the National Assembly, previously belonging to the Uri Party, or the Democratic Party, formed the United New Democratic Party, or the UNDP. The Uri Party merged into the UNDP on 20 August 2007. In February 2008, the UNDP merged back into the Democratic Party. In December 2011, the Democratic Party merged with the Citizens Unity Party to form the Democratic United Party, which changed its name to the Democratic Party in May 2013.

In December 2007, the country elected Lee Myung-Bak as President. He commenced his term in February 2008. In April 2018, the Korean prosecutor's office indicted former President Lee on 16 counts of corruption, including bribery, abuse of power, embezzlement and other irregularities. In October 2018, a Seoul district court sentenced him to 15 years of prison term, which decision he subsequently appealed. In October 2020, the Supreme Court ruled against such appeal and sentenced him to 17 years of prison term. Subsequently, he was granted a special pardon by President Yoon, the current president of the Republic, and was released from prison in December 2022.

In December 2012, the country elected Park Geun-hye as President. She commenced her term in February 2013. In March 2017, the Constitutional Court unanimously upheld a parliamentary vote to impeach President Park, triggering her immediate dismissal, for a number of constitutional and criminal violations, including violation of the Constitution and abuse of power by allowing her confidant to exert influence on state affairs and allowing senior presidential aides to aid in her extortion from companies. After a series of trials, former President Park was sentenced to a combined 22 years of prison term and a fine of ₩21.5 billion. In light of her deteriorating health, however, former President Park was granted a special pardon by President Moon, her successor, and was released from prison in December 2021.

A special election to elect a successor to former President Park was held in May 2017 and the country elected Moon Jae-in as President. His term, which commenced on 10 May 2017, ended on 9 May 2022.

In March 2022, the country elected Yoon Suk-yeol as President. His term commenced on 10 May 2022. The Yoon administration's key policy objectives include, among others, the following:

- mitigating the adverse effects of the COVID-19 pandemic on the Korean economy, including through the provision of relief packages in support of small businesses and the self-employed;

- stabilising the housing market by increasing the supply of new homes and reforming property-related tax regulations;

- pursuing economic prosperity by promoting private sector growth and supporting the semiconductor, artificial intelligence, battery and other strategic industries;

- pursuing the denuclearisation of the Korean Peninsula, enhancing Korea's core military capabilities and improving foreign relations and national security;

- pursuing enhanced environmental, social and corporate governance management, including through efforts to achieve carbon neutrality by reversing the previous administration's nuclear-phase out policy and combining renewable energy with nuclear power generation; and

- pursuing efficient management of the government through various measures, including the establishment of a digital platform and the relocation of presidential offices.

GOVERNMENT AND POLITICS

Government and Administrative Structure

Governmental authority in the Republic is centralised and concentrated in a strong presidency. The President is elected by popular vote and can only serve one term of five years. The President chairs the State Council, which consists of the President, the prime minister, the deputy prime ministers, the respective heads of Government ministries and the ministers of state. The President can select the members of the State Council and appoint or remove all other Government officials, except for elected local officials.

The President can veto new legislation and take emergency measures in cases of natural disaster, serious fiscal or economic crisis, state of war or other similar circumstances. The President must promptly seek the concurrence of the National Assembly for any emergency measures taken and failing to do so automatically invalidates the emergency measures. In the case of martial law, the President may declare martial law without the consent of the National Assembly; provided, however, that the National Assembly may request the President to rescind such martial law.

The National Assembly exercises the country's legislative power. The Constitution and the Public Official Election Act provide for the direct election of about 84 per cent. of the members of the National Assembly and the distribution of the remaining seats proportionately among parties winning more than five seats in the direct election or receiving over 3 per cent. of the popular vote. National Assembly members serve four-year terms. The National Assembly enacts laws, ratifies treaties and approves the national budget. The executive branch drafts most legislation and submits it to the National Assembly for approval.

The country's judicial branch comprises the Supreme Court, the Constitutional Court and lower courts of various levels. The President appoints the Chief Justice of the Supreme Court and appoints the other Justices of the Supreme Court upon the recommendation of the Chief Justice. All appointments to the Supreme Court require the consent of the National Assembly. The Chief Justice, with the consent of the conference of Supreme Court Justices, appoints all the other judges in Korea. Supreme Court Justices serve for six years and all other judges serve for ten years. Other than the Chief Justice, justices and judges may be reappointed to successive terms.

The President formally appoints all nine judges of the Constitutional Court, but three judges must be designated by the National Assembly and three by the Chief Justice of the Supreme Court. Constitutional Court judges serve for six years and may be reappointed to successive terms.

Administratively, the Republic comprises six provinces (Gyeonggi, Chungbuk, Chungnam, Jeonnam, Gyeongbuk and Gyeongnam), three special autonomous provinces (Jeju, Gangwon and Jeonbuk), one special city (Seoul), six metropolitan cities (Busan, Daegu, Incheon, Gwangju, Daejeon and Ulsan) and one special autonomous city (Sejong). From 1961 to 1995, the national government controlled the provinces and the President appointed provincial officials. Local autonomy, including the election of provincial officials, was reintroduced in June 1995.

Political Parties

The 22nd legislative general election was held on 10 April 2024 and the term of the National Assembly members elected in the 22nd legislative general election commenced on 30 May 2024. Currently, there are three major political parties: The Democratic Party of Korea, or the DPK, the People Power Party, or the PPP, and the Rebuilding Korea Party, or the RKP.

As of 25 June 2024, the parties control the following number of seats in the National Assembly:

	DPK	PPP	RKP	Others	Total
Number of seats	170	108	12	10	300

Relations with North Korea

Relations between the Republic and North Korea have been tense over most of the Republic's history. The Korean War began with the invasion of the Republic by communist forces from the north in 1950, which was repelled by the Republic and the United Nations forces led by the United States. Following a military stalemate, an armistice was reached establishing a demilitarised zone monitored by the United Nations in the vicinity of the 38th parallel in 1953.

North Korea maintains a military force estimated at more than a million regular troops, mostly concentrated near the northern side of the demilitarised zone, and approximately 7.6 million reserves. The Republic's military forces, composed of approximately 500,000 regular troops and 3.1 million reserves, maintain a state of military preparedness along the southern side of the demilitarised zone. In addition, the United States has maintained its military presence in the Republic since the signing of the armistice and currently has approximately 28,500 troops stationed in the Republic. The Republic and the United States share a joint command structure over their military forces in Korea. In October 2014, the United States and the Republic agreed to implement a conditions-based approach to the dissolution of their joint command structure at an appropriate future date, which would allow the Republic to assume the command of its own armed forces in the event of war on the Korean peninsula. Over the years, the Republic and the United States have entered into a series of Special Measures Agreements, or SMAs, which cover the Republic's contribution to the cost of maintaining the U.S. military presence in the Republic. In March 2021, the Republic and the United States reached an agreement to enter into a new six-year SMA, under which the Republic would increase its share of the cost of the American military presence in the Republic, which became effective in September 2021 upon ratification by the National Assembly.

The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of current and future events. In particular, since the death of Kim Jong-il in December 2011, there has been increased uncertainty with respect to the future of North Korea's political leadership and concern regarding its implications for political and economic stability in the region. Kim Jong-il's third son, Kim Jong-un, has assumed power as his father's designated successor.

In addition, there have been heightened security concerns in recent years stemming from North Korea's nuclear weapons, ballistic missile and satellite programmes as well as its hostile military and other actions against Korea. Some of the significant incidents in recent years include the following:

- From time to time, North Korea has conducted ballistic missile tests. In February 2016, North Korea launched a long-range rocket in violation of its agreement with the United States as well as United Nations sanctions barring it from conducting launches that use ballistic missile technology. Despite international condemnation, North Korea released a statement that it intends to continue its rocket launch programme and it conducted a series of ballistic missile tests in 2016 and 2017. In response, the United Nations Security Council issued unanimous statements condemning North Korea and agreeing to continue to closely monitor the situation and to take further significant measures, and in December 2017, unanimously passed a resolution extending existing sanctions that were imposed on North Korea. Despite such actions, North Korea increased the frequency of its military actions since the beginning of 2022, firing numerous ballistic missiles, including intercontinental ballistic missiles, and in November 2023, successfully launched its first spy satellite.

- North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted three rounds of nuclear tests between October 2006 and February 2013. In January 2016, North Korea conducted a fourth nuclear test, claiming that the test involved its first hydrogen bomb. In September 2016, North Korea conducted a fifth nuclear test, claiming to have successfully detonated a nuclear warhead that could be mounted on ballistic missiles. In September 2017, North Korea announced that it successfully conducted its sixth nuclear test by detonating a hydrogen bomb designed to be mounted on an intercontinental ballistic missile, which resulted in increased tensions in the region and elicited strong objections worldwide. In response to such tests (as well as North Korea's long-range ballistic missile program), the United Nations Security Council unanimously passed several rounds of resolutions condemning North Korea's actions and significantly expanding the scope of the sanctions applicable to North Korea, while the United States and the European Union also imposed additional sanctions on North Korea.

- In August 2015, two Korean soldiers were injured in a landmine explosion near the Korean demilitarised zone. Claiming the landmines were set by North Koreans, the Korean army re-initiated its propaganda programme toward North Korea utilising loudspeakers near the demilitarised zone. In retaliation, the North Korean army fired artillery rounds on the loudspeakers, resulting in the highest level of military readiness for both Koreas.

- In March 2010, a Korean naval vessel was destroyed by an underwater explosion, killing many of the crewmen on board. The Government formally accused North Korea of causing the sinking, while North Korea denied responsibility. Moreover, in November 2010, North Korea fired more than one hundred artillery shells that hit Korea's Yeonpyeong Island near the Northern Limit Line, which acts as the de facto maritime boundary between Korea and North Korea on the west coast of the Korean peninsula, causing casualties and significant property damage. The Government condemned North Korea for the attack and vowed stern retaliation should there be further provocation.

North Korea's economy also faces severe challenges, which may further aggravate social and political pressures within North Korea. Although bilateral summit meetings were held between Korea and North Korea in April, May and September 2018 and between the United States and North Korea in June 2018, February 2019 and June 2019, there can be no assurance that the level of tension on the Korean peninsula will not escalate in the future or that such escalation will not have a material adverse impact on the Republic's economy and the Issuer and the Guarantor. Any further increase in tension, which may occur, for example, if North Korea experiences a leadership crisis, high-level contacts between the Republic and North Korea or between the United States and North Korea break down or further military hostilities occur, could have a material adverse effect on the Republic's economy and the Issuer and the Guarantor. Over the longer term, reunification of the two Koreas could occur. Reunification may entail a significant economic commitment by the Republic.

Foreign Relations and International Organisations

The Republic maintains diplomatic relations with most nations of the world, most importantly with the United States with which it entered into a mutual defence treaty and several economic agreements. The Republic also has important relationships with Japan and China, its largest trading partners together with the United States.

The Republic belongs to a number of supranational organisations, including:

- United Nations;
- the International Monetary Fund, or the IMF;
- the World Bank;
- the Asian Development Bank, or the ADB;
- the Multilateral Investment Guarantee Agency;
- the International Finance Corporation;
- the International Development Association;
- the African Development Bank;
- the International Bank for Reconstruction and Development;
- the European Bank for Reconstruction and Development;
- the Bank for International Settlements;
- the World Health Organization, or the WHO;
- the World Trade Organization, or the WTO;
- the International Atomic Energy Agency, or the IAEA;
- the Inter-American Development Bank, or the IDB;
- the Organization for Economic Cooperation and Development, or the OECD; and
- the Asian Infrastructure Investment Bank.

The Economy

The following table sets forth information regarding certain of the Republic's key economic indicators for the periods indicated.

	As of or for the year ended 31 December				
	2019	**2020**	**2021**	**2022**	**2023**
	(billions of dollars and trillions of Won, except percentages)				
GDP Growth (at current prices)	1.7%	0.9%	7.9%	4.6%	3.3%[7]
GDP Growth (at chained 2020 year prices)	2.3%	(0.7)%	4.6%	2.7%	1.4%[7]
Inflation[1]	0.4%	0.5%	2.5%	5.1%	3.6%[7]
Unemployment[2]	3.8%	4.0%	3.7%	2.9%	2.7%[7]
Trade Surplus (Deficit)[3]	38.9	44.9	29.3	(47.8)	(10.2)[7]
Foreign Currency Reserves	$408.8	$443.1	$463.1	$423.2	$420.1
External Liabilities[4]	$470.7	$550.6	$630.7	$665.2	$663.6[7]
Fiscal Balance	₩(12.0)	₩(71.2)	₩(30.5)	₩(64.6)	₩(36.8)[7]
Direct Internal Debt of the Government[5] (as % of GDP[6])	33.3%	39.3%	43.1%	46.2%	48.2%[7]
Direct External Debt of the Government[5] (as % of GDP[6])	0.4%	0.5%	0.5%	0.5%	0.5%[7]

Notes:

(1) Measured by the year-on-year change in the consumer price index with base year 2020, as announced by The Bank of Korea.

(2) Average for year.

(3) Derived from customs clearance statistics on a C.I.F. basis, meaning that the price of goods includes insurance and freight cost.

(4) Calculated under the criteria based on the sixth edition of the Balance of Payment Manual published by the International Monetary Fund in December 2010.

(5) Does not include guarantees by the Government. See "– *Debt – External and Internal Debt of the Government – Guarantees by the Government*" for information on outstanding guarantees by the Government.

(6) At chained 2020 year prices.

(7) Preliminary.

Source: The Bank of Korea

Worldwide Economic and Financial Difficulties

In recent years, the global financial markets have experienced significant volatility as a result of, among other things:

- the occurrence of severe health epidemics, including the COVID-19 pandemic;
- hostilities, political or social tensions involving Russia (including the invasion of Ukraine by Russia and ensuing actions that the United States and other countries have taken or may take in the future, such as the imposition of sanctions against Russia) and the resulting adverse effects on the global supply of oil and other natural resources and the global financial markets;
- rising inflationary pressures leading to increases in the costs of goods and services and a decrease in purchasing power;
- interest rate fluctuations as well as perceived or actual changes in policy rates, or other monetary and fiscal policies set forth, by the U.S. Federal Reserve and other central banks;

- disruptions in the global supply chain for raw materials, natural resources, consumer goods, rare earth minerals, component parts and other supplies, including as a result of health epidemics, government policies and labour shortages;

- increased uncertainties in the global financial markets and industry, including difficulties faced by several banks in the United States and Europe;

- a deterioration in economic and trade relations between the United States and its major trading partners, including China;

- financial and social difficulties affecting many governments worldwide, in particular in Latin America and Europe;

- escalations in trade protectionism globally and geopolitical tensions in East Asia and the Middle East (including those resulting from the escalation of hostilities in the Middle East following the Israel-Hamas war);

- the slowdown of economic growth in China and other major emerging market economies;

- political and social instability in various countries in the Middle East, including Iran, Iraq, Syria and Yemen; and

- fluctuations in oil and commodity prices.

There has been significant volatility in global financial markets resulting from, among others, the COVID-19 pandemic, Russia's invasion of Ukraine and ensuing sanctions against Russia, the escalation of hostilities in the Middle East following the Israel-Hamas war, and more recently, difficulties faced by several banks in the United States and Europe, which has also led to significant volatility in the Korea Composite Stock Price Index in recent years. See "– *The Financial System – Securities Markets*". Declines in the index and large amounts of sales of Korean securities by foreign investors and subsequent repatriation of the proceeds of such sales may adversely affect the value of the Won, the foreign currency reserves held by financial institutions in Korea, and the ability of Korean companies and banks to raise capital. Moreover, the value of the Won relative to major foreign currencies in general and the U.S. dollar in particular has fluctuated widely. A depreciation of the Won generally increases the cost of imported goods and services and the required amount of the Won revenue for Korean companies to service foreign currency-denominated debt.

In light of the high level of interdependence of the global economy, any of the foregoing developments could have a material adverse effect on the Korean economy and financial markets. In addition, in the event of difficult conditions in the global credit markets or a deterioration of the global economy in the future, the Korean economy could be adversely affected and Korean banks may be forced to fund their operations at a higher cost or may be unable to raise as much funding as they need to support their lending and other activities.

In addition to the global developments, domestic developments that could lead to or contribute to a material adverse effect on the Korean economy include, among other things, the following:

- a slowdown in consumer spending and depressed consumer sentiment due to the outbreak of infectious diseases, such as the COVID-19 pandemic;

- increasing delinquencies and credit defaults by consumer and small- and medium-sized enterprise borrowers, which may occur due to, among others, the impact of the COVID-19 pandemic and the rise in interest rates;

- steadily rising household debt consisting of housing loans and merchandise credit, which increased to approximately Won 1,886.4 trillion as of 31 December 2023 from Won 843.2 trillion as of 31 December 2010, primarily due to increases in mortgage loans and purchases with credit cards;

- deterioration in economic or diplomatic relations between Korea and other countries resulting from territorial or trade disputes or disagreements in foreign policy;

- a substantial increase in the Government's expenditures for (i) fiscal stimulus measures to provide emergency relief payments to households and emergency loans to corporations in need of funding due to the COVID-19 pandemic and (ii) pension and social welfare programmes, due in part to an aging population (defined as the population of people aged 65 years or older) that accounted for approximately 18.2 per cent. of the Republic's total population as of 31 December 2023, an increase from 7.2 per cent. as of 31 December 2000, and is expected to surpass 21.6 per cent. in 2026;

- decreases in the market prices of Korean real estate; and

- the occurrence of severe health epidemics that affect the livestock industry.

The spread of the COVID-19 pandemic since early 2020 had resulted in significant economic and financial disruptions in Korea. Although the Korean economy has mostly recovered from the COVID-19 pandemic, the outlook for the Republic's economy and its financial services sector in 2024 and for the foreseeable future remains uncertain due to the residual impact of the COVID-19 pandemic on the Korean and global economies and financial markets, fluctuations in oil and commodity prices, interest rates and exchange rates, rising inflationary pressures, higher unemployment, lower consumer confidence, stock market volatility, changes in fiscal and monetary policies, the ongoing military conflict involving Russia and Ukraine, difficulties faced by several banks in the United States and Europe, the escalation of hostilities in the Middle East following the Israel-Hamas war, and continued tensions with North Korea.

Gross Domestic Product

GDP measures the market value of all final goods and services produced within a country for a given period and reveals whether a country's productive output rises or falls over time. Economists present GDP in both current market prices and "real" or "inflation-adjusted" terms. In March 2009, the Republic adopted a method known as the "chain-linked" measure of GDP, replacing the previous fixed-base, or "constant" measure of GDP, to show the real growth of the aggregate economic activity, as recommended by the System of National Accounts 1993. GDP at current market prices values a country's output using the actual prices of each year, whereas the "chain-linked" measure of GDP is compiled by using "chained indices" linking volume growth between consecutive time periods. In March 2014, the Republic published a revised GDP calculation method by implementing the System of National Accounts 2008 and updating the reference year from 2005 to 2010 to align Korean national accounts statistics with the recommendations of the new international standards for compiling national economic accounts and to maintain comparability with other nations' accounts. The main components of these revisions include, among other things, (i) recognising expenditures for research and development and creative activity for the products of entertainment, literary and artistic originals as fixed investment, (ii) incorporating a wide array of new and revised source data such as the economic census, the population and housing census and 2010 benchmark input-output tables, which provide thorough and detailed information on the structure of the Korean economy, (iii) developing supply-use tables, which provide a statistical tool for ensuring consistency among the production, expenditure and income approaches to measuring GDP and (iv) recording merchandise trade transactions based on ownership changes rather than movements of goods across the national border. The Republic has updated the reference year from 2010 to 2015 in July 2019, and from 2015 to 2020 in June 2024, to better align Korean national accounts statistics with the recommendations of the previously implemented System of National Accounts 2008, to accurately reflect recent economic structural changes, and to maintain comparability with other countries' accounts.

The following table sets out the composition of the Republic's GDP at current market and chained 2020 year prices and the annual average increase in the Republic's GDP.

Gross Domestic Product

	2019	2020	2021	2022	2023[1]	As % of GDP 2023[1]
			(billions of Won)			
Gross Domestic Product at Current Market Prices:						
Private	1,022,456.7	984,088.0	1,046,772.2	1,139,397.2	1,197,566.9	49.9
Government	327,780.4	349,586.2	378,268.2	409,866.5	423,133.2	17.6
Gross Capital Formation	636,575.4	648,928.8	721,964.5	774,411.5	774,563.6	32.3
Exports of Goods and Services	755,863.2	712,542.3	874,074.3	1,052,553.6	996,865.6	41.5
Less Imports of Goods and Services	(702,081.5)	(636,678.7)	(799,166.2)	(1,052,447.3)	(990,452.9)	(41.2)
Statistical Discrepancy	0.0	0.0	0.0	0.0	(487.1)	0.0
Expenditures on Gross Domestic Product	2,040,594.3	2,058,466.5	2,221,912.9	2,323,781.5	2,401,189.4	100.0
Net Factor Income from the Rest of the World	16,609.8	16,943.8	23,413.6	28,055.4	42,128.6	1.8
Gross National Income[2]	2,057,204.1	2,075,410.3	2,245,326.5	2,351,837.0	2,443,318.1	101.8
Gross Domestic Product at Chained 2020 Year Prices:						
Private	1,031,986.0	984,088.0	1,020,878.4	1,063,928.5	1,082,682.9	48.3
Government	332,258.6	349,586.2	369,293.7	384,235.8	389,091.8	17.3
Gross Capital Formation	643,841.6	648,928.8	675,845.0	676,282.5	681,957.7	30.4
Exports of Goods and Services	724,600.9	712,542.3	789,432.2	820,347.6	849,926.1	37.9
Less Imports of Goods and Services	(658,136.3)	(636,678.7)	(701,537.0)	(730,672.0)	(756,395.9)	(33.7)
Statistical Discrepancy	(748.6)	0.0	(489.4)	(842.9)	(886.5)	0.0
Expenditures on Gross Domestic Product[3]	2,072,982.4	2,058,466.5	2,153,422.9	2,212,158.9	2,243,220.4	100.0
Net Factor Income from the Rest of the World in the Terms of Trade	16,485.9	16,943.8	22,553.7	25,584.2	38,122.9	1.7
Trading Gains and Losses from Changes in the Terms of Trade	(17,145.8)	0.0	(21,620.0)	(94,623.4)	(91,400.4)	(4.1)
Gross National Income[4]	2,072,357.0	2,075,410.3	2,154,356.5	2,143,107.5	2,189,886.8	97.6
Percentage Increase (Decrease) of GDP over Previous Year:						
At Current Prices	1.7	0.9	7.9	4.6	3.3	
At Chained 2020 Year Prices	2.3	(0.7)	4.6	2.7	1.4	

Notes:

(1) Preliminary.

(2) GDP plus net factor income from the rest of the world is equal to the Republic's gross national income.

(3) Under the "chain-linked" measure of GDP, the components of GDP will not necessarily add up to the total GDP.

(4) Under the "chain-linked" measure of Gross National Income, the components of Gross National Income will not necessarily add up to the total Gross National Income.

Source: The Bank of Korea

The following table sets out the Republic's GDP by economic sector at current market prices:

Gross Domestic Product by Economic Sector (at current market prices)

	2019	2020	2021	2022	2023[1]	As % of GDP 2023[1]
			(billions of Won)			
Industrial Sectors	717,338.0	719,110.4	773,620.4	789,147.0	824,491.9	34.3
Agriculture, Forestry and Fishing	30,749.6	32,481.6	36,998.4	33,656.4	34,325.0	1.4
Manufacturing, Mining and Quarrying	539,992.2	530,768.1	585,053.1	617,557.4	617,134.7	25.7
Mining and Quarrying	1,883.9	1,737.2	1,843.5	1,807.8	2,261.3	0.1
Manufacturing	538,108.3	529,030.9	583,209.6	615,749.6	614,873.4	25.6
Electricity, Gas and Water Supply	38,151.4	45,605.3	37,579.5	16,493.8	42,538.6	1.8
Construction	108,444.8	110,255.4	113,989.4	121,439.4	130,493.6	5.4
Services	1,161,848.5	1,171,665.8	1,264,275.9	1,349,454.4	1,405,368.8	58.5
Wholesale and Retail Trade, Accommodation and Food Services	226,821.5	214,871.3	227,253.6	248,366.2	265,510.1	11.1
Transportation and Storage	71,042.4	66,603.8	82,702.3	95,655.6	94,378.8	3.9
Finance and Insurance	103,072.5	110,016.4	124,021.2	136,404.4	138,566.4	5.8
Real Estate	153,138.6	161,030.1	162,658.9	158,314.6	160,025.3	6.7
Information and Communication	84,153.0	89,215.3	102,319.0	103,549.3	106,049.4	4.4
Business Activities	151,040.4	156,652.6	166,098.7	177,636.8	186,753.6	7.8
Public Administration, Defence and Social Security	123,791.6	129,850.9	138,688.7	149,078.6	155,208.6	6.5
Education	91,337.2	90,436.1	96,862.5	101,581.8	103,917.0	4.3
Human Health and Social Work	101,960.5	106,034.6	114,340.0	123,519.0	131,995.9	5.5
Cultural and Other Services	55,490.8	46,954.8	49,330.9	55,348.1	62,963.6	2.6
Taxes Less Subsidies on Products	161,407.8	167,690.3	184,016.7	185,180.2	171,328.7	7.1
Gross Domestic Product at Current Market Prices	2,040,594.3	2,058,466.5	2,221,912.9	2,323,781.5	2,401,189.4	100.0
Net Factor Income from the Rest of the World	16,609.8	16,943.8	23,413.6	28,055.4	42,128.6	1.8
Gross National Income at Current Market Price	2,057,204.1	2,075,410.3	2,245,326.5	2,351,837.0	2,443,318.1	101.8

Note:

(1) Preliminary.

Source: The Bank of Korea

The following table sets out the Republic's GDP per capita:

Gross Domestic Product per capita (at current market prices)

	2019	2020	2021	2022	2023[1]
GDP per capita (thousands of Won)	39,420	39,711	42,919	44,971	46,433
GDP per capita (U.S. dollar)	33,819	33,652	37,503	34,809	35,570
Average Exchange Rate (in Won per U.S. dollar)	1,165.7	1,180.1	1,144.4	1,292.0	1,305.4

Note:

(1) Preliminary.

Source: The Bank of Korea

The following table sets out the Republic's Gross National Income, or GNI, per capita:

Gross National Income per capita (at current market prices)

	2019	2020	2021	2022	2023[(1)]
GNI per capita (thousands of Won)	39,741	40,038	43,372	45,514	47,248
GNI per capita (U.S. dollar)	34,094	33,929	37,898	35,229	36,194
Average Exchange Rate (in Won per U.S. dollar)	1,165.7	1,180.1	1,144.4	1,292.0	1,305.4

Note:

(1) Preliminary.

Source: The Bank of Korea

The following table sets out the Republic's GDP by economic sector:

Gross Domestic Product by Economic Sector (at chained 2020 year prices)

	2019	2020	2021	2022	2023[(1)]	As % of GDP 2023[(1)]
			(billions of Won)			
Industrial Sectors	730,320.1	719,110.4	754,589.3	771,177.9	782,080.7	34.9
Agriculture, Forestry and Fishing	34,808.6	32,481.6	33,598.5	33,866.3	32,972.5	1.5
Manufacturing, Mining and Quarrying	541,638.8	530,768.1	565,269.6	579,036.4	588,841.5	26.2
Mining and Quarrying	1,794.5	1,737.2	1,974.8	1,785.3	1,808.5	0.1
Manufacturing	539,843.1	529,030.9	563,294.8	577,227.8	587,008.9	26.2
Electricity, Gas and Water Supply	43,128.9	45,605.3	46,403.2	48,020.4	46,648.8	2.1
Construction	110,743.8	110,255.4	109,318.0	110,254.8	113,617.9	5.1
Services	1,176,689.5	1,171,665.8	1,222,603.2	1,269,070.6	1,295,453.4	57.7
Wholesale and Retail Trade, Accommodation and Food Services	224,177.1	214,871.3	219,693.4	231,974.4	228,939.2	10.2
Transportation and Storage	77,008.3	66,603.8	73,634.5	82,748.1	92,818.6	4.1
Finance and Insurance	100,167.6	110,016.4	117,411.7	120,645.5	121,705.1	5.4
Real Estate	155,441.6	161,030.1	163,741.0	160,447.8	160,758.7	7.2
Information and Communication	85,575.8	89,215.3	97,513.5	99,786.9	100,881.1	4.5
Business Activities	156,315.5	156,652.6	159,603.6	163,453.3	166,386.4	7.4
Public Administration, Defence and Social Security	126,186.1	129,850.9	134,868.3	139,003.2	142,043.4	6.3
Education	91,935.7	90,436.1	95,484.0	98,708.1	99,515.9	4.4
Human Health and Social Work	104,355.6	106,034.6	112,370.6	119,255.3	124,697.3	5.6
Cultural and Other Services	56,331.6	46,954.8	48,282.6	52,244.1	56,119.8	2.5
Taxes Less Subsidies on Products	165,787.9	167,690.3	176,230.4	172,134.2	164,486.4	7.3
Gross Domestic Product[(2)]	2,072,982.4	2,058,466.5	2,153,422.9	2,212,158.9	2,243,220.4	100.0

Notes:

(1) Preliminary.

(2) Under the "chain-linked" measure of GDP, the components of GDP will not necessarily add up to the total GDP.

Source: The Bank of Korea

GDP growth in 2019 was 2.3 per cent. at chained 2020 year prices, as aggregate private and general government consumption expenditures increased by 3.3 per cent. and imports of goods and services decreased by 2.0 per cent., which more than offset a decrease in gross domestic fixed capital formation by 2.1 per cent. and a decrease in exports of goods and services by 0.2 per cent., each compared with 2018.

GDP in 2020 contracted by 0.7 per cent. at chained 2020 year prices, primarily due to a 4.6 per cent. decrease in private consumption expenditures and a 1.7 per cent. decrease in exports of goods and services, which were offset in significant part by a 3.3 per cent. decrease in imports of goods and services, a 5.2 per cent. increase in general government consumption expenditures and a 2.8 per cent. increase in gross domestic fixed capital formation, each compared with 2019. The contraction of the Republic's GDP in 2020 was primarily due to the COVID-19 pandemic.

GDP growth in 2021 was 4.6 per cent. at chained 2020 year prices, as exports of goods and services increased by 10.8 per cent., aggregate private and general government consumption expenditures increased by 4.2 per cent. and gross domestic fixed capital formation increased by 4.3 per cent., which more than offset an increase in imports of goods and services by 10.2 per cent., each compared with 2020.

GDP growth in 2022 was 2.7 per cent. at chained 2020 year prices, as aggregate private and general government consumption expenditures increased by 4.2 per cent. and exports of goods and services increased by 3.9 per cent., which more than offset an increase in imports of goods and services by 4.2 per cent. and a decrease in gross fixed capital formation by 0.2 per cent., each compared with 2021.

Based on preliminary data, GDP growth in 2023 was 1.4 per cent. at chained 2020 year prices, as exports of goods and services increased by 3.6 per cent., aggregate private and general government consumption expenditures increased by 1.6 per cent. and gross domestic fixed capital formation increased by 1.4 per cent., which was offset in significant part by a 3.5 per cent. increase in imports of goods and services, each compared with 2022.

Based on preliminary data, GDP growth in the first quarter of 2024 was 3.3 per cent. at chained 2020 year prices, primarily due to a 9.1 per cent. increase in exports of goods and services, a 1.0 per cent. increase in private consumption expenditures, a 0.4 per cent. decrease in imports of goods and services and a 0.9 per cent. increase in gross domestic fixed capital formation, the effects of which were offset in part by a 0.5 per cent. decrease in general government consumption expenditures, each compared with the corresponding period of 2023.

PRINCIPAL SECTORS OF THE ECONOMY

Industrial Sectors

The following table sets out production indices for the principal industrial products of the Republic and their relative contribution to total industrial production:

Industrial Production (2020 = 100)

	Index Weight[(1)]	2019	2020	2021	2022	2023[(2)]
Industries	10,000.0	100.3	100.0	108.2	108.8	108.7
Mining and Manufacturing	9,555.0	100.3	100.0	108.2	108.8	108.7
Mining	23.0	70.2	100.0	94.2	95.8	113.9
Manufacturing	9,532.0	100.4	100.0	108.2	108.8	108.7
Food Products	485.9	96.3	100.0	111.7	114.0	109.3
Beverage Products	102.0	112.5	100.0	93.0	91.4	77.7
Tobacco Products	44.7	92.9	100.0	88.4	93.2	100.9
Textiles	110.6	121.2	100.0	104.3	100.4	82.1
Wearing Apparel, Clothing Accessories and Fur Articles	83.2	158.9	100.0	137.3	117.6	114.0
Tanning and Dressing of Leather, Luggage and Footwear	17.6	180.7	100.0	92.0	78.7	49.4
Wood and Products of Wood and Cork (Except Furniture)	31.0	94.0	100.0	80.4	89.5	94.5

	Index Weight[(1)]	2019	2020	2021	2022	2023[(2)]
Pulp, Paper and Paper Products	133.8	106.4	100.0	97.5	95.1	93.7
Printing and Reproduction of Recorded Media	43.9	119.4	100.0	109.4	129.3	117.7
Coke, hard-coal and lignite fuel briquettes and Refined Petroleum Products	354.5	107.0	100.0	98.4	101.9	104.3
Chemicals and Chemical Products	756.8	100.8	100.0	105.9	93.6	91.0
Pharmaceuticals, Medicinal Chemicals and Botanical Products	288.9	77.6	100.0	96.2	111.7	141.2
Rubber and Plastic Products	414.8	111.3	100.0	104.5	110.9	112.8
Non-metallic Minerals	213.6	110.9	100.0	107.6	96.4	84.8
Basic Metals	600.2	106.1	100.0	101.0	95.5	97.5
Fabricated Metal Products	495.9	114.3	100.0	83.7	82.7	93.4
Electronic Components, Computer, Radio, Television and Communication Equipment and Apparatuses	2,402.9	303.0	300.0	342.5	316.7	329.7
Medical, Precision and Optical Instruments, Watches and Clocks	389.1	336.9	300.0	297.5	365.1	364.4
Electrical Equipment	478.2	105.4	100.0	113.4	138.3	120.8
Other Machinery and Equipment	776.7	104.0	100.0	116.6	113.4	108.6
Motor Vehicles, Trailers and Semitrailers	1,014.2	122.8	100.0	109.6	121.0	137.1
Other Transport Equipment	144.1	98.4	100.0	93.3	108.0	103.1
Furniture	43.1	90.2	100.0	72.9	64.1	52.8
Other Products	106.3	107.0	200.0	233.0	340.0	244.0
Electricity, Gas	445.0	103.0	100.0	104.9	107.5	103.5
Total Index	10,000.0	100.3	100.0	108.2	108.8	108.7

Notes:

(1) Index weights were established on the basis of an industrial census in 2020 and reflect the average annual value added by production in each of the classifications shown, expressed as a percentage of total value added in the mining, manufacturing and electricity and gas industries in that year.

(2) Preliminary.

Source: The Bank of Korea; Korea National Statistical Office

Industrial production increased by 0.9 per cent. in 2019, primarily due to increased domestic consumption. Industrial production decreased by 0.3 per cent. in 2020, primarily due to decreased domestic consumption and exports resulting from the COVID-19 pandemic. Industrial production recovered and increased by 8.2 per cent. in 2021, primarily due to increased exports and domestic consumption. Industrial production increased by 0.6 per cent. in 2022, primarily due to increased exports and domestic consumption. Based on preliminary data, industrial production decreased by 0.1 per cent. in 2023, primarily due to decreased domestic consumption and exports.

Manufacturing

The manufacturing sector increased production by 0.9 per cent. in 2019, primarily due to increased demand for consumer electronics products and electronic components (including semiconductors). The manufacturing sector decreased production by 0.4 per cent. in 2020, primarily due to decreased demand for automobiles. The manufacturing sector increased production by 8.2 per cent. in 2021, primarily due to increased demand for consumer electronics products, electronic components (including semiconductors) and machinery. The manufacturing sector increased production by 0.6 per cent. in 2022, primarily due to increased demand for electrical equipment and automobiles. Based on preliminary data, the manufacturing sector decreased production by 0.1 per cent. in 2023, primarily due to decreased demand for electrical equipment and electronic components.

Automobiles. In 2019, automobile production decreased by 1.9 per cent., domestic sales volume recorded a decrease of 1.8 per cent. and export sales volume recorded a decrease of 2.0 per cent., compared with 2018, primarily due to decreased domestic production of automobiles resulting mainly from partial strikes by unionised workers of automobile manufacturers, increased overseas production, decreased domestic demand for automobiles and decreased demand for automobiles in China. In 2020, automobile production decreased by 11.2 per cent. and export sales volume recorded a decrease of 21.4 per cent., compared with 2019, primarily due to a general decline in global demand for automobiles caused by the COVID-19 pandemic, which outpaced a 4.7 per cent. increase in domestic sales volume from 2019 to 2020, primarily due to increased domestic demand for automobiles. In 2021, automobile production decreased by 1.3 per cent. and domestic sales volume recorded a decrease of 8.5 per cent., compared with 2020, primarily due to the global shortage of semiconductors amid the COVID-19 pandemic, but exports sales volume recorded an increase of 8.6 per cent. compared with 2020, primarily due to an increase in the market share of domestic automobile manufacturers in the global automotive market. In 2022, automobile production increased by 8.5 per cent. and exports sales volume recorded an increase of 12.7 per cent., compared with 2021, primarily due to an increase in demand for Korean automobiles in the global automotive market as well as the gradual easing of the global shortage of automotive semiconductors in the second half of 2022, but domestic sales volume recorded a decrease of 3.2 per cent. compared with 2021, primarily due to the global shortage of automotive semiconductors during the first half of 2022. Based on preliminary data, in 2023, automobile production increased by 13.0 per cent., exports sales volume recorded an increase of 20.3 per cent. and domestic sales volume recorded an increase of 3.3 per cent., compared with 2022, primarily due to the continued easing of the global shortage of automotive semiconductors and increased global and domestic demand for environmentally-friendly automobiles.

Electronics. In 2019, electronics production amounted to ₩322,729 billion, a decrease of 11.7 per cent. from the previous year, and exports amounted to U.S.$176.9 billion, a decrease of 19.7 per cent. from the previous year, primarily due to a significant decrease in semiconductor prices. In 2019, export sales of semiconductor memory chips constituted approximately 17.6 per cent. of the Republic's total exports. In 2020, electronics production amounted to ₩332,084 billion, an increase of 2.9 per cent. from the previous year, and exports of electronics amounted to U.S.$183.5 billion, an increase of 3.7 per cent. from the previous year, primarily due to an increase in demand for semiconductors, computers and other electronic apparatuses. In 2020, export sales of semiconductor memory chips constituted approximately 19.5 per cent. of the Republic's total exports. In 2021, electronics production amounted to ₩368,407 billion, an increase of 10.9 per cent. from the previous year, and exports amounted to U.S.$227.6 billion, an increase of 24.0 per cent. from the previous year, primarily due to an increase in demand for semiconductors, display panels, mobile devices, solid state drives and secondary cell batteries. In 2021, export sales of semiconductor memory chips constituted approximately 20.0 per cent. of the Republic's total exports. In 2022, electronics production amounted to ₩369,552 billion, an increase of 0.3 per cent. from the previous year, and exports amounted to U.S.$233.2 billion, an increase of 2.5 per cent. from the previous year, primarily due to an increase in demand for semiconductors, display panels and secondary cell batteries. In 2022, export sales of semiconductor memory chips constituted approximately 19.1 per cent. of the Republic's total exports. Based on preliminary data, in 2023, electronics production amounted to ₩322,857 billion, a decrease of 12.6 per cent. from the previous year, and exports amounted to U.S.$186.8 billion, a decrease of 19.9 per cent. from the previous year, primarily due to a decrease in demand for semiconductors, computers and other electronic apparatuses. In 2023, export sales of semiconductor memory chips constituted approximately 15.8 per cent. of the Republic's total exports.

Iron and Steel. In 2019, crude steel production totalled 71.4 million tons, a decrease of 1.5 per cent. from 2018, primarily due to adverse conditions in the construction and shipbuilding industries, and export sales volume of iron and steel products decreased by 0.2 per cent., primarily due to continued restrictions on imports of steel products imposed by the United States, Canada and the European Union. In 2020, crude steel production totalled 67.1 million tons, a decrease of 6.0 per cent. from 2019, primarily due to adverse conditions in the construction and shipbuilding industries in light of the COVID-19 pandemic, and export sales volume of iron and steel products decreased by 5.0 per cent., primarily due to a decrease in global demand for crude steel products resulting from the COVID-19 pandemic. In 2021, crude steel production totalled 70.4 million tons, an increase of 4.9 per cent. from 2020, primarily due to an increase in domestic demand for crude steel products following a gradual economic recovery from the COVID-19 pandemic, but export sales volume of iron and steel products decreased by 6.1 per cent., primarily due to an increase in the price of steel products coupled with a decrease in global demand for crude steel products resulting from the COVID-19 pandemic. In 2022, crude steel production totalled 65.8 million tons, a decrease of 6.5 per cent. from 2021, primarily due to disruptions in supply chain resulting from the invasion of Ukraine by Russia and the temporary closure of steel production plants in Korea due to a typhoon during the course of 2022, and export sales volume of iron and steel products decreased by 5.3 per cent., primarily due to a decrease in global demand for crude steel products resulting from the lingering effects of the COVID-19 pandemic and a general slowdown of the global economy. Based on preliminary data, in 2023, crude steel production totalled 66.7 million tons, an increase of 1.4 per cent. from 2022, primarily due to the re-opening of steel production plants in Korea following the recovery from the damage caused by a typhoon during 2022, and export sales volume of iron and steel products increased by 6.5 per cent., primarily due to an increase in demand for crude steel products from North America and Japan.

Shipbuilding. In 2019, the Republic's shipbuilding orders amounted to approximately 10 million compensated gross tons, a decrease of 23.1 per cent. compared to 2018, primarily due to decreased demand for container carriers and bulk carriers, which more than offset increased demand for LNG carriers. In 2020, the Republic's shipbuilding orders amounted to approximately 8 million compensated gross tons, a decrease of 20.0 per cent. compared to 2019, primarily due to the adverse conditions in the domestic and global shipbuilding industry resulting from the COVID-19 pandemic. In 2021, the Republic's shipbuilding orders amounted to approximately 17 million compensated gross tons, an increase of 112.5 per cent. compared to 2020, primarily due to increased demand for container carriers and LNG carriers. In 2022, the Republic's shipbuilding orders amounted to approximately 16 million compensated gross tons, a decrease of 5.9 per cent. compared to 2021, primarily due to a decrease in demand for oil tankers and container carriers. Based on preliminary data, in 2023, the Republic's shipbuilding orders amounted to approximately 10 million compensated gross tons, a decrease of 37.5 per cent. compared to 2022, primarily due to decreased demand for container carriers and LNG carriers.

Agriculture, Forestry and Fisheries

The Government's agricultural policy has traditionally focused on:

- grain production;
- development of irrigation systems;
- land consolidation and reclamation;
- seed improvement;
- mechanisation measures to combat drought and flood damage; and
- increasing agricultural incomes.

Recently, however, the Government has increased emphasis on cultivating profitable crops and strengthening international competitiveness as a result of the continued opening of the domestic agricultural market.

In 2019, rice production decreased 5.1 per cent. from 2018 to 3.7 million tons. In 2020, rice production decreased 5.4 per cent. from 2019 to 3.5 million tons. In 2021, rice production increased 11.4 per cent. from 2020 to 3.9 million tons. In 2022, rice production decreased 2.6 per cent. from 2021 to 3.8 million tons. In 2023, rice production decreased 2.6 per cent. from 2022 to 3.7 million tons. Due to limited crop yields resulting from geographical and physical constraints, the Republic depends on imports for certain basic foodstuffs.

The Government is seeking to develop the fishing industry by encouraging the building of large fishing vessels and modernising fishing equipment, marketing techniques and distribution outlets.

In 2019, the agriculture, forestry and fisheries industry increased by 3.9 per cent. compared to 2018, primarily due to an increase in farming and livestock production. In 2020, the agriculture, forestry and fisheries industry decreased by 5.8 per cent. compared to 2019, primarily due to a decrease in farming and livestock production. In 2021, the agriculture, forestry and fisheries industry increased by 5.2 per cent. compared to 2020, primarily due to an increase in farming and fisheries production. Based on preliminary data, in 2022, the agriculture, forestry and fisheries industry decreased by 1.0 per cent. compared to 2021, primarily due to a decrease in farming and fisheries production. Based on preliminary data, in 2023, the agriculture, forestry and fisheries industry decreased by 2.4 per cent. compared to 2022, primarily due to a decrease in farming and fisheries production.

Construction

In 2019, the construction industry decreased by 2.6 per cent. compared to 2018, primarily due to a continued decrease in the construction of residential buildings. In 2020, the construction industry decreased by 1.3 per cent. compared to 2019, primarily due to a decrease in the construction of residential buildings. In 2021, the construction industry decreased by 1.9 per cent. compared to 2020, primarily due to a decrease in the construction of residential buildings. Based on preliminary data, in 2022, the construction industry increased by 0.7 per cent. compared to 2021, primarily due to an increase in the construction of commercial buildings. Based on preliminary data, in 2023, the construction industry increased by 2.7 per cent. compared to 2022, primarily due to an increase in commercial buildings.

Electricity and Gas

The following table sets out the Republic's dependence on imports for energy consumption:

Dependence on Imports for Energy Consumption

	Total Primary Energy Supply	Imports	Imports Dependence Ratio
	(millions of tons of oil equivalents[1], except ratios)		
2019	297.6	284.8	95.7
2020	285.5	271.2	95.0
2021	300.5	284.8	94.8
2022[2]	304.0	287.0	94.4
2023[2]	297.5	279.4	93.9

Notes:

(1) Conversion to tons of oil equivalents was calculated based on energy conversion factors under the Energy Act Enforcement Decree as amended in July 2017.

(2) Preliminary.

Source: Korea Energy Economics Institute; Korea National Statistical Office

Korea has almost no domestic oil or gas production and depends on imported oil and gas to meet its energy requirements. Accordingly, the international prices of oil and gas significantly affect the Korean economy. Any significant long-term increase in the prices of oil and gas will increase inflationary pressures in Korea and adversely affect the Republic's balance of trade.

To reduce its dependence on oil and gas imports, the Government has encouraged energy conservation and energy source diversification emphasising nuclear energy. The following table sets out the principal primary sources of energy supplied in the Republic, expressed in oil equivalents and as a percentage of total energy consumption.

Primary Energy Supply by Source

	Coal		Gas		Oil		Nuclear		Others[1]		Total	
	Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%	Quantity	%
	(millions of tons of oil equivalents[2], except percentages)											
2019	85,048	28.6	53,875	18.1	115,408	38.8	31,079	10.4	12,201	4.1	297,612	100.0
2020	75,983	26.6	53,915	18.9	107,970	37.8	34,119	12.0	13,525	4.7	285,512	100.0
2021	76,968	25.6	59,594	19.8	115,204	38.3	33,657	11.2	15,092	5.0	300,515	100.0
2022[3] . . .	75,869	25.0	59,176	19.5	114,675	37.7	37,500	12.3	16,734	5.5	303,954	100.0
2023[3] . . .	73,516	24.7	56,770	19.1	111,081	37.3	38,442	12.9	17,710	6.0	297,519	100.0

Notes:

(1) Includes hydro-electric power, biofuels and waste-based energy, geothermal and solar power and heat.

(2) Conversion to tons of oil equivalents was calculated based on energy conversion factors under the Energy Act Enforcement Decree as amended in July 2017.

(3) Preliminary.

Source: Korea Energy Economics Institute; The Bank of Korea

The Republic's first nuclear power plant went into full operation in 1978 with a rated generating capacity of 587 megawatts. As of 31 December 2023, the Republic had 25 nuclear plants with a total estimated nuclear power installed generating capacity of 24,650 megawatts and three nuclear plants under construction.

In January 2023, the Government announced the Tenth Basic Plan of Long-Term Electricity Supply and Demand for the period from 2022 to 2036, which focuses on, among other things, (i) establishing a stable and safe source of energy supply for the long term, (ii) setting attainable goals for energy transition through a balanced mix of nuclear power and renewable energy, (iii) reducing greenhouse gas by cutting back on coal-fired generation, and (iv) diversifying the electricity market system and promoting fair competition in the renewable energy market. Furthermore, the Tenth Basic Plan includes the following implementation measures: (i) the previously suspended construction of two nuclear power units will be resumed, (ii) existing nuclear power plants will continue their operation, (iii) 28 coal-fired generation plants will be retired and converted to LNG fuel use by 2036, (iv) ammonia-coal and hydrogen-LNG co-firing will be introduced to reduce greenhouse gas, and (v) domestic renewable energy generation capacity will be expanded to 108.3 gigawatts by 2036. In May 2024, the Government revealed the working plan of the Eleventh Basic Plan of Long-Term Electricity Supply and Demand, with plans to release the final version at a later date in 2024. Such working plan, which covers the period from 2024 to 2038, includes (i) prioritisation of carbon-free power sources, with the goal of increasing the proportion of such sources to 70 per cent. of total energy generation by 2038, (ii) projections of renewable energy capacity increases (solar and wind energy capacity is projected to triple from 23 gigawatts in 2022 to 72 gigawatts by 2030, with the total renewable energy capacity projected to reach 120 gigawatts by 2038), and (iii) capacity for the addition of up to 4.2 gigawatts (3 units) of new large-scale nuclear power plants and 0.7 gigawatts (1 unit) of a new small modular reactor.

Services Sector

In 2019, the service industry increased by 2.7 per cent. compared to 2018 as the health and social work sector increased by 9.0 per cent., the professional, scientific and technical activities sector increased by 6.3 per cent. and the water supply, sewage, waste management and materials recovery sector increased by 4.8 per cent., each compared with 2018. In 2020, the service industry decreased by 0.7 per cent. compared to 2019 as the arts, sports and recreation related services sector decreased by 31.9 per cent., the accommodation and food service activities sector decreased by 17.9 per cent. and the transportation and storage sector decreased by 12.4 per cent., each compared with 2019. In 2021, the service industry increased by 8.8 per cent. compared to 2020 as the arts, sports and recreation related services sector increased by 18.8 per cent., the information and communications sector increased by 14.6 per cent. and the transportation and storage sector increased by 11.9 per cent., each compared with 2020. In 2022, the service industry increased by 11.6 per cent. compared to 2021 as the arts, sports and recreation related services sector increased by 48.5 per cent., the transportation and storage sector increased by 30.5 per cent. and the accommodation and food services sector increased by 25.6 per cent., each compared with 2021. Based on preliminary data, in 2023, the service industry increased by 4.8 per cent. compared to 2022 as the arts, sports and recreation related services sector increased by 9.8 per cent., the membership organisations, repair and other personal services sector increased by 8.9 per cent. and the financial and insurance activities sector increased by 8.1 per cent., each compared with 2022.

Prices, Wages and Employment

The following table shows selected price and wage indices and unemployment rates:

	Producer Price Index[1]	Increase (Decrease) Over Previous Year	Consumer Price Index[1]	Increase (Decrease) Over Previous Year	Wage Index[1][2]	Increase (Decrease) Over Previous Year	Unemployment Rate[1][3]
	(2015=100)	*(%)*	*(2020=100)*	*(%)*	*(2015=100)*	*(%)*	*(%)*
2019	103.5	0.0	99.5	0.4	116.2	2.3	3.8
2020	103.0	(0.5)	100.0	0.5	115.5	(0.6)	4.0
2021	109.6	6.4	102.5	2.5	123.5	6.9	3.7
2022	118.8	8.4	107.7	5.1	130.7	5.8	2.9
2023	120.7	1.6	111.6	3.6	N/A[4]	N/A[4]	2.7

Notes:

(1) Average for the year.

(2) Nominal wage index of average earnings in the manufacturing industry.

(3) Expressed as a percentage of the economically active population.

(4) Not available.

Source: The Bank of Korea; Korea National Statistical Office

In 2019, the inflation rate decreased to 0.4 per cent., primarily due to decreases in the prices of agricultural and livestock products and oil. In 2020, the inflation rate increased to 0.5 per cent., primarily due to increases in agricultural and livestock product prices. In 2021, the inflation rate increased to 2.5 per cent., primarily due to increases in agricultural and livestock product prices and oil prices. In 2022, the inflation rate increased to 5.1 per cent., primarily due to increases in agricultural and livestock product prices and oil prices. Based on preliminary data, in 2023, the inflation rate decreased to 3.6 per cent., primarily due to a slower rate of increase in the prices of agricultural and livestock products and oil. Based on preliminary data, the inflation rate was 3.0 per cent. in the first quarter of 2024.

In 2019, the unemployment rate remained constant at 3.8 per cent. In 2020, the unemployment rate increased to 4.0 per cent., primarily due to the COVID-19 pandemic. In 2021, the unemployment rate decreased to 3.7 per cent., reflecting a gradual recovery of the Korean economy from the COVID-19 pandemic. In 2022, the unemployment rate decreased to 2.9 per cent., reflecting a gradual recovery of the Korean economy from the COVID-19 pandemic. Based on preliminary data, in 2023, the unemployment rate decreased to 2.7 per cent., primarily due to an increase in the number of workers employed in the service industry. Based on preliminary data, the unemployment rate was 3.3 per cent. in the first quarter of 2024.

From 1992 to 2009, the economically active population of the Republic increased by approximately 24.8 per cent. to 24.3 million, while the number of employees increased by approximately 23.7 per cent. to 23.5 million. The economically active population over 15 years old as a percentage of the total over-15 population has remained between 61 per cent. and 65 per cent. over the past decade. Literacy among workers under 50 is almost universal. As of 31 December 2023, the economically active population of the Republic was 29.2 million and the number of employees was 28.4 million.

The following table shows selected employment information by industry and by gender:

	2019	2020	2021	2022	2023
	(all figures in percentages, except as indicated)				
Labour force (in thousands of persons)	27,123	26,904	27,273	28,089	28,416
Employment by Industry					
Agriculture, Forestry and Fishing	5.1	5.4	5.3	5.4	5.3
Mining and Manufacturing	16.4	16.3	16.1	16.1	15.7
S.O.C & Services	78.5	78.3	78.6	78.5	79.0
Electricity, Transport, Communication and Finance	11.7	11.8	12.3	12.4	12.5
Business, Private & Public Service and Other Services	37.4	38.0	38.6	39.0	39.4
Construction	7.4	7.5	7.7	7.6	7.4
Wholesale & Retail Trade, Hotels and Restaurants	22.0	21.0	20.0	19.6	19.6
Total Employed	100.0	100.0	100.0	100.0	100.0
Employment by Gender					
Male	57.0	57.2	57.0	56.7	56.1
Female	43.0	42.8	43.0	43.3	43.9
Total Employed	100.0	100.0	100.0	100.0	100.0

Source: The Bank of Korea

Pursuant to certain amendments to the Labour Standards Act that became effective on 1 July 2018, the maximum working hours of employees have been reduced from 68 hours per week to 52 hours per week, and the number of special industries that are exempt from restrictions on maximum working hours will be significantly reduced. This new maximum working hours restriction under the amended Labour Standards Act is in effect for workplaces with 300 or more workers from 1 July 2018, and has been extended to workplaces with 50 or more but fewer than 300 workers from 1 January 2020, and has been further extended to workplaces with five or more but fewer than 50 workers from 1 July 2021.

Labour unrest in connection with demands by unionised workers for better wages and working conditions and greater job security occurs from time to time in the Republic. Some of the significant incidents in recent years include the following:

- In May 2019, unionised bus drivers launched a nationwide strike seeking higher wages and increased manpower in time for the 52-hour work week that was implemented in July 2019.

- In September 2019, unionised workers at GM Korea went on full strike, the first in more than 20 years, demanding higher wages and protesting against GM Korea's restructuring plans.

- In October and November 2019, several thousand members of the National Railroad Workers' Union went on full strike demanding a normalisation of wages and requesting the hiring of additional personnel.

- In October, November and December 2020, unionised workers at GM Korea went on partial strikes during wage and collective agreement negotiations.

- In November and December 2020, unionised workers at Kia went on partial strikes demanding higher wages, performance-based incentives and other benefits.

- In November and December 2021, unionised workers at Hankook Tire & Technology, one of Korea's largest tyre makers, went on a full strike demanding higher wages and performance-based incentive payments.

- In 2021, unionised workers at CJ Logistics, one of Korea's largest freight transportation companies, went on a series of partial strikes and demonstrations, demanding higher wages commensurate with increases in parcel delivery fees.

- In June and November 2022, unionised truck drivers across various industries went on nationwide strikes demanding that a minimum pay system based on freight rates be made permanent and expanded in scope.

- In 2022, subcontracted workers of Daewoo Shipping and Marine Engineering went on a full strike demanding higher wages.

- In September 2023, the National Railroad Workers' Union went on strike demanding improved pay and working conditions and an expansion of the KTX bullet train services.

- In November 2023, unionised Seoul subway workers went on strike in protest of the city-run Seoul Metro's bid to downsize its workforce.

- In early 2024, thousands of doctors went on strike to protest the Government's plans to increase the number of medical school admissions, and to demand higher pay and reductions in their workload, among others.

Actions such as these by labour unions may hinder implementation of the labour reform measures and disrupt the Government's plans to create a more flexible labour market. Although much effort is being expended to resolve labour disputes in a peaceful manner, there can be no assurance that further labour unrest will not occur in the future. Continued labour unrest in key industries of the Republic may have an adverse effect on the economy.

In 1997, the Korean Confederation of Trade Unions organised a political alliance, which led to the formation of the Democratic Labour Party in January 2000. The Democratic Labour Party merged with The New People's Participation Party and changed its name to The Unified Progressive Party, or the UPP, in December 2011. In October 2012, the UPP split and seven UPP members of the National Assembly and their supporters formed a new party, the Progressive Justice Party, which changed its name to the Justice Party in July 2013. In December 2014, the Constitutional Court ordered the dissolution of the UPP and the removal of the party's five lawmakers from the National Assembly for violating the Republic's Constitution after certain of its members were convicted of trying to instigate an armed rebellion and supporting North Korea. In the legislative general election held on 13 April 2016, the Justice Party won six seats in the National Assembly, and the members-elect began their four-year terms on 30 May 2016. As of 31 December 2023, the Justice Party held six seats in the National Assembly.

Population and Birthrate

The following table shows the population and birthrate of the Republic:

	2019	2020	2021	2022	2023
Population (in thousands of persons)	51,850	51,829	51,639	51,439	51,325
Birthrate (percentage)[1]	0.918	0.837	0.808	0.778	0.720[2]

Notes:

(1) Represents the average number of children a woman gives birth to over her lifetime.

(2) Preliminary.

Source: Ministry of the Interior and Safety; Korea National Statistical Office

Both the population and birthrate in the Republic have been declining in recent years, with the population decreasing by 1.0 per cent. from 2019 to 2023, and the birthrate decreasing by 21.6 per cent. from 2019 to 2023.

THE FINANCIAL SYSTEM

Structure of the Financial Sector

The Republic's financial sector includes the following categories of financial institutions:

- The Bank of Korea;
- banking institutions;
- non-bank financial institutions; and
- other financial entities, including:
- financial investment companies;
- credit guarantee institutions;
- venture capital companies; and
- miscellaneous others.

To increase transparency in financial transactions and enhance the integrity and efficiency of the financial markets, Korean law requires that financial institutions confirm that their clients use their real names when transacting business. The Government also strengthened confidentiality protection for private financial transactions.

In July 2007, the Korean National Assembly passed the Financial Investment Services and Capital Markets Act, or the FSCMA, under which various industry-based capital markets regulatory systems were consolidated into a single regulatory system. The FSCMA, which became effective in February 2009, expands the scope of permitted investment-related financial products and activities through expansive definitions of financial instruments and function-based regulations that allow financial investment companies to offer a wider range of financial services, as well as strengthening investor protection and disclosure requirements.

Prior to the effective date of the FSCMA, separate laws regulated various types of financial institutions depending on the type of the financial institution (for example, securities companies, futures companies, trust business companies and asset management companies) and subjected financial institutions to different licensing and ongoing regulatory requirements (for example, under the Securities and Exchange Act, the Futures Trading Act and the Indirect Investment Asset Management Business Act). By applying one uniform set of rules to financial businesses having the same economic function, the FSCMA attempts to improve and address issues caused by the previous regulatory system under which the same economic function relating to capital markets-related business were governed by multiple regulations. To this end, the FSCMA categorises capital markets-related businesses into six different functions as follows:

- investment dealing (trading and underwriting of financial investment products);
- investment brokerage (brokerage of financial investment products);
- collective investment (establishment of collective investment schemes and the management thereof);
- investment advice;
- discretionary investment management; and
- trusts (together with the five businesses set forth above, the Financial Investment Businesses).

Accordingly, all financial businesses relating to financial investment products are classified as one or more of the Financial Investment Businesses described above, and financial institutions are subject to the regulations applicable to their relevant Financial Investment Businesses, irrespective of what type of financial institution it is. For example, under the FSCMA, derivative businesses conducted by securities companies and future companies are subject to the same regulations, at least in principle.

The banking business and the insurance business are not subject to the FSCMA and will continue to be regulated under separate laws; provided, however, that they are subject to the FSCMA if their activities involve any Financial Investment Businesses requiring a licence based on the FSCMA.

Banking Industry

The banking industry comprises commercial banks and specialised banks. Commercial banks serve the general public and corporate sectors. They include nationwide banks, regional banks and branches of foreign banks. Regional banks provide services similar to nationwide banks, but operate in a geographically restricted region. Branches of foreign banks have operated in the Republic since 1967 but provide a relatively small proportion of the country's banking services. As of 31 December 2023, there were six nationwide banks, six regional banks, three internet-only banks and 34 foreign banks with branches operating in the Republic.

Specialised banks meet the needs of specific sectors of the economy in accordance with Government policy; they are organised under, or chartered by, special laws. Specialised banks include (i) The Korea Development Bank, (ii) The Export-Import Bank of Korea, (iii) Industrial Bank of Korea, (iv) SuHyup Bank and (v) NongHyup Bank. The Government has made capital contributions to three of these specialised banks as follows:

- **The Korea Development Bank**: the Government owns directly all of its paid-in capital and has made capital contributions since its establishment in 1954. Recent examples include the Government's contributions to its capital of ₩555 billion in 2019, ₩2,103 billion in 2020, ₩1,121 billion in 2021, ₩1,265 billion in 2022 and ₩775 billion in 2023. Taking into account these capital contributions, its total paid-in capital was ₩23,927 billion as of 31 December 2023.

- **The Export-Import Bank of Korea**: the Government owns, directly and indirectly, all of its paid-in capital and has made capital contributions since its establishment in 1976. Recent examples include the Government's contributions to its capital of ₩56 billion in 2019, ₩578 billion in 2020, ₩299 billion in 2021, ₩25 billion in 2022 and ₩2,000 billion in 2023. Taking into account these capital contributions, its total paid-in capital was ₩14,773 billion as of 31 December 2023.

- **Industrial Bank of Korea**: the Government directly owned 59.5 per cent. of its total shares (including common and preferred shares) as of 31 December 2023. The Government had owned all of the issued share capital of Industrial Bank of Korea until 1994, but the Government's minimum share ownership requirement was repealed in 1997, and the Government has since periodically adjusted its ownership percentage in Industrial Bank of Korea through transactions involving the purchase and sale of its common shares. In 2019, Industrial Bank of Korea issued an aggregate of 17,178,164 new common shares to the Government for a total of ₩225 billion in cash. In 2020, Industrial Bank of Korea issued an aggregate of 161,507,381 new common shares to the Government for a total of ₩1,266 billion in cash. In November 2020, Industrial Bank of Korea acquired from the Government and cancelled an aggregate of 44,847,038 perpetual preferred shares that it had previously issued to the Government. In May 2021, Industrial Bank of Korea issued and sold 5,636,227 new ordinary shares to the Government for an aggregate consideration of ₩49 billion in cash. Taking into account such transactions, its total paid-in capital was ₩4,211 billion as of 31 December 2023.

The economic difficulties in 1997 and 1998 caused an increase in Korean banks' non-performing assets and a decline in capital adequacy ratios of Korean banks. From 1998 through 2002, the Financial Services Commission amended banking regulations several times to adopt more stringent criteria for non-performing assets that more closely followed international standards.

The following table sets out the total loans (including loans in Won and loans in foreign currencies) and non-performing assets of Korean banks as of the dates indicated.

	Total Loans	Non-Performing Assets[(1)]	Percentage of Total
	(trillions of won)		*(percentage)*
31 December 2019	1,980.6	15.3	0.8
31 December 2020	2,171.7	13.9	0.6
31 December 2021	2,371.9	11.8	0.5
31 December 2022	2,532.4	10.1	0.4
31 December 2023[(2)]	2,629.0	12.5	0.5

Notes:

(1) Assets classified as substandard or below.

(2) Preliminary.

Source: Financial Supervisory Service

In 2019, these banks posted an aggregate net profit of ₩13.9 trillion, compared to an aggregate net profit of ₩15.6 trillion in 2018, primarily due to losses on investments in subsidiaries and associates in 2019 compared to gains on investments in subsidiaries and associates in 2018, which more than offset decreased loan loss provisions. In 2020, these banks posted an aggregate net profit of ₩12.1 trillion, compared to an aggregate net profit of ₩13.9 trillion in 2019, primarily due to increased loan loss provisions. In 2021, these banks posted an aggregate net profit of ₩16.9 trillion, compared to an aggregate net profit of ₩12.1 trillion in 2020, primarily due to the significant amount of gains recognised by The Korea Development Bank in connection with the exercise of its right to convert its convertible bonds issued by HMM Company Limited into common shares, which took place in June 2021, and to a lesser extent, increased net interest income and decreased loan loss provisions. In 2022, these banks posted an aggregate net profit of ₩18.5 trillion, compared to an aggregate net profit of ₩16.9 trillion in 2021, primarily due to increased net

interest income reflecting the rise in interest rates during 2022. Based on preliminary data, in 2023, these banks posted an aggregate net profit of ₩21.3 trillion, compared to an aggregate net profit of ₩18.5 trillion in 2022, primarily due to an increase in net interest income, which was offset in part by an increase in loan loss provisions.

Non-Bank Financial Institutions

Non-bank financial institutions include:

- savings institutions, including trust accounts of banks, mutual savings banks, credit unions, mutual credit facilities, community credit cooperatives and postal savings;
- life insurance institutions; and
- credit card companies.

As of 31 December 2023, 79 mutual savings banks, 22 life insurance institutions, which include joint venture life insurance institutions and wholly-owned subsidiaries of foreign life insurance companies, and eight credit card companies operated in the Republic.

Money Markets

In the Republic, the money markets consist of the call market and markets for a wide range of other short-term financial instruments, including treasury bills, monetary stabilisation bonds, negotiable certificates of deposits, repurchase agreements and commercial paper.

Securities Markets

On 27 January 2005, the Korea Exchange was established pursuant to the now repealed Korea Securities and Futures Trading Act by consolidating the Korea Stock Exchange, the Korea Futures Exchange, the KOSDAQ Stock Market, Inc., or the KOSDAQ, and the KOSDAQ Committee of the Korea Securities Dealers Association, which had formerly managed the KOSDAQ. There are three major markets operated by the Korea Exchange: the KRX KOSPI Market, the KRX KOSDAQ Market, and the KRX Derivatives Market. The Korea Exchange has two trading floors located in Seoul, one for the KRX KOSPI Market and one for the KRX KOSDAQ Market, and one trading floor in Busan for the KRX Derivatives Market. The Korea Exchange is a joint stock company with limited liability, the shares of which are held by (i) financial investment companies that were formerly members of the Korea Futures Exchange or the Korea Stock Exchange and (ii) the stockholders of the KOSDAQ. Currently, the Korea Exchange is the only stock exchange in Korea and is operated by membership, having as its members Korean financial investment companies and some Korean branches of foreign financial investment companies.

The Korea Exchange publishes the Korea Composite Stock Price Index every ten seconds, which is an index of all equity securities listed on the Korea Exchange. The Korea Composite Stock Price Index is computed using the aggregate value method, whereby the market capitalisations of all listed companies are aggregated, subject to certain adjustments, and this aggregate is expressed as a percentage of the aggregate market capitalisation of all listed companies as of the base date, 4 January 1980.

The following table shows the value of the Korea Composite Stock Price Index as of the dates indicated:

30 December 2019	2,197.7
31 January 2020	2,119.0
28 February 2020	1,987.0
31 March 2020	1,754.6
29 April 2020	1,947.6
29 May 2020	2,029.6
30 June 2020	2,108.3
31 July 2020	2,249.4

31 August 2020	2,326.2
29 September 2020	2,327.9
30 October 2020	2,267.2
30 November 2020	2,591.3
30 December 2020	2,873.5
29 January 2021	2,976.2
26 February 2021	3,013.0
31 March 2021	3,061.4
30 April 2021	3,147.9
31 May 2021	3,203.9
30 June 2021	3,296.7
30 July 2021	3,202.3
31 August 2021	3,199.3
30 September 2021	3,068.8
29 October 2021	2,970.7
30 November 2021	2,839.0
30 December 2021	2,977.7
28 January 2022	2,663.3
28 February 2022	2,699.2
31 March 2022	2,757.7
29 April 2022	2,695.1
31 May 2022	2,685.9
30 June 2022	2,332.6
29 July 2022	2,451.5
31 August 2022	2,472.1
30 September 2022	2,155.5
31 October 2022	2,293.6
30 November 2022	2,472.5
29 December 2022	2,236.4
31 January 2023	2,425.1
28 February 2023	2,412.9
31 March 2023	2,476.9
28 April 2023	2,501.5
31 May 2023	2,577.1
30 June 2023	2,564.3
31 July 2023	2,632.6
31 August 2023	2,556.3
27 September 2023	2,465.1
31 October 2023	2,278.0
30 November 2023	2,535.3
28 December 2023	2,655.3
31 January 2024	2,497.1
29 February 2024	2,642.4
29 March 2024	2,746.6
30 April 2024	2,692.1
31 May 2024	2,636.5
28 June 2024	2,797.8

Over the years, liquidity and credit concerns and volatility in the global financial markets have led to fluctuations in the stock prices of Korean companies. In recent years, there was significant volatility in the stock prices of Korean companies due to deteriorating market conditions domestically and abroad. The index was 2,862.2 on 5 July 2024.

Supervision System

The Office of Bank Supervision, the Securities Supervisory Board, the Insurance Supervisory Board and all other financial sector regulatory bodies merged in January 1999 to form the Financial Supervisory Service. The Financial Services Commission acts as the executive body over the Financial Supervisory Service. The Financial Services Commission reports to, but operates independently of, the Prime Minister's office.

The Ministry of Economy and Finance focuses on financial policy and foreign currency regulations. The Bank of Korea manages monetary policy focusing on price stabilisation.

Deposit Insurance System

The Republic's deposit insurance system insures amounts on deposit with banks, non-bank financial institutions, securities companies and life insurance companies.

Since January 2001, deposits at any single financial institution are insured only up to ₩50 million per person regardless of the amount deposited.

The Government excluded certain deposits, such as repurchase agreements, from the insurance scheme, expanded the definition of unsound financial institutions to which the insurance scheme would apply and gradually increased the insurance premiums payable by insured financial institutions.

MONETARY POLICY

The Bank of Korea

The Bank of Korea was established in 1950 as Korea's central bank and the country's sole currency issuing bank. A seven-member Monetary Policy Committee, chaired by the Governor of The Bank of Korea, formulates and controls monetary and credit policies.

Inflation targeting is the basic system of operation for Korean monetary policy. The consumer price index is used as The Bank of Korea's target indicator. To achieve its established inflation target, the Monetary Policy Committee of The Bank of Korea determines and announces the "Bank of Korea Base Rate", the reference rate applied in transactions such as repurchase agreements between The Bank of Korea and its financial institution counterparts. The Bank of Korea uses open market operations as its primary instrument to keep the call rate in line with the Monetary Policy Committee's target rate. In addition, The Bank of Korea is able to establish policies regarding its lending to banks in Korea and their reserve requirements.

Interest Rates

On 30 November 2017, The Bank of Korea raised its policy rate to 1.5 per cent. from 1.25 per cent., which was further raised to 1.75 per cent. on 30 November 2018, in response to signs of inflationary pressures and the continued growth of the global and domestic economy. The Bank of Korea lowered its policy rate to 1.5 per cent. from 1.75 per cent. on 18 July 2019 and to 1.25 per cent. from 1.5 per cent. on 16 October 2019 to address the sluggishness of the global and domestic economy. On 16 March 2020, The Bank of Korea further lowered its policy rate to 0.75 per cent. from 1.25 per cent., which was further lowered to 0.5 per cent. on 28 May 2020, in response to deteriorating economic conditions resulting from the COVID-19 pandemic. However, as the economy began to show signs of recovery from the COVID-19 pandemic starting from the second half of 2021, The Bank of Korea raised its policy rate from 0.50 per cent. to 0.75 per cent. on 26 August 2021, 1.00 per cent. on 25 November 2021, 1.25 per cent. on 14 January 2022, 1.50 per cent. on 14 April 2022, 1.75 per cent. on 26 May 2022, 2.25 per cent. on 13 July 2022, 2.50 per cent. on 25 August 2022, 3.00 per cent. on 12 October 2022, 3.25 per cent. on 24 November 2022 and 3.50 per cent. on 13 January 2023 in response to rising levels of household debt and inflationary pressures.

With the deregulation of interest rates on banks' demand deposits on 2 February 2004, The Bank of Korea completed the interest rate deregulation based upon the "Four-Stage Interest Rate Liberalisation Plan" announced in 1991. The prohibition on the payment of interest on ordinary checking accounts was, however, maintained.

Money Supply

The following table shows the volume of the Republic's money supply:

	31 December				
	2019	2020	2021	2022	2023
			(billions of Won)		
Money Supply (M1)[(1)]	952,922.8	1,197,828.9	1,372,336.6	1,236,983.3	1,246,196.4
Quasi-money[(2)]	1,960,686.8	2,002,006.8	2,241,351.0	2,521,252.2	2,658,356.2
Money Supply (M2)[(3)]	2,913,609.6	3,199,835.7	3,613,687.6	3,758,235.5	3,904,552.6
Percentage Increase Over Previous Year	7.9%	9.8%	12.9%	4.0%	3.9%

Notes:

(1) Consists of currency in circulation and demand and instant access savings deposits at financial institutions.

(2) Includes time and instalment savings deposits, marketable instruments, yield-based dividend instruments and financial debentures, excluding financial instruments with a maturity of more than two years.

(3) Money Supply (M2) is the sum of Money Supply (M1) and quasi-money.

Source: The Bank of Korea

Exchange Controls

Authorised foreign exchange banks, as registered with the Ministry of Economy and Finance, handle foreign exchange transactions. The ministry has designated other types of financial institutions to handle foreign exchange transactions on a limited basis.

Korean laws and regulations generally require a report to either the Ministry of Economy and Finance, The Bank of Korea or authorised foreign exchange banks, as applicable, for issuances of international bonds and other instruments, overseas investments and certain other transactions involving foreign exchange payments.

In 1994 and 1995, the Government relaxed regulations of foreign exchange position ceilings and foreign exchange transaction documentation and created free Won accounts which may be opened by non-residents at Korean foreign exchange banks. The Won funds deposited into the free Won accounts may be converted into foreign currencies and remitted outside Korea without any governmental approval. In December 1996, after joining the OECD, the Republic freed the repatriation of investment funds, dividends and profits, as well as loan repayments and interest payments. The Government continues to reduce exchange controls in response to changes in the world economy, including the new trade regime under the WTO, anticipating that such foreign exchange reform will improve the Republic's competitiveness and encourage strategic alliances between domestic and foreign entities.

In September 1998, the National Assembly passed the Foreign Exchange Transactions Act, which became effective in April 1999 and has subsequently been amended numerous times. In principle, most currency and capital transactions, including, among others, the following transactions, have been liberalised:

- the investment in real property located overseas by Korean companies and financial institutions;
- the establishment of overseas branches and subsidiaries by Korean companies and financial institutions;
- the investment by non-residents in deposits and trust products having more than one year maturities; and
- the issuance of debentures by non-residents in the Korean market.

To minimise the adverse effects from further opening of the Korean capital markets, the Ministry of Economy and Finance is authorised to introduce a variable deposit requirement system to restrict the influx of short-term speculative funds.

The Government has also embarked on a second set of liberalisation initiatives starting in January 2001, under which ceilings on international payments for Korean residents have been eliminated, including overseas travel expenses, overseas inheritance remittances and emigration expenses. Overseas deposits, trusts, acquisitions of foreign securities and other foreign capital transactions made by residents and the making of deposits in Korean currency by non-residents have also been liberalised. In line with the foregoing liberalisation, measures will also be adopted to curb illegal foreign exchange transactions and to stabilise the foreign exchange market.

Effective as of 1 January 2006, the Government liberalised the regulations governing "capital transactions". The regulations provide that no regulatory approvals are required for any capital transactions. The capital transactions previously subject to approval requirements are now subject only to reporting requirements.

In January 2010, the Financial Supervisory Services released *FX Derivative Transactions Risk Management Guideline* to prevent over-hedging of foreign exchange risk by corporate investors. According to the guideline as amended in October 2023, if a corporate investor, other than a financial institution or a public enterprise, wishes to enter into a currency forward, currency option, foreign exchange swap or currency swap agreement with a bank, the bank is required to verify whether the corporate investor's assets, liabilities or contracts face foreign exchange risks that could be mitigated by a currency forward, currency option, foreign exchange swap or currency swap agreement. In addition, the bank is required to ensure that the corporate investor's risk hedge ratio, which is the ratio of the aggregate notional amount to the aggregate amount of risk, does not exceed 100 per cent.

Foreign Exchange

The following table shows the exchange rate between the Won and the U.S. dollar (in Won per U.S. dollar) as announced by the Seoul Money Brokerage Services, Ltd. as of the dates indicated:

	Won/U.S. Dollar Exchange Rate
31 December 2019	1,157.8
31 January 2020	1,183.5
28 February 2020	1,215.9
31 March 2020	1,222.6
29 April 2020	1,225.2
29 May 2020	1,239.4
30 June 2020	1,200.7
31 July 2020	1,191.4
31 August 2020	1,185.1
29 September 2020	1,173.5
30 October 2020	1,133.4
30 November 2020	1,104.4
31 December 2020	1,088.0
29 January 2021	1,114.6
26 February 2021	1,108.4
31 March 2021	1,133.5
30 April 2021	1,119.4
31 May 2021	1,116.0
30 June 2021	1,130.0
30 July 2021	1,147.4
31 August 2021	1,164.4
30 September 2021	1,184.9
29 October 2021	1,171.7
30 November 2021	1,193.4

	Won/U.S. Dollar Exchange Rate
31 December 2021	1,185.5
28 January 2022	1,202.4
28 February 2022	1,202.7
31 March 2022	1,210.8
29 April 2022	1,269.4
31 May 2022	1,245.8
30 June 2022	1,299.4
29 July 2022	1,304.0
31 August 2022	1,347.5
30 September 2022	1,434.8
31 October 2022	1,419.3
30 November 2022	1,331.5
30 December 2022	1,267.3
31 January 2023	1,228.7
28 February 2023	1,317.4
31 March 2023	1,303.8
28 April 2023	1,339.9
31 May 2023	1,322.2
30 June 2023	1,312.8
31 July 2023	1,280.0
31 August 2023	1,321.4
27 September 2023	1,344.8
31 October 2023	1,352.8
30 November 2023	1,289.0
29 December 2023	1,289.4
31 January 2024	1,330.6
29 February 2024	1,334.0
29 March 2024	1,346.8
30 April 2024	1,378.1
31 May 2024	1,376.5
28 June 2024	1,389.2

During the period from 2 January 2008 through 16 April 2009, the value of the Won relative to the U.S. dollar declined by approximately 29.9 per cent., due primarily to adverse economic conditions resulting from liquidity and credit concerns and volatility in the global credit and financial markets and repatriations by foreign investors of their investments in the Korean stock market. The exchange rate between the Won and the U.S. dollar has fluctuated since then. In recent years, the value of the Won relative to the U.S. dollar fluctuated significantly, due primarily to the impact of the COVID-19 pandemic, the invasion of Ukraine by Russia and the ensuing sanctions against Russia, the escalation of hostilities in the Middle East following the Israel-Hamas war and the widening difference in policy rates between the United States and the Republic, among others. The market average exchange rate was Won 1,381.9 to U.S.$1.00 on 5 July 2024.

BALANCE OF PAYMENTS AND FOREIGN TRADE

Balance of Payments

Balance of payments figures measure the relative flow of goods, services and capital into and out of the country as represented in the current balance and the capital balance. The current balance tracks a country's trade in goods and services and transfer payments and measures whether a country is living within its income from trading and investments. The capital balance covers all transactions involving the transfer of capital into and out of the country, including loans and investments. The overall balance represents the sum of the current and capital balances. An overall balance surplus indicates a net inflow of foreign currencies, thereby increasing demand for and strengthening the local currency. An overall balance deficit indicates a net outflow of foreign currencies, thereby decreasing demand for and weakening the local currency. The financial account mirrors the overall balance. If the overall balance is positive, the surplus, which represents the nation's savings, finances the overall deficit of the country's trading partners. Accordingly, the financial account will indicate cash outflows equal to the overall surplus. If, however, the overall balance is negative, the nation has an international deficit which must be financed. Accordingly, the financial account will indicate cash inflows equal to the overall deficit.

The following table sets out certain information with respect to the Republic's balance of payments:

Balance of Payments[(1)]

Classification	2019	2020	2021	2022[(4)]	2023[(4)]
			(millions of dollars)		
Current Account	59,676.1	75,902.2	85,228.2	25,828.6	35,488.2
Goods	79,812.1	80,604.8	75,730.9	15,620.0	34,092.4
Exports[(2)]	556,667.9	517,909.3	649,475.2	694,324.1	645,048.1
Imports[(2)]	476,855.8	437,304.5	573,744.3	678,704.1	610,955.7
Services	(26,845.3)	(14,670.1)	(5,286.7)	(7,253.1)	(25,660.0)
Income	12,856.0	13,486.9	19,444.9	20,347.1	31,605.3
Current Transfers	(6,146.7)	(3,519.4)	(4,660.9)	(2,885.4)	(4,549.5)
Capital and Financial Account	58,857.6	80,996.4	78,335.3	27,063.2	32,435.2
Capital Account	(169.3)	(386.3)	(155.3)	0.7	42.3
Financial Account[(3)]	59,026.9	81,382.7	78,490.6	27,062.5	32,392.9
Net Errors and Omissions	(479.9)	5,866.8	(6,582.3)	1,233.2	(3,137.6)

Notes:

(1) Figures are prepared based on the sixth edition of the Balance of Payment Manual published by International Monetary Fund in December 2010 and implemented by the Government in December 2013. In December 2018, The Bank of Korea revised the Republic's balance of payments information to capture new economic activities and reflect the changes in raw data.

(2) These entries are derived from trade statistics and are valued on a free on board basis, meaning that the insurance and freight costs are not included.

(3) Includes borrowings from the IMF, syndicated bank loans and short-term borrowings.

(4) Preliminary.

Source: The Bank of Korea

Based on preliminary data, the current account surplus in 2022 decreased to U.S.$25.8 billion from the current account surplus of U.S.$85.2 billion in 2021, primarily due to a decrease in surplus from the goods account, the effect of which was offset in part by a decrease in deficit from the current transfers account and an increase in surplus from the income account. Based on preliminary data, the current account surplus in 2023 increased to U.S.$35.5 billion in 2023 from the current account surplus of U.S.$25.8 billion in 2022, primarily due to an increase in surplus from the goods account, as well as an increase in surplus from the income account, the effects of which were offset in part by an increase in deficit from the services account. Based on preliminary data, the Republic recorded a current account surplus of U.S.$16.8 billion in the first quarter of 2024, which represented a change from the current account deficit of U.S.$6.0 billion in the corresponding period of 2023, primarily due to a change from a deficit to a surplus from the goods account and a decrease in deficit from services account, the effects of which were offset in part by a decrease in surplus from the income account.

Foreign Direct Investment

Since 1960, the Government has adopted a broad range of related laws, administrative rules and regulations that provide a framework for the conduct and regulation of foreign investment activities. In September 1998, the Government promulgated the Foreign Investment Promotion Act, or the FIPA, which replaced previous foreign direct investment related laws, rules and regulations, to promote inbound foreign investments by providing incentives to, and facilitating investment activities in the Republic by, foreign nationals. The FIPA prescribes, among others, procedural requirements for inbound foreign investments, incentives for foreign investments such as tax reductions, and requirements relating to designation and development of foreign investment target regions. The Government believes that providing a stable and receptive environment for foreign direct investment will accelerate the inflow of foreign capital, technology and management techniques.

The following table sets forth information regarding annual foreign direct investment in the Republic for the periods indicated.

Foreign Direct Investment

	2019	2020	2021	2022	2023[2]
			(billions of dollars)		
Contracted and Reported Investment					
Greenfield Investment[1]	15.9	14.5	18.1	22.3	23.5
Merger & Acquisition	7.4	6.2	11.4	8.1	9.2
Total	23.3	20.7	29.5	30.4	32.7
Actual Investment	13.4	11.4	18.6	18.2	18.8

Notes:

(1) Includes building new factories and operational facilities.

(2) Preliminary.

Source: Ministry of Trade, Industry and Energy

In 2022, the contracted and reported amount of foreign direct investment in the Republic increased to U.S.$30.4 billion from U.S.$29.5 billion in 2021, primarily due to an increase in foreign investment in the manufacturing sector to U.S.$12.5 billion in 2022 from U.S.$5.0 billion in 2021.

Based on preliminary data, in 2023, the contracted and reported amount of foreign direct investment in the Republic increased to U.S.$32.7 billion from U.S.$30.4 billion in 2022, primarily due to an increase in foreign investment in the services sector to U.S.$17.8 billion in 2023 from U.S.$16.6 billion in 2022.

The following table sets forth information regarding the source of foreign direct investment by region and country for the periods indicated:

Foreign Direct Investment by Region and Country

	2019	2020	2021	2022	2023
			(billions of dollars)		
North America					
U.S.A.	6.8	5.3	5.3	8.7	6.1
Others	1.7	3.5	1.6	5.8	6.5
	8.6	8.8	6.9	14.5	12.6
Asia					
Japan	1.4	0.8	1.2	1.5	1.3
Hong Kong	1.9	1.1	0.6	0.4	1.2
Singapore	1.3	2.3	4.2	3.2	2.7
China	1.0	2.0	1.9	1.5	1.6
Others	1.0	0.4	1.2	0.5	1.8
	6.6	6.6	9.1	7.1	8.6
Europe					
Netherlands	1.7	0.6	1.0	4.9	1.1
England	2.1	0.7	0.8	0.6	3.6
Germany	0.4	0.5	2.8	0.5	0.2
France	0.1	0.2	0.2	0.2	1.2
Others	3.1	2.8	8.0	1.9	3.7
	7.4	4.8	12.8	8.1	9.8
Other regions and countries	0.7	0.5	0.7	0.8	1.7
Total	23.3	20.7	29.5	30.4	32.7

Source: Ministry of Trade, Industry and Energy

Trade Balance

Trade balance figures measure the difference between a country's exports and imports. If exports exceed imports the country has a trade balance surplus while if imports exceed exports the country has a deficit. A deficit, indicating that a country's receipts from abroad fall short of its payments to foreigners, must be financed, rendering the country a debtor nation. A surplus, indicating that a country's receipts exceed its payments to foreigners, allows the country to finance its trading partners' net deficit to the extent of the surplus, rendering the country a creditor nation.

The following table summarises the Republic's trade balance for the periods indicated:

Trade Balance

	Exports[(1)]	As % of GDP[(2)]	Imports[(1)]	As % of GDP[(2)]	Balance of Trade	Exports as % of Imports
	(billions of dollars, except percentages)					
2019	542.2	31.0%	503.3	28.7%	38.9	107.7%
2020	512.5	29.4%	467.6	26.8%	44.9	109.6%
2021	644.4	33.2%	615.1	31.7%	29.3	104.8%
2022	683.6	38.0%	731.4	40.7%	(47.8)	93.5%
2023[(3)]	632.4	34.4%	642.6	34.9%	(10.2)	98.4%

Notes:

(1) These entries are derived from customs clearance statistics on a C.I.F. basis, meaning that the price of goods includes insurance and freight cost.

(2) At current market prices.

(3) Preliminary.

Source: The Bank of Korea; Korea Customs Service

The Republic, due to its lack of natural resources, relies on extensive trading activity for growth. The country meets virtually all domestic requirements for petroleum, wood and rubber with imports, as well as much of its coal and iron needs. Exports consistently represent a high percentage of GDP and, accordingly, the international economic environment is of crucial importance to the Republic's economy. See "– *The Economy – Worldwide Economic and Financial Difficulties*".

The following tables give information regarding the Republic's exports and imports by major commodity groups:

Exports by Major Commodity Groups (C.I.F.)[(1)]

	2019	As % of 2019 Total	2020	As % of 2020 Total	2021	As % of 2021 Total	2022	As % of 2022 Total	2023[(2)]	As % of 2023 Total[(2)]
	(billions of dollars, except percentages)									
Foods & Consumer Goods	8.2	1.5	8.6	1.7	9.8	1.5	10.4	1.5	10.8	1.7
Raw Materials and Fuels	48.8	9.0	32.1	6.3	51.4	8.0	75.1	11.0	62.7	9.9
Petroleum & Derivatives	41.3	7.6	24.7	4.8	38.8	6.0	63.3	9.3	52.4	8.3
Others	7.5	1.4	7.4	1.4	12.6	2.0	11.8	1.7	10.3	1.6
Light Industrial Products	34.2	6.3	32.4	6.3	35.3	5.5	35.2	5.1	33.4	5.3
Heavy & Chemical Industrial Products	451.0	83.2	439.3	85.7	547.9	85.0	563.0	82.4	525.5	83.1

	2019	As % of 2019 Total	2020	As % of 2020 Total	2021	As % of 2021 Total	2022	As % of 2022 Total	2023[2]	As % of 2023 Total[2]
	(billions of dollars, except percentages)									
Electronic & Electronic Products	171.4	31.6	178.5	34.8	221.8	34.4	224.2	32.8	181.1	28.6
Chemicals & Chemical Products	67.4	12.4	66.6	13.0	91.9	14.3	98.0	14.3	86.5	13.7
Metal Goods	44.1	8.1	39.6	7.7	52.6	8.2	55.3	8.1	49.8	7.9
Machinery & Precision Equipment	67.6	12.5	63.4	12.4	70.9	11.0	70.9	10.4	72.6	11.5
Transport Equipment	87.7	16.2	77.6	15.1	94.2	14.6	98.4	14.4	118.3	18.7
Passenger Cars	40.5	7.5	35.6	6.9	44.3	6.9	51.7	7.6	68.3	10.8
Ship & Boat	19.5	3.6	19.2	3.7	22.4	3.5	17.6	2.6	20.9	3.3
Others	27.7	5.1	22.8	4.4	27.5	4.3	29.2	4.3	29.1	4.6
Others	12.7	2.3	13.6	2.7	16.6	2.6	16.1	2.4	17.2	2.7
Total	542.2	100.0	512.5	100.0	644.4	100.0	683.6	100.0	632.4	100.0

Notes:

(1) These entries are derived from customs clearance statistics. C.I.F. means that the price of goods includes insurance and freight costs.

(2) Preliminary.

Source: The Bank of Korea; Korea Customs Service

Imports by Major Commodity Groups (C.I.F.)[1]

	2019	As % of 2019 Total	2020	As % of 2020 Total	2021	As % of 2021 Total	2022	As % of 2022 Total	2023[2]	As % of 2023 Total[2]
	(billions of dollars, except percentages)									
Industrial Materials and Fuels	254.0	50.5	206.3	44.1	302.6	49.2	393.8	53.8	328.4	51.1
Crude Petroleum	70.3	14.0	44.5	9.5	67.0	10.9	106.0	14.5	86.2	13.4
Mineral	21.7	4.3	21.4	4.6	33.3	5.4	31.3	4.3	27.1	4.2
Chemicals	47.0	9.3	46.4	9.9	60.4	9.8	70.2	9.6	64.8	10.1
Iron & Steel Products	19.8	3.9	15.2	3.3	22.2	3.6	22.7	3.1	21.3	3.3
Non-ferrous Metal	12.0	2.4	11.7	2.5	18.4	3.0	19.5	2.7	15.9	2.5
Others	83.2	16.5	67.1	14.3	101.3	16.5	144.1	19.7	113.1	17.6
Capital Goods	164.9	32.8	177.1	37.9	212.8	34.6	228.9	31.3	211.4	32.9
Machinery & Precision Equipment	50.7	10.1	57.9	12.4	70.0	11.4	68.6	9.4	66.1	10.3
Electric & Electronic Machines	100.4	20.0	105.1	22.5	127.6	20.7	144.8	19.8	129.3	20.1
Transport Equipment	11.6	2.3	11.9	2.5	13.0	2.1	13.2	1.8	13.7	2.1
Others	2.1	0.4	2.3	0.5	2.2	0.4	2.3	0.3	2.3	0.4
Consumer Goods	84.5	16.8	84.2	18.0	99.6	16.2	108.7	14.9	102.7	16.0
Cereals	6.9	1.4	7.1	1.5	8.9	1.4	11.3	1.5	9.8	1.5
Goods for Direct Consumption	22.2	4.4	22.3	4.8	25.7	4.2	29.0	4.0	27.5	4.3
Consumer Durable Goods	34.5	6.9	34.9	7.5	42.2	6.9	42.8	5.9	40.7	6.3
Consumer Nondurable Goods	20.9	4.2	20.0	4.3	22.8	3.7	25.6	3.5	24.7	3.8
Total	503.3	100.0	467.6	100.0	615.1	100.0	731.4	100.0	642.6	100.0

Notes:

(1) These entries are derived from customs clearance statistics. C.I.F. means that the price of goods includes insurance and freight costs.

(2) Preliminary.

Source: The Bank of Korea; Korea Customs Service

In 2019, the Republic recorded a trade surplus of U.S.$38.9 billion. Exports decreased by 10.4 per cent. to U.S.$542.2 billion in 2019 from U.S.$604.9 billion in 2018, primarily due to a significant decrease in semiconductor prices. Imports decreased by 6.0 per cent. to U.S.$503.3 billion in 2019 from U.S.$535.2 billion in 2018, primarily due to a decrease in oil prices, which also led to decreased unit prices of other major raw materials.

In 2020, the Republic recorded a trade surplus of U.S.$44.9 billion. Exports decreased by 5.5 per cent. to U.S.$512.5 billion in 2020 from U.S.$542.2 billion in 2019, primarily due to a slowdown of the global economy resulting from the COVID-19 pandemic. Imports decreased by 7.1 per cent. to U.S.$467.6 billion in 2020 from U.S.$503.3 billion in 2019, primarily due to a decrease in oil prices, which also led to decreased unit prices of other major raw materials, as well as decreased domestic consumption, which were mainly attributed to the COVID-19 pandemic.

In 2021, the Republic recorded a trade surplus of U.S.$29.3 billion. Exports increased by 25.7 per cent. to U.S.$644.4 billion in 2021 from U.S.$512.5 billion in 2020, primarily due to a recovery of the global economy from the COVID-19 pandemic. Imports increased by 31.5 per cent. to U.S.$615.1 billion in 2021 from U.S.$467.6 billion in 2020, primarily due to an increase in domestic consumption as well as an increase in oil prices, which also led to increased unit prices of other major raw materials.

In 2022, the Republic recorded a trade deficit of U.S.$47.8 billion. Exports increased by 6.1 per cent. to U.S.$683.6 billion in 2022 from U.S.$644.4 billion in 2021, primarily due to an improvement in the domestic economic conditions of the Republic's major trading partners. Imports increased by 18.9 per cent. to U.S.$731.4 billion in 2022 from U.S.$615.1 billion in 2021, primarily due to an increase in energy and commodity prices, which also led to increased unit prices of other major raw materials.

Based on preliminary data, in 2023, the Republic recorded a trade deficit of U.S.$10.2 billion. Exports decreased by 7.5 per cent. to U.S.$632.4 billion in 2023 from U.S.$683.6 billion in 2022, primarily due to a deterioration in the domestic economic conditions of the Republic's major trading partners and a downturn in the semiconductor industry. Imports decreased by 12.1 per cent. to U.S.$642.6 billion in 2023 from U.S.$731.4 billion in 2022, primarily due to a decrease in energy and commodity prices, which also led to decreased unit prices of other major raw materials.

Based on preliminary data, the Republic recorded a trade surplus of U.S.$9.0 billion in the first quarter of 2024. Exports increased by 8.3 per cent. to U.S.$163.8 billion in the first quarter of 2024 from U.S.$151.2 billion in the corresponding period of 2023, primarily due to an improvement in the domestic economic conditions of the Republic's major trading partners. Imports decreased by 11.1 per cent. to U.S.$154.7 billion in the first quarter of 2024 from U.S.$174.0 billion in the corresponding period of 2023, primarily due to a decrease in oil prices, which also led to decreased unit prices of other major raw materials.

The following table sets forth the Republic's exports trading partners:

Exports

	2019	As % of 2019 Total	2020	As % of 2020 Total	2021	As % of 2021 Total	2022	As % of 2022 Total	2023[(1)]	As % of 2023 Total[(1)]
	(millions of dollars, except percentages)									
China	136,202.5	25.1	132,565.4	25.9	162,913.0	25.3	155,789.4	22.8	124,817.7	19.7
United States	73,343.9	13.5	74,115.8	14.5	95,902.0	14.9	109,765.7	16.1	115,696.3	18.3
Japan	28,420.2	5.2	25,097.7	4.9	30,061.8	4.7	30,606.3	4.5	29,000.6	4.6
Hong Kong	31,912.9	5.9	30,653.8	6.0	37,467.1	5.8	27,651.2	4.0	25,193.6	4.0
Singapore	12,768.0	2.4	9,828.4	1.9	14,148.5	2.2	20,205.4	3.0	18,752.0	3.0
Vietnam	48,177.7	8.9	48,510.6	9.5	56,728.5	8.8	60,963.7	8.9	53,479.5	8.5
Taiwan	15,666.3	2.9	16,465.4	3.2	24,285.3	3.8	26,198.2	3.8	20,178.8	3.2
India	15,096.3	2.8	11,937.3	2.3	15,603.3	2.4	18,870.1	2.8	17,949.6	2.8
Indonesia	7,650.1	1.4	6,312.9	1.2	8,550.3	1.3	10,215.9	1.5	9,140.2	1.4
Mexico	10,927.0	2.0	8,241.0	1.6	11,290.2	1.8	12,654.2	1.9	12,222.0	1.9
Australia	7,890.6	1.5	6,188.5	1.2	9,750.5	1.5	18,753.0	2.7	17,791.4	2.8
Germany	8,685.7	1.6	9,576.1	1.9	11,109.9	1.7	10,067.7	1.5	10,317.1	1.6
Others[(2)]	145,491.4	26.8	133,005.1	26.0	166,590.0	25.9	181,844.0	26.6	177,687.0	28.1
Total	542,232.6	100.0	512,498.0	100.0	644,400.4	100.0	683,584.8	100.0	632,225.8	100.0

Notes:

(1) Preliminary.

(2) Includes more than 200 countries and regions.

Source: The Bank of Korea; Korea Customs Service

The following table sets forth the Republic's imports trading partners:

Imports

	2019	As % of 2019 Total	2020	As % of 2020 Total	2021	As % of 2021 Total	2022	As % of 2022 Total	2023[(1)]	As % of 2023 Total[(1)]
	(millions of dollars, except percentages)									
China	107,228.7	21.3	108,884.6	23.3	138,628.1	22.5	154,576.3	21.1	142,857.3	22.2
Japan	47,580.9	9.5	46,023.0	9.8	54,642.2	8.9	54,711.8	7.5	47,656.5	7.4
United States	61,878.6	12.3	57,492.2	12.3	73,213.4	11.9	81,784.7	11.2	71,272.0	11.1
Saudi Arabia	21,840.6	4.3	15,979.6	3.4	24,271.3	3.9	41,640.3	5.7	32,762.5	5.1
Qatar	13,036.6	2.6	7,562.1	1.6	11,611.1	1.9	16,567.2	2.3	14,998.9	2.3
Australia	20,608.2	4.1	18,707.1	4.0	32,918.0	5.4	44,929.4	6.1	32,823.0	5.1
Germany	19,936.9	4.0	20,680.9	4.4	21,996.3	3.6	23,614.9	3.2	23,611.2	3.7
Kuwait	10,771.1	2.1	5,827.9	1.2	8,253.9	1.3	12,401.9	1.7	9,659.0	1.5
Taiwan	15,717.7	3.1	17,837.0	3.8	23,485.8	3.8	28,274.6	3.9	24,370.6	3.8
United Arab Emirates	8,991.1	1.8	5,692.7	1.2	7,318.7	1.2	15,492.8	2.1	16,422.8	2.6
Indonesia	8,819.8	1.8	7,594.7	1.6	10,725.1	1.7	15,734.9	2.2	12,145.9	1.9
Malaysia	9,279.9	1.8	8,892.6	1.9	10,456.2	1.7	15,249.1	2.1	15,237.1	2.4
Others[(2)]	157,652.8	31.3	146,458.4	31.3	197,573.3	32.1	226,391.8	31.0	198,755.3	30.9
Total	503,342.9	100.0	467,632.8	100.0	615,093.4	100.0	731,369.7	100.0	642,572.1	100.0

Notes:

(1) Preliminary.

(2) Includes more than 200 countries and regions.

Source: The Bank of Korea; Korea Customs Service

In recent years, the value of the Won relative to the U.S. dollar and Japanese Yen has fluctuated widely, in particular due to the impact of the COVID-19 pandemic, the invasion of Ukraine by Russia and the ensuing sanctions against Russia, the escalation of hostilities in the Middle East following the Israel-Hamas war and the widening difference in policy rates between the United States and the Republic, among others. See "*– The Economy – Worldwide Economic and Financial Difficulties*". An appreciation of the Won against the U.S. dollar and Japanese Yen increases the Won value of the Republic's export sales and diminishes the price-competitiveness of export goods in foreign markets in U.S. dollar and Japanese Yen terms, respectively. However, it also decreases the cost of imported raw materials in Won terms and the cost in Won of servicing the Republic's U.S. dollar and Japanese Yen denominated debt. In general, when the Won appreciates, export dependent sectors of the Korean economy, including automobiles, electronics and shipbuilding, suffer from the resulting pressure on the price-competitiveness of export goods, which may lead to reduced profit margins and loss in market share, more than offsetting a decrease in the cost of imported raw materials. If the export dependent sectors of the Korean economy suffer reduced profit margins or a net loss, it could result in a material adverse effect on the Korean economy.

Since the Government announced its plans to pursue free trade agreements, or FTAs, in 2003, the Republic has entered into FTAs with key trading partners. The Republic has had bilateral FTAs in effect with Chile since 2004, Singapore since 2006, India since 2010, Peru since 2011, the United States since 2012, Turkey since 2013, Australia since 2014, Canada, China, New Zealand and Vietnam since 2015, Colombia since July 2016, the United Kingdom since January 2021, Israel and Cambodia since December 2022 and Indonesia since January 2023. The Republic is currently in negotiations with a number of other key trading partners. In addition, the Republic has had regional FTAs in effect with the European Free Trade Association since 2006, the Association of Southeast Asian Nations since 2009, the European Union since 2011, with each of Panama, Costa Rica, Guatemala, Honduras, El Salvador and Nicaragua since 2021 and with the Regional Comprehensive Economic Partnership since 2022, and is currently negotiating additional regional FTAs. The Republic and Turkey have completed revisions to their bilateral FTA, which became effective in August 2018. The Republic and the United States have also completed revisions to their bilateral FTA, which became effective in January 2019.

Non-Commodities Trade Balance

The Republic had non-commodities trade deficits of U.S.$20.1 billion in 2019 and U.S.$4.7 billion in 2020, and non-commodities trade surpluses of U.S.$9.5 billion in 2021 and U.S.$10.2 billion in 2022. Based on preliminary data, the Republic had a non-commodities trade surplus of U.S.$1.4 billion in 2023.

Foreign Currency Reserves

The foreign currency reserves are external assets that are readily available to and controlled by monetary authorities for meeting balance of payments financing needs and for other related purposes. The following table shows the Republic's total official foreign currency reserves:

Total Official Reserves

	31 December				
	2019	**2020**	**2021**	**2022**	**2023**
			(millions of dollars)		
Gold	4,794.8	4,794.8	4,794.8	4,794.8	4,794.8
Foreign Exchange[(1)]	397,876.1	430,117.2	438,319.2	399,043.1	395,643.3
Total Gold and Foreign Exchange	402,670.9	434,912.0	443,114.0	403,837.9	400,438.1
Reserve Position at IMF	2,792.9	4,815.3	4,634.9	4,489.5	4,627.8
Special Drawing Rights	3,352.4	3,370.8	15,369.5	14,836.3	15,082.1
Total Official Reserves	408,816.1	443,098.1	463,118.4	423,163.7	420,147.9

Note:

(1) More than 95 per cent. of the Republic's foreign currency reserves are comprised of convertible foreign currencies.

Source: The Bank of Korea; International Monetary Fund

The Government's foreign currency reserves increased to U.S.$262.2 billion as of 31 December 2007 from U.S.$8.9 billion as of 31 December 1997, primarily due to continued balance of trade surpluses and capital inflows. In 2008, the Government's foreign currency reserves decreased, falling to U.S.$201.2 billion as of 31 December 2008, partially as a result of the Government's use of the foreign currency reserve to provide foreign currency liquidity to Korean financial institutions. The Government's foreign currency reserves increased to U.S.$408.8 billion as of 31 December 2019, U.S.$443.1 billion as of 31 December 2020 and U.S.$463.1 billion as of 31 December 2021, primarily due to continued trade surpluses and capital inflows. The Government's foreign currency reserves decreased to U.S.$423.2 billion as of 31 December 2022 and U.S.$420.1 billion as of 31 December 2023, however, primarily in relation to the depreciation of the Won against the U.S. dollar. The amount of the Government's foreign currency reserve was U.S.$412.8 billion as of 31 May 2024.

Government Finance

The Ministry of Economy and Finance prepares the Government budget and administers the Government's finances.

The Government's fiscal year commences on 1 January. The Government must submit the budget, which is drafted by the Minister of Economy and Finance and approved by the President of the Republic, to the National Assembly not later than 90 days prior to the start of the fiscal year and may submit supplementary budgets revising the original budget at any time during the fiscal year.

2022 budgeted revenues increased by 14.8 per cent. to ₩517.7 trillion from ₩450.9 trillion in 2021, led by an increase in budgeted tax revenues (including taxes on income, profits and capital gains as well as taxes on goods and services). 2022 budgeted expenditures and net lending increased by 8.6 per cent. to ₩571.8 trillion from ₩526.3 trillion in 2021, led by increases in budgeted expenditures on recovery from the COVID-19 pandemic (including support for small businesses) and revitalisation of the economy. The 2022 budget anticipated a ₩54.1 trillion budget deficit.

2023 budgeted revenues increased by 13.7 per cent. to ₩588.6 trillion from ₩517.7 trillion in 2022, led by an increase in budgeted tax revenues (including taxes on income, profits and capital gains). 2023 budgeted expenditures and net lending increased by 5.2 per cent. to ₩601.6 trillion from ₩571.8 trillion in 2022, led by increases in budgeted expenditures on revitalisation of the economy. The 2023 budget anticipated a ₩13.1 trillion budget deficit.

2024 budgeted revenues decreased by 2.6 per cent. to ₩573.3 trillion from ₩588.6 trillion in 2023, led by a decrease in budgeted tax revenues (including taxes on income, profits and capital gains). 2024 budgeted expenditures and net lending increased by 2.7 per cent. to ₩617.7 trillion from ₩601.6 trillion in 2023, led by increases in budgeted expenditures on revitalisation of the economy. The 2024 budget anticipated a ₩44.4 trillion budget deficit.

Beginning in March 2020, the National Assembly approved a series of supplementary budgets as part of the Government's efforts to mitigate adverse effects on the Korean economy resulting from the COVID-19 pandemic. See "– *The Economy – Worldwide Economic and Financial Difficulties*". These supplementary budgets, which amounted to ₩66.8 trillion in 2020, ₩49.8 trillion in 2021 and ₩78.9 trillion in 2022, have been some of the largest of their kind drawn up in response to an outbreak of an infectious disease in Korea. The supplementary budgets have been funded through the issuance of treasury bonds by the Government, The Bank of Korea's unappropriated surplus and other surplus funds available to the Government, among others.

Any significant increase in additional spending measures may lead to a budget deficit for 2024, which could result in a deterioration in the Government's fiscal position and an increase in borrowings.

The following table shows consolidated Government revenues and expenditures:

Consolidated Central Government Revenues and Expenditures

	Actual					Budget		
	2019	**2020**	**2021**	**2022**	**2023[1]**	**2022**	**2023**	**2024[1]**
				(billions of Won)				
Total Revenues	443,853	446,628	537,619	588,332	543,586	517,701	588,577	573,261
Current Revenues	441,148	443,694	534,999	585,325	539,887	514,696	584,672	569,507
Total Tax Revenues	363,005	360,129	422,182	479,384	432,989	424,050	486,573	459,643
Taxes on income, profits and capital gains	155,736	148,622	184,509	232,319	196,253	180,740	236,860	203,425
Social security contributions	69,550	74,583	78,104	83,444	88,918	80,666	86,116	92,329
Tax on property	15,474	22,735	31,392	27,696	25,311	28,047	27,815	24,149
Taxes on goods and services	98,614	91,047	99,840	105,828	97,008	106,738	107,760	110,503
Taxes on international trade and transaction	7,882	7,059	8,227	10,324	7,288	8,735	10,724	8,907
Other tax	15,748	16,084	20,110	19,773	18,211	19,124	17,299	20,330
Non-Tax Revenues	78,143	83,565	112,818	105,941	106,898	90,646	98,099	109,864
Operating surpluses of departmental enterprise sales and property income	29,345	33,571	56,664	47,459	42,537	34,628	36,492	41,432
Administration fees & charges and non-industrial sales	10,181	9,929	10,865	11,434	12,428	11,402	12,470	13,357
Fines and forfeits	22,554	23,583	26,993	28,276	29,752	25,501	27,816	30,829
Contributions to government employee pension fund	13,523	13,876	14,918	16,348	18,149	16,633	18,480	20,322
Current revenue of non-financial public enterprises	2,540	2,606	3,378	2,425	4,032	2,483	2,842	3,925
Capital Revenues	2,705	2,934	2,620	3,007	3,700	3,006	3,905	3,754
Total Expenditures and Net Lending	455,850	517,781	568,113	652,902	580,354	571,814	601,629	617,664
Total Expenditures	436,698	489,966	538,034	622,997	559,707	546,446	584,587	593,643
Current Expenditures	387,100	455,098	502,191	585,593	523,270	506,262	545,493	553,669
Expenditure on goods and service	60,196	79,460	88,144	89,759	90,389	94,814	94,966	98,053
Interest payment	13,837	14,452	15,431	18,481	22,362	17,928	21,726	24,968
Subsidies and other current transfers	309,575	357,295	395,826	473,661	405,733	389,599	424,353	425,078
Current expenditure of non-financial public enterprises	3,492	3,891	2,790	3,692	4,785	3,922	4,449	5,570
Capital Expenditures	49,598	34,868	35,842	37,404	36,437	40,184	39,094	39,974
Net Lending	19,152	27,815	30,079	29,905	20,647	25,369	17,042	24,021

Note:

(1) Preliminary.

Source: Ministry of Economy and Finance; The Bank of Korea; Korea National Statistical Office

The consolidated Government account consists of a General Account, Special Accounts (including a non-financial public enterprise special account) and Public Funds. The Government segregates the accounts of certain functions of the Government into Special Accounts and Public Funds for more effective administration and fiscal control. The Special Accounts and Public Funds relate to business type activities, such as economic development, road and railway construction and maintenance, monopolies, and communications developments and the administration of loans received from official international financial organisations and foreign governments.

Revenues derive mainly from national taxes and non-tax revenues. Taxes in Korea can be roughly classified into the following types:

- income tax and capital gains tax,
- property tax,
- value-added tax,
- customs duty tax, and
- other taxes.

Income tax and capital gains tax are imposed on income derived from labour, business operation and ownership of assets and profits derived from capital appreciation. Income tax and capital gains tax, depending on the type of taxpayer, can be further classified into corporate income tax and individual income tax. Property tax is imposed on exchange or ownership of property and includes inheritance tax and gift tax. Value-added tax is imposed on value added to goods and services. Customs duty tax is imposed on imported goods. Other taxes include tax on certain securities transactions and a stamp tax for certain documents.

Expenditures include general administration, national defence, community service, education, health, social security, certain annuities and pensions and local finance, which involves the transfer of tax revenues to local governments.

For 2019, the Republic recorded total revenues of ₩443.9 trillion and total expenditures and net lending of ₩455.9 trillion. The Republic had a fiscal deficit of ₩12.0 trillion in 2019.

For 2020, the Republic recorded total revenues of ₩446.6 trillion and total expenditures and net lending of ₩517.8 trillion. The Republic had a fiscal deficit of ₩71.2 trillion in 2020.

For 2021, the Republic recorded total revenues of ₩537.6 trillion and total expenditures and net lending of ₩568.1 trillion. The Republic had a fiscal deficit of ₩30.5 trillion in 2021.

For 2022, the Republic recorded total revenues of ₩588.3 trillion and total expenditures and net lending of ₩652.9 trillion. The Republic had a fiscal deficit of ₩64.6 trillion in 2022.

Based on preliminary data, the Republic recorded total revenues of ₩543.6 trillion and total expenditures and net lending of ₩580.4 trillion in 2023. The Republic had a fiscal deficit of ₩36.8 trillion in 2023.

Debt

The Government estimates that the total outstanding debt of the Government (including guarantees by the Government) as of 31 December 2022 amounted to approximately ₩1,044.0 trillion, an increase of 9.9 per cent. over the previous year.

The Government estimates that the total outstanding debt of the Government (including guarantees by the Government) as of 31 December 2023 amounted to approximately ₩1,102.1 trillion, an increase of 5.6 per cent. over the previous year.

The Ministry of Economy and Finance administers the national debt of the Republic.

External and Internal Debt of the Government

The following table sets out, by currency and the equivalent amount in U.S. dollars, the estimated outstanding direct external debt of the Government as of 31 December 2023:

Direct External Debt of the Government

	Amount in Original Currency	Equivalent Amount in U.S. Dollars[(1)]
	(millions)	
U.S.$	6,025.0	6,025.0
Euro (EUR)	2,150.0	2,378.8
Total		8,403.8

Note:

(1) Amounts expressed in currencies other than U.S.$ are converted to U.S.$ at the arbitrage rate announced by the Seoul Money Brokerage Services, Ltd. in effect on 29 December 2023.

The following table summarises, as of 31 December of the years indicated, the outstanding direct internal debt of the Republic:

Direct Internal Debt of the Government

	(billions of Won)
2019	690,524.1
2020	808,941.0
2021	927,865.2
2022	1,021,574.4
2023	1,080,844.4

The following table sets out all guarantees by the Government of indebtedness of others:

Guarantees by the Government

	31 December				
	2019	**2020**	**2021**	**2022**	**2023**
			(billions of Won)		
Domestic	14,760.0	12,490.0	10,930.0	10,620.0	10,460.0
External[(1)]	–	–	–	–	–
Total	14,760.0	12,490.0	10,930.0	10,620.0	10,460.0

Note:

(1) Converted to Won at foreign exchange banks' telegraphed transfer selling rates to customers or the market average exchange rates in effect on 31 December of each year.

For further information on the outstanding indebtedness, including guarantees, of the Republic, see "– *Tables and Supplementary Information*".

External Liabilities

The following tables set out certain information regarding the Republic's external liabilities calculated under the criteria based on the sixth edition of the Balance of Payment Manual published by the International Monetary Fund in December 2010 and implemented by the Government in December 2013. Under BPM6, in particular, prepayments received in connection with the construction of ships are excluded from the external liabilities.

	31 December				
	2019	**2020**	**2021**	**2022**	**2023[1]**
			(billions of dollars)		
Long-term Liabilities	335.3	390.6	465.6	498.8	527.4
General Government	91.2	119.4	144.4	156.1	170.8
Monetary Authorities	14.4	15.0	35.9	25.1	22.5
Banks	104.4	112.2	128.1	146.5	147.6
Other Sectors	125.2	144.0	157.2	171.1	186.5
Short-term Liabilities	135.5	160.1	165.1	166.5	136.2
General Government	1.6	2.1	1.6	1.2	1.6
Monetary Authorities	10.9	10.8	9.7	4.7	3.9
Banks	102.0	122.0	124.3	129.2	101.9
Other Sectors	21.0	25.2	29.6	31.3	28.8
Total External Liabilities	470.7	550.6	630.7	665.2	663.6

Note:

(1) Preliminary.

Commitments to Assume Treasury Obligations

The Government may, if deemed necessary for recovery from disasters and calamities, make commitments to assume treasury obligations to the extent resolved by the National Assembly each fiscal year. In such cases, such commitments shall be executed in accordance with the procedures for spending reserve funds within general accounts. As of 8 September 2023, such commitments assumed by the Government amounted to ₩0.2 trillion.

Debt Record

The Government has always paid when due the full amount of principal of, interest on, and amortisation of sinking fund requirements of, all of its indebtedness.

Tables and Supplementary Information

(A) External Debt of the Government

(1) External Bonds of the Government

Series	**Issue Date**	**Maturity Date**	**Interest Rate**	**Currency**	**Original Principal Amount**	**Principal Amount Outstanding as of 31 December 2023**
			(%)			
2005-001	2 November 2005	3 November 2025	5.625	USD	400,000,000	400,000,000
2014-001	10 June 2014	10 June 2044	4.125	USD	1,000,000,000	1,000,000,000
2014-002	10 June 2014	10 June 2024	2.125	EUR	750,000,000	750,000,000
2017-001	19 January 2017	19 January 2027	2.750	USD	1,000,000,000	1,000,000,000
2018-001	20 September 2018	20 September 2028	3.500	USD	500,000,000	500,000,000
2018-002	20 September 2018	20 September 2048	3.875	USD	500,000,000	500,000,000
2019-001	19 June 2019	19 June 2029	2.500	USD	1,000,000,000	1,000,000,000
2019-002	19 June 2019	19 June 2024	2.000	USD	500,000,000	500,000,000
2020-001	16 September 2020	16 September 2030	1.000	USD	625,000,000	625,000,000
2020-002	16 September 2020	16 September 2025	0.000	EUR	700,000,000	700,000,000

Series	Issue Date	Maturity Date	Interest Rate	Currency	Original Principal Amount	Principal Amount Outstanding as of 31 December 2023
			(%)			
2021-001	15 October 2021	15 October 2026	0.000	EUR	700,000,000	700,000,000
2021-002	15 October 2021	15 October 2031	1.750	USD	500,000,000	500,000,000
Total External Bonds in Original Currencies				USD		6,025,000,000
				EUR		2,150,000,000
Total External Bonds in Equivalent Amount of Won[(1)]				(₩)		10,835,803,500,000

Note:

(1) U.S. dollar amounts are converted to Won amounts at the rate of U.S.$1.00 to ₩1,289.4, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd. Euro amounts are converted to Won amounts at the rate of EUR 1.00 to ₩1,426.6, the market average exchange rate in effect on 29 December 2023, as announced by Seoul Money Brokerage Services, Ltd.

(2) External Borrowings of the Government

None.

(B) External Guaranteed Debt of the Government

None.

(C) Internal Debt of the Government

Title	Range of Interest Rates	Range of Years of Issue	Range of Years of Original Maturity	Principal Amounts Outstanding as of 31 December 2023
	(%)			*(billions of Won)*
1. Bonds				
Interest-Bearing Treasury Bond for Treasury Bond Management Fund	0.750-5.750	2006-2023	2024-2072	998,003.4
Interest-Bearing Treasury Bond for National Housing I	1.00-2.00	2019-2023	2024-2029	81,624.2
Interest-Bearing Treasury Bond for National Housing II	0.0-3.0	2014-2020	2024-2030	2.4
Interest-Bearing Treasury Bond for National Housing III	–	–	–	0
Non-interest-Bearing Treasury Bond for Contribution to International Organisations[(1)]	0	1968-1985	–	9.4
Total Bonds				1,079,639.4

Title	Range of Interest Rates	Range of Years of Issue	Range of Years of Original Maturity	Principal Amounts Outstanding as of 31 December 2023
	(%)			*(billions of Won)*
2. Borrowings				
Borrowings from The Bank of Korea	–	–	–	0
Borrowings from the Sports Promotion Fund	1.870-3.665	2022-2023	2024-2025	960.0
Borrowings from The Korea Foundation Fund	–	–	–	0
Borrowings from the Labour Welfare Promotion Fund	3.665-3.975	2023	2024	50.0
Borrowings from Korea Technology Finance Corporation	3.135-3.585	2022	2024	195.0
Borrowings from the Credit Guarantee Fund for Agriculture, Forestry and Fisheries Suppliers	–	–	–	0
Borrowings from the Government Employees' Pension Fund	–	–	–	0
Borrowings from the Film Industry Development Fund	–	–	–	0
Borrowings from the Korea Credit Guarantee Fund	–	–	–	0
Borrowings from the Housing Finance Credit Guarantee Fund	–	–	–	0
Borrowings from the Korea Infrastructure Credit Guarantee Fund	–	–	–	0
Total Borrowings				1,205.0
Total Internal Funded Debt				1,080,844.4

Note:

(1) Interest Rates and Years of Original Maturity not applicable.

(D) Internal Guaranteed Debt of the Government

Title	Range of Interest Rates	Range of Years of Issue	Range of Years of Original Maturity	Principal Amounts Outstanding as of 31 December 2023
	(%)			*(billions of Won)*
1. Bonds of Government-Affiliated Corporations				
Korea Deposit Insurance Corporation	–	–	–	0
Korea Student Aid Foundation	1.07-5.48	2011-2023	2024-2043	9,980.0
Key Industry Stabilisation Fund	1.08-2.19	2020-2021	2024-2025	480.0
Total Internal Guaranteed Debt				10,460.0

(E) Others

Commitments to Assume Treasury Obligations

The Government may, if deemed necessary for recovery from disasters and calamities, make commitments to assume treasury obligations to the extent resolved by the National Assembly each fiscal year. In such cases, such commitments shall be executed in accordance with the procedures for spending reserve funds within general accounts. As of 8 September 2023, such commitments assumed by the Government amounted to ₩0.2 trillion.

TAXATION

UNITED STATES TAXATION

The following is a summary of certain U.S. federal income tax considerations of the purchase, ownership and disposition of the Notes as of the date of this Offering Circular. This summary deals only with Notes held as capital assets within the meaning of Section 1221 of the Internal Revenue Code of 1986, as amended (the "Code") by Noteholders who purchase the Notes for cash upon original issuance in this offering at the issue price (i.e., the first price at which a substantial amount of the Notes is sold for cash to investors, including sales to bond houses, brokers, or similar persons or organisations acting in the capacity of underwriters, placement agents, or wholesalers).

As used herein, a "U.S. Noteholder" means a beneficial owner of the Notes that is, for U.S. federal income tax purposes, any of the following:

- an individual who is a citizen or resident of the United States;
- a corporation (or other entity treated as a corporation) that is created or organised under the laws of the United States, any state thereof or the District of Columbia;
- an estate the income of which is subject to U.S. federal income taxation regardless of its source; or
- a trust if it (i) is subject to the primary supervision of a court within the United States and one or more U.S. persons have the authority to control all substantial decisions of the trust or (ii) has a valid election in effect under applicable U.S. Treasury regulations to be treated as a U.S. person.

The term "non-U.S. Noteholder" means a beneficial owner of the Notes that is, for U.S. federal income tax purposes: (i) an individual who is classified as a non-resident alien, (ii) a foreign corporation or (iii) a foreign trust or estate.

If an entity classified as a partnership for U.S. federal income tax purposes holds Notes, the tax treatment of a partner will generally depend upon the status of the partner and the activities of the partnership. If you are a partnership or a partner in a partnership considering an investment in the Notes, you should consult your tax adviser.

This summary does not represent a detailed description of the U.S. federal income tax consequences that may be applicable to you if you are subject to special tax treatment under the U.S. federal income tax laws, including, without limitation if you are:

- a dealer in securities or currencies;
- a financial institution;
- a regulated investment company;
- a real estate investment trust;
- a tax-exempt organisation;
- an insurance company;
- a person holding the Notes 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 any alternative minimum tax;
- a partnership or other pass-through entity (or an investor in such an entity);
- a U.S. Noteholder whose "functional currency" is not the U.S. dollar;
- a U.S. Noteholder holding the Notes in connection with a trade or business conducted outside the United States;
- a person required for U.S. federal income tax purposes to conform the timing of income accruals with respect to the Notes to its financial statements under Section 451(b) of the Code;
- a "controlled foreign corporation";
- a "passive foreign investment company"; or
- a U.S. expatriate.

This summary is based on the Code, U.S. Treasury regulations, administrative rulings and judicial decisions, and the income tax treaty between the United States and Korea (the "Treaty") as of the date hereof. Those authorities may be changed, possibly on a retroactive basis, or interpreted differently by the U.S. Internal Revenue Service ("IRS") or the courts so as to result in U.S. federal income tax consequences different from those summarised below. We have not sought and will not seek any rulings from the IRS regarding the matters discussed below. There can be no assurance that the IRS will not take positions concerning the tax consequences of the purchase, ownership or disposition of the Notes that are different from those discussed below.

This summary does not represent a detailed description of the U.S. federal income tax consequences to you in light of your particular circumstances and does not address the effects of any U.S. federal tax consequences other than income taxes and does not address state, local or non-U.S. tax laws, gift or estate tax laws, or the Medicare tax on net investment income. It is not intended to be, and should not be construed to be, legal or tax advice to any particular purchaser of the Notes. If you are considering the purchase of the Notes, you should consult your tax adviser concerning the particular U.S. federal income tax consequences to you of the purchase, ownership and disposition of the Notes, as well as the consequences to you arising under other U.S. federal tax laws and the laws of any other taxing jurisdiction.

U.S. Noteholders

Stated Interest. Stated interest on the Notes will generally be taxable as ordinary interest income when accrued or received by a U.S. Noteholder, in accordance with the U.S. Noteholder's regular method of accounting for U.S. federal income tax purposes. It is expected, and this discussion assumes, that the Notes will be issued without original issue discount ("OID") for U.S. federal income tax purposes. In general, however, if the Notes are issued with OID at or above a *de minimis* threshold, a U.S. Noteholder will be required to include OID in gross income, as ordinary income, under a "constant-yield method" before the receipt of cash attributable to such income, regardless of the U.S. Noteholder's regular method of accounting for U.S. federal income tax purposes.

Payments under the Guarantee and Additional Amounts. In addition to interest payments on the Notes, a U.S. Noteholder will be required to include in income any additional amounts and any Korean tax withheld from payments under the Guarantee notwithstanding that such U.S. Noteholder in fact did not receive such withheld tax. The application of the foreign tax credit rules to any Korean taxes withheld from payments under the Guarantee is very complex, and there are very significant limitations on the creditability of such Korean taxes. Accordingly, no assurance can be given that any such Korean taxes will be creditable taxes or that limitations will not preclude a U.S. Noteholder from utilising any foreign tax credit. To the extent any such Korean taxes are not creditable, a U.S. Noteholder may be able to deduct the Korean tax in

computing such U.S. Noteholder's taxable income for U.S. federal income tax purposes, subject to applicable limitations. If any such Korean taxes are creditable taxes, a U.S. Noteholder may nevertheless elect to deduct such taxes, though any election to deduct creditable foreign taxes instead of claiming foreign tax credits must be applied to all creditable foreign taxes paid or accrued in the U.S. Holder's taxable year. Interest (including amounts paid under the Guarantee) and additional amounts will generally constitute income from sources within the United States under the Code and Treasury Regulations promulgated thereunder. U.S. Noteholders should consult their own tax advisors regarding the creditability or deductibility of any Korean withholding tax imposed on a payment under the Guarantee, the potential application of the Treaty (which in some respects is unclear) and any limitations applicable in their particular circumstances.

Sale, Exchange and Retirement of the Notes. Upon the sale, exchange or retirement of a Note, a U.S. Noteholder will generally recognise gain or loss equal to the difference between the amount realised upon the sale, exchange or retirement (less an amount equal to any accrued and unpaid interest, which will be taxable as such) and the U.S. Noteholder's adjusted tax basis in the Note. A U.S. Noteholder's adjusted tax basis in a Note will generally be the cost for that Note. Such gain or loss will be capital gain or loss and will be long-term capital gain or loss if at the time of sale, exchange or retirement, the Note has been held for more than one year. Long-term capital gains of an individual U.S. Noteholder are generally eligible for reduced rates of taxation. The deductibility of capital losses is subject to limitations.

Information Reporting and Backup Withholding. Information reporting requirements generally apply in connection with payments on the Notes to, and the proceeds from a sale or other disposition of the Notes by, certain U.S. Noteholders. A U.S. Noteholder will be subject to backup withholding on these payments if the U.S. Noteholder fails to provide its taxpayer identification number or comply with certain certification procedures or otherwise establish an exemption from backup withholding. Backup withholding is not an additional tax. Any amount paid as backup withholding may be creditable against the holder's U.S. federal income tax liability, provided that the required information is timely furnished to the IRS.

Non-U.S. Noteholders

Stated Interest. Subject to the discussions of backup withholding and FATCA below, a non-U.S. Noteholder will not generally be subject to U.S. federal income tax or U.S. federal withholding tax with respect to any payment of interest on the Notes under the portfolio interest exemption, provided that:

- interest paid on the Notes is not effectively connected with the non-U.S. Noteholder's conduct of a trade or business in the United States;

- the non-U.S. Noteholder does not actually (or constructively) own 10 per cent. or more of the total combined voting power of all classes of the Issuer's voting stock within the meaning of the Code and applicable U.S. Treasury regulations;

- the non-U.S. Noteholder is not a controlled foreign corporation that is related to the Issuer, directly or indirectly, through stock ownership within the meaning of Section 881(c)(3)(B) of the Code;

- the non-U.S. Noteholder is not a bank whose receipt of interest on the Notes is described in Section 881(c)(3)(A) of the Code; and

- the non-U.S. Noteholder provides the applicable withholding agent a properly completed IRS Form W-8 (and any required certification is provided by any intermediary through which such non-U.S. Noteholder holds the Notes). Special certification rules apply to non-U.S. Noteholders that are pass-through entities rather than corporations or individuals.

If the non-U.S. Noteholder cannot satisfy the requirements described above, payments of interest made to the holder will be subject to a 30 per cent. U.S. federal withholding tax, unless the non-U.S. Noteholder provides the applicable withholding agent with a properly executed:

- IRS Form W-8BEN or IRS Form W-8BEN-E (or other applicable form) certifying an exemption from or reduction in withholding under the benefit of an applicable income tax treaty; or

- IRS Form W-8ECI (or other applicable form) certifying that interest paid on the Notes is not subject to withholding tax because it is effectively connected with such Noteholder's conduct of a trade or business in the United States (as discussed below).

If a non-U.S. Noteholder is engaged in a trade or business in the United States and interest on the Notes is effectively connected with the conduct of that trade or business (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment of the non-U.S. Noteholder), the non-U.S. Noteholder will not be subject to withholding tax, but will be subject to U.S. federal income tax on that interest on a net income basis in generally the same manner as if the non-U.S. Noteholder were a U.S. person as defined under the Code. In addition, a non-U.S. Noteholder that is treated as a foreign corporation may be subject to a branch profits tax equal to 30 per cent. (or a lower applicable income tax treaty rate). Non-U.S. Noteholders engaged in a trade or business in the United States should consult their own tax advisers regarding the consequences of an investment in the Notes in their particular circumstances.

Payments under the Guarantee are treated as U.S. source interest and therefore may be subject to U.S. federal withholding tax. No additional amounts, however, will be payable with respect to any U.S. withholding taxes imposed, if any, on payments under the Guarantee.

Sale, Exchange and Retirement of the Notes. Subject to the discussion of backup withholding below, any gain realised on the sale, exchange or retirement of a Note generally will not be subject to U.S. federal income tax unless:

- the gain is effectively connected with the non-U.S. Noteholder's conduct of a trade or business in the United States (and, if required by an applicable income tax treaty, is attributable to a U.S. permanent establishment), in which case such gain will be subject to U.S. federal income tax in generally the same manner as effectively connected interest is taxed (including the potential application of the branch profits tax described above with respect to corporate non-U.S. Noteholders); or

- the non-U.S. Noteholder is an individual who is present in the United States for 183 days or more in the taxable year of that disposition, and certain other conditions are met, in which case, unless an applicable income tax treaty provides otherwise, such non-U.S. Noteholder will be subject to a flat 30 per cent. U.S. federal income tax on the gain derived from the sale, exchange or retirement, which may be offset by certain U.S.-source capital losses.

Any amounts received on sale, exchange or retirement that are attributable to accrued interest will be treated as interest and taxed as described above under "*Stated Interes*t."

Information Reporting and Backup Withholding. Information returns are required to be filed with the IRS in connection with payments of interest on the Notes to non-U.S. Noteholders. Unless a non-U.S. Noteholder complies with certification procedures to establish that it is not a United States person (as defined in the Code), information returns may also be filed with the IRS in connection with the proceeds from a sale, retirement or other disposition of a Note (including upon redemption). Unless a payor has actual knowledge or reason to know that the holder or beneficial owner, as the case may be, is a United States person (as defined in the Code), payments of principal and interest on Notes made to a non-U.S. Noteholder will not be subject to backup withholding, provided the non-U.S. Noteholder timely provides the payor with a properly completed IRS Form W-8 or otherwise establishes an exemption.

Any amounts withheld under the backup withholding rules may be allowed as a credit against the holder's U.S. federal income tax liability, and may entitle the holder to a refund, provided that the required information is timely furnished to the IRS. Non-U.S. Noteholders should consult their tax advisers regarding the application of information reporting and backup withholding to their particular situations, the availability of an exemption therefrom, and the procedure for obtaining an exemption, if available.

Further Issues

The Issuer may, without the consent of the Noteholders of outstanding Notes, issue additional Notes with identical terms. These additional Notes, even if they are treated for non-tax purposes as part of the same series as the original Notes, in some cases may be treated as a separate series for U.S. federal income tax purposes. In such a case, the additional Notes may be considered to have been issued with OID even if the original Notes had no OID. These differences may affect the market value of the original Notes if the additional Notes are not otherwise distinguishable from the original Notes.

FATCA Withholding

Pursuant to certain provisions of U.S. law, commonly known as FATCA, a U.S. withholding tax at a rate of 30 per cent. is imposed on payments of U.S. source interest to persons (including intermediaries through which Notes may be held) that fail to meet certain certification, reporting or related requirements. Accordingly, interest paid on the Notes generally will be subject to withholding under FATCA if made to a person (including an intermediary through which Notes may be held) that fails to meet applicable certification, reporting or related requirements. Proposed U.S. Treasury regulations eliminate FATCA withholding on payments of gross proceeds from the disposition of assets that can produce U.S. source interest. The U.S. Treasury Department has indicated that taxpayers may rely on these proposed regulations pending their finalisation.

Noteholders should consult their own tax advisers regarding how these rules may apply to an investment in the Notes. In the event that any withholding would be required with respect to payments on the Notes, none of the Issuer or any other person will be required to pay additional amounts to compensate for this withholding.

THE DISCUSSION OF TAX MATTERS SET FORTH ABOVE IS INCLUDED FOR GENERAL INFORMATION ONLY AND MAY NOT BE APPLICABLE DEPENDING UPON A NOTEHOLDER'S PARTICULAR SITUATION. NOTEHOLDERS SHOULD CONSULT THEIR OWN TAX ADVISERS WITH RESPECT TO THE TAX CONSEQUENCES TO THEM OF THE PURCHASE, OWNERSHIP, AND DISPOSITION OF THE NOTES, INCLUDING THE TAX CONSEQUENCES UNDER STATE, LOCAL, NON-U.S. AND OTHER TAX LAWS AND THE POSSIBLE EFFECTS OF CHANGES IN FEDERAL OR OTHER TAX LAWS.

KOREAN TAXATION

The following summary of Korean tax considerations applies to non-Korean resident individuals and corporations ("Non-Residents") having no permanent establishment in Korea to which the relevant income is attributable or with which such income is effectively connected. Non-Residents with such a permanent establishment are taxed under different rules.

All payments, other than the payment of the principal amount, under the Guarantee by the Guarantor to a Non-Resident holder of the Notes may be subject to withholding tax at the rate of 22 per cent. (including the local income surtax) or such reduced rate or non-taxation (tax exemption) as applicable under the relevant tax treaty between Korea and the country of tax residence of the Non-Resident Noteholder. Payment of any interest on the Notes under the Guarantee by the Guarantor to a Non-Resident Noteholder may be subject to withholding tax in Korea. If this is the case, the Guarantor shall pay such additional amounts, in accordance with the terms of the Notes, as may be necessary to ensure that the Noteholders receive the amounts guaranteed under the Guarantee that would otherwise have been receivable in the absence of such deduction or withholding, subject to certain exceptions. See Condition 9 of the Conditions.

SUBSCRIPTION AND SALE

Citigroup Global Markets Inc., Crédit Agricole Corporate and Investment Bank, J.P. Morgan Securities plc, The Korea Development Bank (in its capacity as a joint lead manager), Mizuho Securities Asia Limited and Standard Chartered Bank (the "Joint Lead Managers") are acting as joint lead managers and bookrunners in this offering. Subject to the terms and conditions set forth in a subscription agreement dated as of 8 July 2024 (the "Subscription Agreement") among the Issuer, the Guarantor and the Joint Lead Managers, the Issuer has agreed to sell to the Joint Lead Managers, and each of the Joint Lead Managers has agreed, severally and not jointly, to purchase from the Issuer, the principal amount of Notes set forth opposite its name below.

Joint Lead Managers	**Principal Amount of the Notes**
	(U.S.$)
Citigroup Global Markets Inc.	166,667,000
Crédit Agricole Corporate and Investment Bank	166,667,000
J.P. Morgan Securities plc	166,667,000
The Korea Development Bank	166,667,000
Mizuho Securities Asia Limited	166,666,000
Standard Chartered Bank	166,666,000
Total	1,000,000,000

The Korea Development Bank, in its capacity as a Joint Lead Manager, has agreed to offer and sell the Notes only outside the United States to non-U.S. persons.

Subject to the terms and conditions set forth in the Subscription Agreement, the Joint Lead Managers have agreed, severally and not jointly, to purchase all of the Notes sold under the Subscription Agreement if any of the Notes are purchased. If a Joint Lead Manager defaults, the Subscription Agreement provides that the purchase commitments of the non-defaulting Joint Lead Managers may be increased or the Subscription Agreement may be terminated.

The Issuer has agreed to indemnify the Joint Lead Managers against certain liabilities in connection with this offering, including in respect of any taxes, levies, imports, duties, fees, assessments or other charges of whatever nature imposed by the United States, or by any department, agency or other political subdivision or taxing authority thereof or therein, and all interest, penalties or similar liabilities with respect thereto.

The Joint Lead Managers are offering the Notes, subject to prior sale, when, as and if issued to and accepted by them, subject to approval of certain legal matters by counsel, including the validity of the Notes, and other conditions contained in the Subscription Agreement, such as the receipt by the Joint Lead Managers of officer's certificates and legal opinions.

The purchase price for the Notes will be the offering price set forth on the cover page of this Offering Circular net of underwriting commissions. After the initial offering, the offering price or any other term of the offering may be changed.

The Notes and the Guarantee have not been, and will not be, registered under the Securities Act or any state securities laws of the United States. The Joint Lead Managers propose to offer the Notes and the Guarantee for resale in transactions not requiring registration under the Securities Act or applicable state securities laws, including sales pursuant to Rule 144A and Regulation S. The Joint Lead Managers will not offer or sell the Notes except to persons they reasonably believe to be QIBs or pursuant to offers and sales to non-U.S. persons that occur outside of the United States without the directed selling efforts in compliance with Regulation S. In addition, until 40 days following the commencement of this offering, an offer or sale of Notes within the United States by a dealer (whether or not participating in the offering) may violate the registration requirements of the Securities Act unless the dealer makes the offer or sale

in compliance with Rule 144A or another exemption from registration under the Securities Act. Each purchaser of the Notes will be deemed to have made acknowledgments, representations and agreements as described under "*Notice to Investors*."

The Notes are a new issue of securities with no established trading market. The Joint Lead Managers have advised the Issuer and the Guarantor that they presently intend to make a market in the Notes after completion of the offering. However, they are under no obligation to do so and may discontinue any market-making activities at any time without any notice. Accordingly, no assurances can be made as to the liquidity of the trading market for the Notes. If an active trading market for the Notes does not develop, the market price and liquidity of the Notes may be adversely affected. If the Notes are traded, they may trade at a discount from their initial offering price, depending on prevailing interest rates, the market for similar securities, the operating performance and financial condition of the Guarantor, general economic conditions and other factors. If a jurisdiction requires that the offering be made by a licenced broker or dealer and any of the Joint Lead Managers or any affiliate of the Joint Lead Managers is a licenced broker or dealer in that jurisdiction, the offering shall be deemed to be made by such Joint Lead Manager or such affiliate on behalf of the Issuer in such jurisdiction.

Delivery of the Notes is expected on or about 15 July 2024. Purchasers who wish to trade the Notes prior to the delivery of the Notes will be required to specify an alternative settlement arrangement at the time of any such trade to prevent a failed settlement. Noteholders who wish to trade the Notes prior to the date of delivery should consult their advisers.

The Issuer has agreed with each of the Joint Lead Managers that until the expiration of 60 days after the date of the closing, the Issuer shall not issue any debt securities having an original tenor of more than one year (other than the Notes) in a registered or unregistered offering pursuant to Rule 144A and/or Regulation S without the prior consent from the Joint Lead Managers.

SHORT POSITIONS AND STABILISING TRANSACTIONS

In connection with the offering, each of the Joint Lead Managers as a Stabilising Manager, may purchase and sell the Notes in the open market. These transactions may include short sales, purchases on the open market to cover positions created by short sales and stabilising purchases. Short sales involve the sale by a Stabilising Manager of a greater principal amount of the Notes than they are required to purchase in the offering. A Stabilising Manager must close out any short position by purchasing the Notes in the open market. A short position is more likely to be created if the Joint Lead Managers are concerned that there may be downward pressure on the price of the Notes in the open market after pricing that could adversely affect investors who purchase in the offering. Stabilising transactions involve bids to purchase the Notes so long as the stabilising bids do not exceed a specified maximum.

Similar to other purchase transactions, a Stabilising Manager's purchases to cover the syndicate short sales and stabilising purchasers may have the effect of raising or maintaining the market price of the Notes or preventing or retarding a decline in the market price of the Notes. As a result, the price of the Notes may be higher than the price that might otherwise exist in the open market.

None of the Issuer, the Guarantor or any of the Joint Lead Managers makes any representation or prediction as to the direction or magnitude of any effect that the transactions described above may have on the price of the Notes. In addition, none of the Issuer, the Guarantor or any of the Joint Lead Managers makes any representation that the Joint Lead Managers will engage in these transactions or that these transactions, once commenced, will not be discontinued without notice at any time. No assurance can be given as to the liquidity of, or the trading market for, the Notes.

OTHER RELATIONSHIPS

The Joint Lead Managers and certain of their affiliates may have performed certain investment banking and advisory services for the Issuer, the Guarantor and/or their respective affiliates from time to time for which they have received customary fees and commissions and may, from time to time, engage in transactions with and perform services for the Issuer, the Guarantor and/or their respective affiliates in the ordinary course of their business. The Joint Lead Managers or certain of their affiliates may purchase the Notes and be allocated the Notes for asset management and/or proprietary purposes but not with a view to distribution.

The Joint Lead Managers or their respective affiliates may purchase the Notes for their own account and enter into transactions, including credit derivatives, such as asset swaps, repackaging and credit default swaps relating to the Notes and/or other securities of the Issuer, the Guarantor or their respective subsidiaries or associates at the same time as the offer and sale of the Notes 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 the Notes to which this Offering Circular relates (notwithstanding that such selected counterparties may also be purchasers of the Notes).

Each of the Issuer and the Guarantor has been advised by the Joint Lead Managers that they may offer and sell the Notes to or through any of their respective affiliates and any such affiliate may offer and sell the Notes purchased by it to or through any Joint Lead Manager.

SELLING RESTRICTIONS

United States

The Notes and the Guarantee 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 (as defined in Regulation S) except in transactions exempt from, or not subject to, the registration requirements of the Securities Act and applicable state securities laws of the United States. In addition, until 40 days after the commencement of this offering, an offer or sale of the Notes within the United States by a dealer (whether or not participating in this offering) may violate the registration requirements of the Securities Act if such offer or sale is made otherwise than in accordance with Rule 144A.

The Joint Lead Managers, through their respective affiliates, acting as selling agents where applicable, propose to offer the Notes to certain persons in offshore transactions in reliance on Regulation S and in accordance with applicable law and propose to offer the Notes to QIBs in the United States pursuant to Rule 144A. Each of the Joint Lead Managers has agreed with the Issuer and the Guarantor that, except as permitted under the Subscription Agreement, it will not offer, sell or deliver the Notes within the United States. Any offer or sale of the Notes in the United States in reliance on Rule 144A will be made by broker-dealers who are registered as such under the Exchange Act. Terms used in this paragraph have the meanings given to them by Regulation S. Transfer of the Notes will be restricted as described under "*Notice to Investors*."

United Kingdom

Each Joint Lead Manager has represented and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated any invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA")) received by it in connection with the issue or sale of any Notes in circumstances in which section 21(1) of the FSMA does not apply to the Issuer or the Guarantor; and

(b) it has complied and will comply with all applicable provisions of the FSMA with respect to anything done by it in relation to the Notes in, from or otherwise involving the United Kingdom.

Korea

Each Joint Lead Manager has represented and agreed that the Notes 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, as amended. Accordingly, each Joint Lead Manager has represented and agreed that the Notes have not been and will not be offered, sold, delivered or transferred directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as defined in the Foreign Exchange Transactions Law of Korea and its Enforcement Decree) or to others for re-offering or resale, except as otherwise permitted by applicable Korean laws and regulations. In addition, within one year following the issuance of the Notes, the Notes may not be transferred to any resident of Korea (as such term is defined in the Foreign Exchange Transaction Act of Korea and the Enforcement Decree thereof) other than a qualified institutional buyer (or a "Korean QIB," as defined in the regulation on issuance, public disclosure, etc. of securities of Korea) registered with the Korea Financial Investment Association (the "KOFIA") as a Korean QIB and subject to the requirement of monthly reports with the KOFIA of its holding of Korean QIB bonds as defined in the Regulation on Issuance, Public Disclosure, etc. of Securities of Korea, provided that (a) the Notes are denominated, and the principal and interest payments thereunder are made, in a currency other than Korean Won, (b) the amount of the Notes acquired by such Korean QIBs in the primary market is limited to less than 20 per cent. of the aggregate issue amount of the Notes, (c) the Notes 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, have been completed for offering of the Notes in a major overseas securities market, (d) the one-year restriction on offering, delivering or selling of the Notes to a Korean resident other than a Korean QIB is expressly stated in the Notes, the Subscription Agreement, and this Offering Circular and (e) the Issuer and the Joint Lead Managers shall individually or collectively keep the evidence of fulfilment of conditions (a) through (d) above after having taken necessary actions therefor.

Singapore

Each Joint Lead Manager has acknowledged that this Offering Circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, each Joint Lead Manager has represented, warranted and agreed that it has not offered or sold any Notes or caused the Notes to be made the subject of an invitation for subscription or purchase and will not offer or sell any Notes or cause the Notes 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 Notes, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of the Securities and Futures Act 2001 of Singapore, as modified or amended from time to time (the "SFA")) pursuant to Section 274 of the SFA or (ii) to an accredited investor (as defined in Section 4A of the SFA) pursuant to and in accordance with the conditions specified in Section 275 of the SFA.

Hong Kong

Each Joint Lead Manager has represented and agreed that:

(a) it has not offered or sold and will not offer or sell in Hong Kong, by means of any document, any Notes other than (i) to "professional investors" as defined in the Securities and Futures Ordinance (Cap. 571) of Hong Kong (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 Notes, 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 the Notes 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.

Japan

Each Joint Lead Manager has represented and agreed that the Notes have not been and will not be registered under the Financial Instruments and Exchange Act of Japan (Act No. 25 of 1948) (the "Financial Instruments and Exchange Act"). Accordingly, each of the Joint Lead Managers represents, warrants and undertakes that it has not, directly or indirectly, offered or sold and will not, directly or indirectly, offer or sell any Notes 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 re-sale, 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.

Canada

The Notes may be sold only to purchasers purchasing, or deemed to be purchasing, as principal that are accredited investors, as defined in National Instrument 45-106 – *Prospectus Exemptions* or subsection 73.3(1) of the Securities Act (Ontario), and are permitted clients, as defined in National Instrument 31-103 *Registration Requirements, Exemptions and Ongoing Registrant Obligations*. Any resale of the Notes 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 (including any amendment thereto) 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 advisor.

Pursuant to section 3A.3 of National Instrument 33-105 – *Underwriting Conflicts* ("NI 33-105"), the Joint Lead Managers are not required to comply with the disclosure requirements of NI 33-105 regarding underwriter conflicts of interest in connection with this offering.

NOTICE TO INVESTORS

Because of the following restrictions, investors are advised to consult legal counsel prior to making any offer, resale, pledge or other transfer of the Notes.

Neither the Notes nor the Guarantee has been or will be registered under the Securities Act or the securities laws of any state of the United States and, subject to certain exceptions, the Notes 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. Accordingly, the Notes are being offered and sold only (i) in the United States to QIBs within the meaning of, and in compliance with, Rule 144A or (ii) in offshore transactions within the meaning of, and in compliance with, Regulation S.

Each Noteholder hereunder will be deemed to have represented and agreed as follows (terms used in this paragraph that are defined in Rule 144A or in Regulations S are used herein as defined therein):

(1) it is purchasing the Notes for its own account or an account with respect to which it exercises sole investment discretion, and it and any such account (i) is a QIB and is aware that the sale to it is being made in reliance on Rule 144A or (ii) is purchasing the Notes in an "offshore transaction" without any "directed selling efforts" (as such terms are defined in Regulation S) pursuant to Regulation S;

(2) it acknowledges that the Notes and the Guarantee have not been, and will not be, registered under the Securities Act or with any securities regulatory authority of any jurisdiction and that the Notes may not be offered or sold within the United States except as set forth below;

(3) it understands and agrees that if in the future it decides to sell, pledge or otherwise transfer any Notes or any beneficial interest in any Notes, such Notes may be offered, resold, pledged or transferred only (A)(i) to the Issuer, (ii) to a person whom the seller reasonably believes is a QIB in a transaction meeting the requirements of Rule 144A, (iii) in an offshore transaction meeting the requirements of Rule 904 of Regulation S under the Securities Act, (iv) pursuant to an exemption from registration under the Securities Act provided by Rule 144 under the Securities Act (if available) or (v) pursuant to another exemption from the Securities Act, provided that, as a condition to the registration of the transfer thereof, the Issuer or the Fiscal Agent may require the delivery of any documents, including an opinion of counsel, that it, in its sole discretion, may deem necessary or appropriate to evidence compliance with such exemption, or (B) pursuant to an effective registration statement under the Securities Act, and in each of such cases in accordance with any applicable securities laws of any state of the United States;

(4) it agrees to, and each subsequent Noteholder is required to, notify any purchaser of the Notes from it of the resale restrictions referred to in clause (3)(A) above, if then applicable;

(5) it understands and agrees that the Notes initially offered in the United States to QIBs will be represented by one or more Restricted Global Note Certificates and that the Notes initially offered outside of the United States in reliance on Regulation S will be represented by one or more Unrestricted Global Note Certificates;

(6) it understands that the Restricted Global Note Certificates will, until the expiration of the applicable holding period with respect to the Notes set forth in Rule 144 of the Securities Act, unless otherwise agreed by the Issuer, bear a legend substantially to the following effect:

"THIS NOTE HAS NOT BEEN REGISTERED UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"). THE NOTEHOLDER HEREOF, BY PURCHASING THIS NOTE, AGREES FOR THE BENEFIT OF KRATON CORPORATION (THE "ISSUER") THAT PRIOR TO THE DATE THAT IS ONE YEAR AFTER THE LATER OF THE ORIGINAL ISSUE DATE HEREOF AND THE LAST DATE ON WHICH THE ISSUER OR ANY AFFILIATE OF THE ISSUER WAS THE OWNER OF THIS NOTE, THIS NOTE MAY BE OFFERED,

RESOLD, PLEDGED OR OTHERWISE TRANSFERRED ONLY (A)(i) TO THE ISSUER, (ii) TO A PERSON WHOM THE SELLER REASONABLY BELIEVES IS A QUALIFIED INSTITUTIONAL BUYER, AS DEFINED IN RULE 144A UNDER THE SECURITIES ACT, IN A TRANSACTION MEETING THE REQUIREMENTS OF RULE 144A UNDER THE SECURITIES ACT, (iii) IN AN OFFSHORE TRANSACTION WITHOUT ANY DIRECTED SELLING EFFORTS MEETING THE REQUIREMENTS OF RULE 904 OF REGULATION S UNDER THE SECURITIES ACT, (iv) PURSUANT TO AN EXEMPTION FROM REGISTRATION UNDER THE SECURITIES ACT PROVIDED BY RULE 144 UNDER THE SECURITIES ACT (IF AVAILABLE) OR (v) PURSUANT TO ANOTHER EXEMPTION FROM THE SECURITIES ACT, PROVIDED THAT, AS A CONDITION TO THE REGISTRATION OF THE TRANSFER THEREOF, THE ISSUER OR THE FISCAL AGENT MAY REQUIRE THE DELIVERY OF ANY DOCUMENTS, INCLUDING AN OPINION OF COUNSEL THAT IT, IN ITS SOLE DISCRETION, MAY DEEM NECESSARY OR APPROPRIATE TO EVIDENCE COMPLIANCE WITH SUCH EXEMPTION, OR (B) PURSUANT TO AN EFFECTIVE REGISTRATION STATEMENT UNDER THE SECURITIES ACT, AND IN EACH OF SUCH CASES IN ACCORDANCE WITH ANY APPLICABLE SECURITIES LAWS OF ANY STATE OF THE UNITED STATES. THE NOTEHOLDER AGREES TO, AND EACH SUBSEQUENT NOTEHOLDER IS REQUIRED TO, NOTIFY ANY PURCHASER OF THE NOTE FROM IT OF THE RESALE RESTRICTIONS REFERRED TO IN (A) ABOVE, IF THEN APPLICABLE."

(7) if it holds an interest in the Unrestricted Global Note Certificates and decides to resell or otherwise transfer such interest prior to the expiration of 40 days after the later of the commencement of this offering and the completion of the distribution of the Notes, it will do so only (A)(i) to a non-U.S. person located outside of the United States in compliance with Rule 904 of Regulation S or (ii) to a QIB in compliance with Rule 144A and (B) in accordance with any applicable securities laws of any state of the United States; and it understands that the Unrestricted Global Note Certificates will, unless otherwise agreed by the Issuer, bear a legend substantially to the following effect:

"THIS NOTE (OR ITS PREDECESSOR) WAS ORIGINALLY ISSUED IN A TRANSACTION EXEMPT FROM REGISTRATION UNDER THE U.S. SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT"), AND MAY NOT BE TRANSFERRED IN THE UNITED STATES OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY U.S. PERSON UNTIL 40 DAYS AFTER THE LATER OF THE COMMENCEMENT OF THE OFFERING OF THE NOTE AND THE DATE OF ORIGINAL ISSUANCE OF THE NOTE, EXCEPT PURSUANT TO AN AVAILABLE EXEMPTION FROM THE REGISTRATION REQUIREMENTS OF THE SECURITIES ACT AND ALL APPLICABLE STATE SECURITIES LAWS. TERMS USED ABOVE HAVE THE MEANINGS GIVEN TO THEM IN REGULATION S UNDER THE SECURITIES ACT."

(8) it acknowledges that prior to any proposed transfer of any Notes in certificated form or of beneficial interests in the Global Note Certificates (other than pursuant to an effective registration statement), the Noteholder or the holder of beneficial interests in the Global Note Certificates, as the case may be, may be required to provide certificates and other documentation relating to the manner of such transfer and submit such certifications and other documentation as provided in the Agency Agreement; and

(9) it acknowledges that the Issuer, the Guarantor, the Joint Lead Managers, the Fiscal Agent and others will rely upon the truth and accuracy of the foregoing acknowledgments, representations and agreements and agrees that if any of such acknowledgments, representations or warranties deemed to have been made by virtue of its purchase of the Notes are no longer accurate, it shall promptly notify the Issuer; and if it is acquiring any Notes 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 acknowledgments, representations and agreements on behalf of each such account.

(10) THE NOTES HAVE NOT BEEN REGISTERED UNDER THE FSCMA. ACCORDINGLY, THE NOTES 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 LAW OF KOREA AND ITS ENFORCEMENT DECREE) OR TO OTHERS FOR RE-OFFERING OR RESALE, EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS.

IN ADDITION, DURING THE FIRST YEAR AFTER THE ISSUANCE OF THE NOTES, THE NOTES MAY NOT BE TRANSFERRED TO ANY RESIDENT OF KOREA OTHER THAN A KOREAN QIB WHO IS REGISTERED WITH THE KOFIA AS A KOREAN QIB AND SUBJECT TO THE REQUIREMENT OF MONTHLY REPORTS WITH THE KOFIA OF ITS HOLDING OF KOREAN QIB BONDS AS DEFINED IN THE REGULATION ON ISSUANCE, PUBLIC DISCLOSURE, ETC. OF SECURITIES OF KOREA, PROVIDED THAT (A) THE NOTES ARE DENOMINATED, AND THE PRINCIPAL AND INTEREST PAYMENTS THEREUNDER ARE MADE, IN A CURRENCY OTHER THAN KOREAN WON, (B) THE AMOUNT OF THE NOTES ACQUIRED BY SUCH KOREAN QIBS IN THE PRIMARY MARKET IS LIMITED TO LESS THAN 20 PER CENT. OF THE AGGREGATE ISSUE AMOUNT OF THE NOTES, (C) THE NOTES 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, HAVE BEEN COMPLETED FOR OFFERING OF THE NOTES IN A MAJOR OVERSEAS SECURITIES MARKET, (D) THE ONE-YEAR RESTRICTION ON OFFERING, DELIVERING OR SELLING OF NOTES TO A KOREAN RESIDENT OTHER THAN A KOREAN QIB IS EXPRESSLY STATED IN THE NOTES, THE RELEVANT PURCHASE AGREEMENT AND OFFERING CIRCULAR AND (E) THE ISSUER AND THE JOINT LEAD MANAGERS SHALL INDIVIDUALLY OR COLLECTIVELY KEEP THE EVIDENCE OF FULFILLMENT OF CONDITIONS (A) THROUGH (D) ABOVE AFTER HAVING TAKEN NECESSARY ACTIONS THEREFOR.

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, the Guarantor, a CMI or its group companies would be considered under the SFC Code as having an Association with the Issuer, the Guarantor, the CMI or the relevant group company. CMIs should specifically disclose whether their investor clients have any Association when submitting orders for the Notes. In addition, private banks should take all reasonable steps to identify whether their investor clients may have any Associations with the Issuer, the Guarantor 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 or any UK MiFIR 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 Notes (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 or Guarantor. In addition, CMIs (including private banks) should not enter into arrangements which may result in prospective investors paying different prices for the Notes.

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 Notes, 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 Manager(s) (if any) to categorise it as a proprietary order and 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); and
- whether any underlying investor order is a duplicate order.

Underlying investor information in relation to omnibus order should be sent to: dcmomnibus@citi.com; HKG-Syndicate@ca-cib.com; Investor.info.hk.bond.deals@jpmorgan.com; kdbdcm@kdb.co.kr; AS_DBSYN@hk.mizuho-sc.com; synhk@sc.com.

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 any 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, the Guarantor, 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 Manager with such evidence within the timeline requested.

LEGAL MATTERS

Certain legal matters relating to the issue and sale of the Notes will be passed upon by Linklaters LLP as to matters of U.S. and English law for the Issuer and the Guarantor, Greenberg Traurig, LLP as to matters of U.S. and English law for the Joint Lead Managers and Bae, Kim & Lee LLC as to matters of Korean law for the Guarantor. Linklaters LLP and Greenberg Traurig, LLP may rely as to all matters of Korean law on the opinion of Bae, Kim & Lee LLC, and Bae, Kim & Lee LLC may rely as to all matters of U.S. and English law on the opinion of Linklaters LLP.

INDEPENDENT AUDITORS

The Issuer's consolidated financial statements as of and for the year ended 31 December 2023 have been audited by PricewaterhouseCoopers LLP, an independent auditor, as stated in its report appearing herein. PricewaterhouseCoopers LLP, the Issuer's independent auditor, has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. PricewaterhouseCoopers LLP, also has not performed any procedures relating to this Offering Circular.

The Guarantor's separate financial statements as of and for the years ended 31 December 2023 and 2022 have been audited by Nexia Samduk, an independent auditor, as stated in its report appearing herein. Nexia Samduk, the Guarantor's independent auditor, has not been engaged to perform and has not performed, since the date of its report included herein, any procedures on the financial statements addressed in that report. Nexia Samduk also has not performed any procedures relating to this Offering Circular.

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Report of Independent Auditors

To the Kraton Corporation Board of Directors

Opinion

We have audited the accompanying consolidated financial statements of Kraton Corporation and its subsidiaries (the "Company"), which comprise the consolidated statement of financial position as of December 31, 2023, and the related consolidated statements of profit or loss, other comprehensive income, changes in equity, and cash flows for the year then ended, including the related notes (collectively referred to as the "consolidated financial statements").

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the financial position of the Company as of December 31, 2023, and the results of its operations and its cash flows for the year then ended in accordance with IFRS Accounting Standards as issued by the International Accounting Standards Board.

Basis for Opinion

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (US GAAS). Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are required to be independent of the Company and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Other Matter

The consolidated financial statements of the Company as of December 31, 2022 and for the year then ended were audited by other auditors whose report, dated April 28, 2023, expressed an unmodified opinion on those statements.

Responsibilities of Management for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with IFRS Accounting Standards, and for the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation 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 Company's ability to continue as a going concern for at least, but not limited to, twelve months from the end of the reporting period, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Company or to cease operations, or has no realistic alternative but to do so.

Auditors' 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 auditors' report that includes our opinion. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with US GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement

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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. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the consolidated financial statements.

In performing an audit in accordance with US GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the consolidated financial statements.
- 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 Company's internal control. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the consolidated financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about the Company's ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control-related matters that we identified during the audit.



Houston, Texas
March 27, 2024

KRATON CORPORATION
CONSOLIDATED STATEMENTS OF PROFIT OR LOSS
(In thousands)[1]

	Note	Years ended December 31, 2023	2022
Revenue	5	$ 1,886,664	$ 1,809,857
COGS	11	1,441,525	1,313,663
COGS - depreciation and amortization expenses		152,617	111,212
COGS - depreciation of right-of-use assets		5,374	4,328
Gross profit		287,148	380,654
Operating expenses:			
SG&A - employee-related expenses		134,701	106,479
SG&A - selling expenses		102,345	98,730
SG&A - professional fees		72,074	66,832
SG&A - other		44,731	34,567
SG&A - depreciation and amortization expenses		33,834	33,616
SG&A - depreciation of right-of-use assets		18,948	14,793
Operating income (loss)		(119,485)	25,637
Other expense	14	(3,899)	(1,342)
Other income	14	3,386	228
Finance expense	13	(113,967)	(55,585)
Finance income	13	3,774	12,481
Share of profit on investment in associates and joint ventures	23	348	421
Loss before income taxes		(229,843)	(18,160)
Income tax benefit (expense)	18	57,068	(13,115)
Net loss for the period		(172,775)	(31,275)
Net income attributable to non-controlling interest		(8,643)	(9,983)
Net loss attributable to Kraton shareholders		$ (181,418)	$ (41,258)

(1) See statement regarding *DL Chemical Transaction and Comparative Financial Statements* within Note 1, *General*.

The accompanying notes are an integral part of these consolidated financial statements.

KRATON CORPORATION
CONSOLIDATED STATEMENTS OF OTHER COMPREHENSIVE INCOME
(In thousands)[1]

	Note	Years ended December 31, 2023	2022
Net loss for the period		$ (172,775)	$ (31,275)
Other comprehensive income (loss):			
Items that will not be reclassified subsequently to profit or loss			
Remeasurement of pension obligations	18, 20	4,945	12,312
Items that may be reclassified subsequently to profit or loss			
Foreign currency translation adjustments	18	16,911	(20,084)
Other comprehensive loss, net of tax		$ 21,856	$ (7,772)
Total comprehensive loss		$ (150,919)	$ (39,047)
Total comprehensive income attributable to non-controlling interest		$ (8,767)	$ (4,755)
Total comprehensive loss attributable to Kraton shareholders		$ (159,686)	$ (43,802)

(1) See statement regarding *DL Chemical Transaction and Comparative Financial Statements* within Note 1, *General*.

The accompanying notes are an integral part of these consolidated financial statements.

KRATON CORPORATION
CONSOLIDATED STATEMENTS OF FINANCIAL POSITION
(In thousands)[1]

	Note	December 31, 2023	December 31, 2022 Restated
ASSETS			
Intangibles and goodwill	9	$ 704,035	$ 731,048
Property, plant, and equipment	8	1,550,867	1,559,575
Investment in associates and joint ventures	23	9,899	11,613
Deferred tax asset	18	81,371	72,676
Right-of-use asset	10	96,553	94,533
Other non-current assets		12,434	12,455
Total non-current assets		2,455,159	2,481,900
Inventories	7	530,981	658,189
Trade receivables	6, 16	191,030	226,710
Other receivables and miscellaneous assets		87,551	79,770
Cash and cash equivalents	15, 16	41,778	82,954
Total current assets		851,340	1,047,623
Total assets		$ 3,306,499	$ 3,529,523
EQUITY AND LIABILITIES			
Capital stock		$ —	$ —
Additional paid in capital	12	1,510,000	1,510,000
Accumulated deficit		(209,933)	(33,460)
Accumulated other comprehensive loss		1,931	(14,856)
Non-controlling interest	23	51,086	50,660
Total equity		1,353,084	1,512,344
Long-term debt	15, 16	1,103,063	987,515
Long-term lease liabilities	17	72,708	67,958
Long-term deferred income	5	8,512	31,388
Post-retirement benefit obligations	20	58,096	65,983
Other long-term provisions		7,657	7,530
Deferred tax liabilities	18	245,656	309,402
Other long-term liabilities		3,945	3,259
Total non-current liabilities		1,499,637	1,473,035
Short-term debt	15, 16	57,493	58,747
Short-term deferred income	5	13,963	13,902
Short-term lease liabilities	17	21,173	22,754
Trade and other payables		341,809	416,506
Tax payable	18	18,549	29,555
Short-term financial liabilities	16	791	2,680
Total current liabilities		453,778	544,144
Total equity and liabilities		$ 3,306,499	$ 3,529,523

(1) See statement regarding *DL Chemical Transaction and Comparative Financial Statements* within Note 1, *General*.

The accompanying notes are an integral part of these consolidated financial statements.

KRATON CORPORATION
CONSOLIDATED STATEMENTS OF CHANGES IN EQUITY
(In thousands)[1]

	Additional Paid in Capital	Accumulated deficit	Accumulated Other Comprehensive Income (Loss)	Total Kraton Equity	Non-controlling Interest	Total Equity
Balance at December 31, 2021	$ —	$ (4,514)	$ —	$ (4,514)	$ —	$ (4,514)
Net income (loss) for the period	—	(41,258)	—	(41,258)	9,983	(31,275)
Remeasurement of pension obligations	—	12,312	—	12,312	—	12,312
Foreign currency translation adjustments	—	—	(14,856)	(14,856)	(5,228)	(20,084)
Other comprehensive income (loss)	—	12,312	(14,856)	(2,544)	(5,228)	(7,772)
Total comprehensive income (loss)	$ —	$ (28,946)	$ (14,856)	$ (43,802)	$ 4,755	$ (39,047)
Increase due to capital transactions (Note 12)	1,510,000	—	—	1,510,000	—	1,510,000
Acquisition of subsidiary with non-controlling interest (Note 12)	—	—	—	—	50,367	50,367
Dividends declared to shareholders of non-controlling interest (Note 23)	—	—	—	—	(4,462)	(4,462)
Balance at December 31, 2022	$1,510,000	$ (33,460)	$ (14,856)	$1,461,684	$ 50,660	$1,512,344
Net income (loss) for the period	—	(181,418)	—	(181,418)	8,643	(172,775)
Remeasurement of pension obligations	—	4,945	—	4,945	—	4,945
Foreign currency translation adjustments	—	—	16,787	16,787	124	16,911
Other comprehensive income (loss)	—	4,945	16,787	21,732	124	21,856
Total comprehensive income (loss)	$ —	$ (176,473)	$ 16,787	$(159,686)	$ 8,767	$(150,919)
Dividends declared to shareholders of non-controlling interest (Note 23)	$ —	$ —	$ —	$ —	(8,341)	(8,341)
Balance at December 31, 2023	$1,510,000	$ (209,933)	$ 1,931	$1,301,998	$ 51,086	$1,353,084

(1) See statement regarding *DL Chemical Transaction and Comparative Financial Statements* within Note 1, *General*.

As of December 31, 2023, capital stock of Kraton Corporation consisted of 1 share with par value 1 USD.

The accompanying notes are an integral part of these consolidated financial statements.

KRATON CORPORATION
CONSOLIDATED STATEMENTS OF CASH FLOWS
(In thousands)[1]

	Note	Year Ended December 31, 2023	Year Ended December 31, 2022
CASH FLOWS FROM OPERATING ACTIVITIES			
Net loss for the period		$ (172,775)	$ (31,275)
Adjustments for:			
Retirement benefit		2,981	3,729
Income tax expense (benefit)	18	(57,068)	13,115
Depreciation expense	8	142,445	109,361
Amortization expense	9	44,004	35,467
Depreciation of right-of-use assets	10	24,322	19,121
Bad debt expenses		49	800
Foreign exchange loss		5,224	9,878
Loss on disposal of fixed assets	14	1,382	1,007
Loss (gain) on derivative transactions, net	13	6,386	8,265
Loss (gain) on inventory valuations		(675)	2,356
Interest expense	13	106,570	54,404
Impairment loss on fixed assets	8	—	2,572
Foreign exchange gain		(12,505)	(13,592)
Dividend income		(5)	—
Interest income	13	(1,947)	(290)
Share of profit on investment in associates and joint ventures	23	(347)	(421)
Gain on disposal of investments	14	(3,038)	—
Gain on disposal of fixed assets	14	(234)	(35)
Adjustments		**257,544**	**245,737**
Changes in:			
Decrease (increase) in trade receivables		51,958	18,421
Decrease (increase) in other receivables and miscellaneous assets		2,141	(14,998)
Decrease (increase) in inventories		134,202	(34,461)
Decrease (increase) in other non-current assets		(3,786)	789
Changes in derivative instruments (firm contracts)		(8,274)	(7,558)
Increase (decrease) in trade and other payables		(78,335)	137,195
Increase (decrease) in long-term accrued expenses		636	(5,599)
Increase (decrease) in deferred income		(23,059)	(23,998)
Increase (decrease) in other provisions		(74)	(71)
Increase (decrease) in provision for retirement benefits		(4,377)	(5,350)
Increase (decrease) in deferred tax assets		1,022	(31,796)
Decrease (increase) in derivative liabilities		(999)	—
Change in assets and liabilities from operating activities		**71,055**	**32,574**
Interest income received	13	1,947	290
Interest expense paid		(90,890)	(50,058)
Dividend income received		327	592
Income taxes paid	18	(26,106)	(54,023)
Net cash provided by operating activities		**$ 41,102**	**$ 143,837**
CASH FLOWS FROM INVESTING ACTIVITIES			
Acquisition of subsidiaries, net of cash acquired	12	—	(2,461,150)
Acquisition of property, plant, and equipment	8	(133,126)	(74,264)
Acquisition of software	9	(10,402)	(4,238)
Acquisition of short-term financial instruments		340	—
Acquisition of other intangible assets	9	(2,231)	—

Increase in deposits		(589)	—
Cash used in investing activities		(146,008)	(2,539,652)
Disposal of property, plant, and equipment		193	—
Cash provided by investing activities		193	—
Net cash used in investing activities		**$ (145,815)**	**$(2,539,652)**
CASH FLOWS FROM FINANCING ACTIVITIES			
Proceeds from short-term borrowings	17	48,252	20,384
Proceeds from long-term borrowings	17	240,752	1,122,471
Cash provided due to capital transactions	12	—	1,510,000
Cash provided by financing activities		**289,004**	**2,652,855**
Dividends paid to shareholders of non-controlling interest	23	(7,940)	(4,394)
Repayment of short-term borrowings	17	(49,454)	(24,060)
Repayment of long-term borrowings	17	(142,695)	(124,697)
Repayment of current portion of finance lease liabilities	17	(23,056)	(17,960)
Cash used in financing activities		**(223,145)**	**(171,111)**
Net cash provided by financing activities		**$ 65,859**	**$ 2,481,744**
Effect of exchange rate differences on cash and cash equivalents		(2,322)	(2,975)
Net increase (decrease) in cash and cash equivalents		(41,176)	82,954
Cash and cash equivalents, beginning of period	15	82,954	—
Cash and cash equivalents, end of period	15	$ 41,778	$ 82,954

(1) See statement regarding *DL Chemical Transaction and Comparative Financial Statements* within Note 1, *General*.

The accompanying notes are an integral part of these consolidated financial statements.

1. General

Kraton Corporation (the "Company"), as incorporated in the United States (U.S.), is the successor of Kraton Performance Polymers, Inc. incorporated in 2009. The Company, and its controlled entities, are a leading global sustainable specialty chemicals group that manufactures styrenic block copolymers ("SBCs"), specialty polymers, and high-value bio-based products primarily derived from pine wood pulping co-products. The Company's operations are managed through two operating segments: (i) Polymer segment and (ii) Chemical segment.

References to "Kraton," "the Group," "our company," "we," "our," "ours," and "us" as used in these financial statements refer collectively to Kraton Corporation, and its controlled entities, unless the context otherwise requires.

DL Chemical Transaction and Comparative Financial Statements. On March 15, 2022, DL Chemical Co., Ltd. ("DL Chemical"), through subsidiaries DLC US Holdings and DLC US Inc., acquired Kraton Corporation in an all-cash transaction valued at approximately $2.5 billion ("the Merger"). DL Chemical owns 100% of DLC US Holdings. DLC US Holdings owns 100% of DLC US Inc. DLC US Inc. was incorporated on September 21, 2021 for the purpose of acquiring and merging with Kraton Corporation. Prior to the Merger, DLC US Inc., as a newly formed entity, lacked any operations other than transaction costs related to the Merger. DLC US Holdings transferred cash on behalf of DLC US Inc., which was the merging entity with the Group. DLC US Inc. acquired Kraton Corporation and then DLC US Inc. merged into Kraton Corporation, with Kraton Corporation being the surviving corporation.

The Merger was accounted for as a business combination, where DLC US Inc. was the accounting acquirer and Kraton Corporation was the acquiree. Under the acquisition method, identifiable assets acquired, the liabilities assumed and any non-controlling interest in Kraton Corporation are measured at acquisition-date fair values. Immediately after, DLC US Inc. merged into Kraton Corporation as a business combination under common control, with Kraton Corporation being the surviving entity. As a result, DLC US Inc. is presented for all periods in these financial statements (part of Kraton as of March 15, 2022) and Kraton's results are presented from March 15, 2022 onwards. Thus, the financial information in these consolidated financial statements lack comparability due to the timing and nature of the transaction as comparative figures for the twelve months ended December 31, 2022, are represented by 289 days of Kraton's activity. Outside of presentation, the common control transaction had no accounting impact on the recognized basis of assets acquired and liabilities assumed in the transaction.

Following the Merger, the parent of the Company was DLC US Holdings Inc. incorporated under Delaware law and the ultimate controlling party of the Company and DLC Chemical was Daelim CO., Ltd. incorporated in Korea.

The Consolidated Financial Statements for the period ended December 31, 2023 were approved for issue by the Audit & Compliance Committee of the Company's Board of Directors on March 21, 2024.

The Group's principal executive office is located at 9950 Woodloch Forest Drive, Suite 2400, Houston, Texas 77380.

POLYMER SEGMENT PRODUCTS AND COMMERCIAL APPLICATIONS

SBCs are highly-engineered synthetic elastomers, which we invented and commercialized over 50 years ago. We developed the first unhydrogenated styrenic block copolymers ("USBC") in 1964 and the first hydrogenated styrenic block copolymers ("HSBC") in the late 1960s. Our SBCs enhance the performance of numerous products by imparting greater flexibility, resilience, strength, durability, and processability, and are used in a wide range of applications, including adhesives, coatings, consumer and personal care products, sealants, lubricants, medical, packaging, automotive, paving and roofing, and footwear products. We also produce and sell Isoprene Rubber ("IR") in accordance with the Isoprene Rubber Supply Agreement ("IRSA") with DL Chemical.

We believe our SBC products offer many characteristics that help our customers drive towards their sustainability goals. Among others, our SBCs may offer features such as greater recyclability, increased durability that reduces the costly need for maintenance and replacement, and alternatives to less environmentally friendly materials, such as PVCs.

Our SBCs are high performance elastomers that are engineered for a wide range of applications. Our SBC products possess a combination of high strength and low viscosity, which facilitates ease of processing at elevated temperatures and high processing speeds. Our products can be processed in a variety of manufacturing applications, including injection molding, blow molding, compression molding, extrusion and hot melt, and solution applied coatings.

The majority of worldwide SBC production is dedicated to USBCs, which are primarily used in paving, roofing, adhesives, sealants, coatings, and footwear applications. HSBCs, which are significantly more complex and capital-intensive to manufacture than USBCs, are used in applications such as lubricant additives, soft touch and flexible materials, personal hygiene products, medical products, automotive components, certain adhesive and sealant applications, and protective films.

Our Polymer segment products are manufactured and our commercial activities are organized in the following product groups based upon polymer chemistry and process technologies: Performance Products, Specialty Polymers, IR sold exclusively to DL Chemical in accordance with the IRSA.

Performance Products

Our Performance Products are comprised of USBC product grades, which impart characteristics such as:

- resistance to temperature and weather extremes in roads and roofing;
- resistance to cracking, reduced road noise, and better water dispersion; and
- increased processing flexibility in adhesive formulations for packaging tapes and labels, and materials used in disposable diapers.

In paving and roofing applications, our Performance Products primarily consist of styrene-butadiene-styrene ("SBS") for use in modified asphalt applications, which in roofing applications produces stronger and more durable felts and shingles, and in paving applications enhances the strength and elasticity of asphalt-based paving compositions over an extended temperature range. In paving applications, we believe our polymers extend road life by allowing pavements to withstand heavy traffic loads and varying climate conditions, and our HiMA technology can reduce required inputs while extending road life in new road construction. Our roofing applications provide a more sustainable alternative by increasing durability and system life. Our sustainable paving applications allow thinner full-depth pavements and longer road life, reducing raw materials required for paving and lessening pollution caused by congestion arising from frequent repairs of roads. Our products primarily compete with chemicals such as styrene-butadiene rubber latex, acetates, polyphosphoric acids and thermoplastic materials like ethylene-propylene-diene-monomer, polyethylene, atactic polypropylene and unmodified asphalts. We believe that customer choice for these markets is driven principally by total end-product cost, temperature performance, bitumen source and application.

In personal care applications, our Performance Products primarily consist of SBS and styrene-isoprene-styrene ("SIS") for the manufacturing of ultra-thin stretchable films used for the production of diapers. In addition, our SIS polymers are also used in the lamination process for other personal care products. Our products primarily compete against low priced alternatives such as metallocenes. We believe that customer choice for these markets is driven principally by total end-product cost and performance.

In adhesives applications, our Performance Products primarily compete with ethylene-vinyl acetate, polyolefins, and metallocene polyolefins. The choice between these materials is influenced by bond strength, specific adhesion, consistent performance to specification, processing speed, hot-melt application, resistance to water and cost. Our SBCs are compatible with many other formulating ingredients. We believe demand for utilization of SBC-based adhesives is primarily driven by cost reduction and higher performance.

***Specialty Polymers*.** Our Specialty Polymers are comprised of HSBC products that are significantly more complex to produce than our Performance Products. As a result, our Specialty Polymers generally generate higher margins than our Performance Products.

Our Specialty Polymers impart characteristics such as:

- improved flow characteristics for many industrial and consumer sealant and lubricating fluids;
- soft feel in numerous consumer products such as razor handles, power tools, and automobile components;
- impact resistance for demanding engineered plastic applications;
- flexibility for wire and cable plastic outer layers;
- stretch properties in disposable diapers and adult incontinence products;
- resistance to ultraviolet light;
- processing stability and viscosity; and
- elevated temperature resistance.

We believe our HSBC offerings are often the more sustainable choice when compared to alternatives. Among other features, our HSBCs can offer improved recyclability of polyethylene-terephthalate and polypropylene streams, and function as replacements for less sustainable alternatives such as PVC, mainly in medical applications.

Our products primarily compete against a variety of chemical and non-chemical alternatives including, but not limited to, thermoplastic vulcanizate, thermoplastic polyurethane, PVC, thermoplastic polyolefin, polyethylene terephthalate, polycarbonate, polyamide, and ethylene-propylene-diene-monomer based products. We believe demand for our Specialty Polymers portfolio is principally driven by customer-specific needs and the ability to balance performance characteristics such as soft-touch, durability, stretch and impact.

Because many of our products are highly engineered and customized formulations, they require specialized product testing and validation, production and process evaluation. This results in potentially long lead times to achieve customer and industry established approvals. Our innovation-led growth strategy focuses on translating the inherent strengths of our product technologies such as flexibility, resilience, impact and moisture resistance, and aesthetics (clarity and haptics) to target opportunities in which we can expand and/or have the potential to create new market spaces for our solutions.

Isoprene Rubber. We have the IRSA with DL Chemical, under the initial terms of which we will supply IR to DL Chemical for a period of five years, with an optional extension for an additional five years. The Group does not expect renewal after the initial term. As the IRSA product sales are at cost, we recorded associated with the unfavorable contract deferred income, which will be amortized into revenue as a non-cash transaction when the products are sold.

CHEMICAL SEGMENT PRODUCTS AND COMMERCIAL APPLICATIONS

We manufacture and sell sustainable, high value products primarily derived from pine wood pulping co-products. We refine and further upgrade two primary feedstocks, crude tall oil ("CTO") and crude sulfate turpentine ("CST"), both of which are co-products of the wood pulping process, into value-added biobased specialty chemicals. We refine CTO through a distillation process into four primary constituent fractions: tall oil fatty acids ("TOFA"); tall oil rosin ("TOR"); distilled tall oil ("DTO"); and tall oil pitch. We further upgrade TOFA and TOR into derivatives such as dimer acids, polyamide resins, rosin resins, dispersions, and disproportionated resins. We refine CST into terpene monomer fractions, which can be further upgraded into specialty terpene resins. The various fractions and derivatives resulting from our CTO and CST refining process provide for distinct functionalities and properties, determining their respective applications and end markets. Our products derived from CTO and CST offer sustainable, non-genetically modified ("GMO"), bio-based alternatives.

Our Chemical segment is based predominantly on the refining and upgrading of CTO and CST. We also have the capacity to upgrade hydrocarbon-based raw materials, such as alpha-methyl-styrene ("AMS"), and bio-based gum rosins, where appropriate, and are able to offer tailored solutions for our customers.

The segment's products are manufactured and our commercial activities are organized in the following product groups based upon end markets and process technologies: Adhesives, Performance Chemicals, and Tires.

Adhesives. We offer a broad range of products to service target adhesives submarkets, including rosin-based tackifiers for packaging and pressure-sensitive adhesive applications, terpene-based tackifiers for bookbinding, hygiene and pressure-sensitive adhesive applications, AMS resins for bookbinding and pressure-sensitive adhesive applications, and hot melt polyamides for flexible packaging, industrial applications, and road marking. We seek to position our renewable, non-GMO, bio-based offerings as the material of choice for producers seeking to meet consumer demand for products that do not use less sustainable and GMO materials, like hydrocarbon-based solutions. We provide rosin based tackifiers with similar performance to hydrocarbon-based alternatives.

Our tackifiers are primarily used in hot melt adhesives, which are heavily used in the packaging submarket. Our focus in packaging is to improve our competitive position by introducing higher quality tackifiers that work in new polymer systems. We believe our efforts to improve functionality of tackifier offerings will enable differentiated and profitable growth in emerging markets.

Roads and Construction. Within the pavement marking submarket, we provide rosin-based binders for the thermoplastic pavement marking submarket and produce insoluble maleic-based tackifiers. We believe our advanced bio-based offerings in the pavement marking submarket enable our customers to formulate more durable road markings, improving sustainability by lessening raw material use.

Performance Chemicals. We serve various submarkets with a wide product offering, providing value across several different applications including, among others, fuel additives, oilfield chemicals, mining fluids, coatings, and metalworking fluids and lubricants. Our products include:

TOFA. Compared to other fatty acids obtained from various vegetable and animal origins, TOFA has a chemical composition characterized by distinctive features used as components in various applications. For the following end use markets (as examples) there are following features:

- Coatings end use market - serves as a binder in solvent-based paints as well as in hybrid coatings;preferred over soybean oil due to its higher unsaturation, better reactivity, flexibility, compatibility, and superior sustainability,
- Mining end use market - lower viscosity and higher affinity with the ore extract allows for a higher recovery yield; preferred over oleic acid,
- Oilfield chemicals end use market - easier handling, better solubility in drilling muds, as well as higher surface activity and emulsifying power; preferred over oleic acid,
- Fuel additives end use market - improves the lubricity of low-sulfur diesel fuel, preventing engine fuel pump wear.

Dimer Acids. Our dimer acids are used for the production of polyamide resins used in applications such as epoxy coatings, flexographic inks, and high performance adhesive applications. In addition, dimer acids are building blocks in the production of corrosion inhibitors and emulsifiers used in the production and recovery of petroleum and natural gas. Our dimer acids compete with dimer acids derived from other feedstocks such as rapeseed and cottonseed oil.

TOR. TOR is used in all major rosin applications for the manufacture of adhesives, inks, pavement markers, rubber, and paper.

DTO. DTO is a mixture of TOFA and rosin acids. Our DTO is primarily used as an emulsifier for metalworking fluids and lubricants, in which our product offers improved performance attributes and, in many cases, offers a more sustainable alternative by replacing less environmentally friendly hydrocarbon-based chemicals. In these applications, it is sometimes used in place of TOFA.

Terpene Fractions. We supply terpene fractions, alpha-pinene and beta-pinene, and upgrade them mainly as specialty tackifiers for the adhesives market and tread enhancers for the tires market.

Tires. We sell a range of products that enhance the performance and manufacturing of high performance, winter, and all-season tires. Our terpene-based tread enhancement resins optimize wet grip of tire treads while maintaining reduced rolling resistance and enhanced durability which contribute to improved vehicle fuel efficiency. We market our AMS-based tread enhancement additives through product attributes that include reduced rolling resistance, increased durability, wet grip enhancement, and exceptional compatibility with rubber compounds, especially solution styrene-butadiene rubber polymers. We also sell TOFA, DTO, and rosins as processing aids, which provide select functionalities at various steps in the rubber and tire manufacturing process.

We were one of the first companies to supply tread enhancement resins to the tire industry and won early qualifications with innovative tire manufacturers. We believe our tires products are a key enabler for our customers to achieve their sustainability goals. The quest for improved fuel economy has prompted the introduction of silica-based "green tires" in which certain of our products are a key component. AMS resins were the first tread enhancement additive commercialized beyond basic hydrocarbon tackifiers, and we believe they offer a good balance of properties, price, and performance for current generation tires. Our SYLVATRAXX™ terpene-base tread enhancement additives are made of up to 100% bio-renewable materials.

2. Basis of Preparation and Presentation

The consolidated financial statements have been prepared in accordance with IFRS Accounting Standards, as issued by the International Accounting Standards Board ("IASB"). The term "IFRS" also includes International Accounting Standards ("IAS") and the related interpretations of the interpretations committees, Standard Interpretations Committee ("SIC") and International Financial Reporting Interpretations Committee ("IFRIC").

The consolidated financial statements have been prepared on a going concern basis and on a historical cost basis, except for items accounted for at fair value as explained in the accounting policies below.

3. Material Accounting Policies

Basis of consolidation. These consolidated financial statements incorporate the financial statements of the Company and all its subsidiaries from the date that control effectively commenced. Subsidiaries are all entities (including structured entities) over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to variable returns from its involvements with the entity and has the ability to affect those returns through its power over the entity. Intercompany transactions, balances and unrealized gains on transactions between group companies are eliminated in the preparation of consolidated financial statements. For non-wholly owned, controlled subsidiaries the net assets attributable to outside equity shareholders are presented as non-controlling interest in the equity section of the consolidated statement of financial position. If any accounting policies applied by a subsidiary differ from those applied by the Group, adjustments are made to the financial statements of the subsidiary when necessary. Please refer to Note 22, *Investments in Significant Subsidiaries*, for the list of significant entities of the Group.

Functional and presentation currency. These consolidated financial statements are presented in USD, which is the Company's functional currency.

At the end of each reporting period foreign currency monetary items are translated into the functional currency of each entity using the closing rate; non-monetary items that are measured in terms of historical cost in a foreign currency are translated into the functional currency of each entity using the exchange rate at the date of the transaction or average for the period rates; and non-monetary items that are measured at fair value, recoverable amount or realizable value in a foreign currency are translated into the functional currency of each entity using the exchange rates at the date of remeasurement or

average for the period rates. Exchange gains and losses resulting from foreign currency remeasurement into the functional currency are included in profit (loss) for the reporting period.

The translation of the financial statements of the group entities from their functional currencies to the presentation currency is performed as follows: assets and liabilities are translated at the closing rate; income and expenses are translated at exchange rates at the dates of the transactions or average for the period exchange rates; and all resulting exchange differences are recognized in other comprehensive income (loss).

Joint Ventures. A joint venture is an investee whereby two or more parties (including the Group) that have joint control have the rights to the net assets of the investee. 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.

Investments in joint ventures are accounted for using the equity method from the date on which significant influence or joint control is obtained until the date on which significant influence or joint control is lost. Under the equity method, investments in joint ventures are recognized at cost, adjusted for the Group's share of the profit or loss and other comprehensive income of the joint ventures from the date on which the Group obtains significant influence or joint control to the date on which the Group loses such significant influence or joint control. The Group recognizes its share of profit or loss of the investees, net of income taxes after the elimination of unrealized intercompany profits, in the consolidated operating income (loss) to the extent of the Group's interest in these entities.

If any accounting policies applied by a joint venture differ from those applied by the Group, adjustments are made to the financial statements of the joint venture as necessary. When an investment ceases to be a joint venture and the use of the equity method is discontinued, any gain or loss arising from discontinuation of the equity method is recognized in profit or loss.

For investments accounted for using the equity method, the carrying amount of each investment is tested for impairment as a single asset, when there is objective evidence that the investments may be impaired. The Group evaluates equity method investments for impairment when events or changes in circumstances indicate that the carrying value of such investment may have experienced an impairment. When evidence of loss in value has occurred, the Group compares the estimated fair value of the investment to the carrying value of the investment to determine whether impairment has occurred. The Group assesses the fair value of equity method investment using commonly accepted techniques, and may use more than one method, including, but not limited to, recent third party comparable sales, internally developed analysis and analysis from outside advisors. If the estimated fair value is less than the carrying value and the Group considers the decline in value to be other than temporary, the excess of the carrying value over the estimated fair value is recognized in the financial statements as an impairment.

The Group assesses whether there are any indicators of possible impairment of investments in joint ventures at each reporting date based on events or circumstances that indicate that the carrying value of such investments may not be recoverable. Such indicators include changes in the Group's business plans, changes in commodity prices leading to unprofitable performances and other indicators. When value in use calculations are undertaken, the Group estimates the expected future cash flows from the cash generating unit and chooses a suitable discount rate in order to calculate the present value of those cash flows.

Cash and cash equivalents. Cash and cash equivalents comprise cash balances, cash deposits and highly liquid investments which are readily convertible to a known amount of cash and subject to an insignificant risk of changes in value or has a short maturity of three months or less.

Receivables. Receivables are recorded at the invoiced amount once the performance obligation has been met and do not bear interest. Receivables are considered for impairment under the expected credit loss model. The Group reviews the allowance for doubtful accounts quarterly. Account balances are charged off against the allowance after all means of collection have been exhausted and the potential for recovery is considered remote. The Group does not have significant off-balance sheet credit exposure related to customers.

Inventories. Inventory values include all costs directly associated with manufacturing products and are stated at the lower of cost or net realizable value, primarily determined on a first-in, first out basis. The Group evaluates the carrying cost of inventory on a quarterly basis for this purpose. If the cost of the inventories exceeds their net realizable value, provisions are made for the difference between the cost and the net realizable value.

Reversal of any write-down is permitted when the reasons for the difference between the cost and the net realizable value no longer exist, up to the original amount of the write-down. Additionally, when there is clear evidence of an increase in net realizable value because of changed economic circumstances, a new assessment is made of net realizable value on a quarterly basis and the new carrying amount is the lower of the cost and the revised net realizable value.

Financial instruments. Financial assets and financial liabilities are measured at its fair value upon initial recognition. Transaction costs that are directly attributable to the acquisition or issue of financial instruments (other than financial instruments at fair value through profit or loss) ("FVTPL") are added to or deducted from the fair value of the financial instruments on initial recognition. Transaction costs directly attributable to the acquisition of financial instruments at FVTPL are recognized immediately in profit or loss.

The Group classifies its financial instruments in the following measurement categories:

- assets measured at fair value through profit or loss
- assets measured at fair value through other comprehensive income ("FVTOCI"), and
- those to be measured at amortized cost

Financial assets are classified on the basis of business model for managing the financial assets and the contractual cash flow characteristics of the financial assets.

Property, plant, and equipment. Property, plant and equipment are stated at historical cost, net of accumulated depreciation and impairment. Property, plant and equipment acquired as part of business combination are initially measured at fair value according to IFRS 3, *Business Combinations*, and are subsequently carried at cost less accumulated depreciation. Historical cost includes expenditures that are directly related to the acquisition of the items. Interest costs incurred as part of the cost of constructing major facilities and equipment are capitalized. Major renewals and improvements which extend the useful lives of equipment are capitalized. Replacements and overhauls after each major inspection are capitalized. Repairs and maintenance costs are expensed as incurred. Disposals are removed at carrying cost less accumulated depreciation with any resulting gain or loss reflected in earnings.

Depreciation is recognized using the straight-line method over the following estimated useful lives.

Machinery and equipment	20 years
Building and land improvements	20 years
Manufacturing control equipment	10 years
Office equipment	5 years
Research equipment and facilities	5 years
Vehicles	5 years
Computer hardware and information systems	3 years

If a significant part of property, plant and equipment items have different depreciation methods or useful lives, the part is depreciated separately. The Group reviews depreciation methods, estimated useful lives, and residual values over assets at the end of each annual reporting period and adjusts if appropriate.

Goodwill. The Group records goodwill when the purchase price of an acquired business exceeds the fair value of the net identifiable assets acquired. Goodwill is allocated to each cash-generating unit (or groups of cash generating units) that is expected to benefit from the synergies of the combination.

Goodwill is tested for impairment at the cash generating unit level annually or more frequently as deemed necessary. Annual measurement date for testing impairment is December 31st. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the cash-generating unit and then to the other assets of the unit on a pro rata basis based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

Impairment of Long-lived assets. Long-lived assets, such as property, plant, and equipment, and purchased intangible assets subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount of an asset may not be recoverable. If circumstances require a long-lived asset or cash generating unit to be tested for possible impairment, the Group first compares the recoverable amount of an asset or cash generating unit to its carrying value. If the carrying value of the long-lived asset or cash generating unit is not recoverable, impairment is recognized to the extent that the carrying value exceeds its recoverable amount. Recoverable amount of an asset or a cash-generating unit is the higher of its fair value less costs of disposal and its value in use, determined in accordance to IAS 36, *Impairment of assets*.

Intangible Assets. Intangible assets are stated at cost, net of accumulated amortization and impairment losses. The Group has intangible assets related to technology, customer relationships, tradenames/trademarks, supply agreements and software. Intangible assets are amortized using the straight-line method over the asset's estimated useful life as follows (there were no intangible assets with indefinite useful life, except goodwill, as of December 31, 2023):

Technology	15 years
Customer relationships	15 years
Tradenames/trademarks	15 years
Software	3 - 10 years
Supply agreements	5 years

The amortization of intangible assets is recognized as operating expense in the statement of profit or loss.

Pension and other postretirement plans. The Group sponsors noncontributory defined benefit pension plans ("Pension Plans") and a post-retirement benefit plan ("Retiree Medical Plan"). The Group annually evaluates significant assumptions related to the benefits and obligations of these plans. The Group's estimation of the projected benefit obligations and related benefit expense requires that certain assumptions be made regarding such variables as expected return on plan assets, discount rates, rates of future compensation increases, estimated future employee turnover rates and retirement dates, distribution election rates, mortality rates, retiree utilization rates for health care services, and health care cost trend rates. The determination of the appropriate assumptions requires considerable judgment concerning future events and has a significant impact on the amount of the obligations and expense recorded. The Group relies in part on actuarial studies when determining the appropriateness of certain of the assumptions used in determining the benefit obligations and the annual expenses for these plans.

Transaction Costs. Financing fees and other costs related to issuing long-term debt are capitalized. The Group amortized these costs using the effective interest method, except for costs related to revolving debt, which are amortized using the straight-line method. The amortization of debt issuance costs is recorded in interest expense.

Environmental Costs. Environmental costs are expensed as incurred unless the expenditures extend the economic useful life of the relevant assets. Costs that extend the economic useful life of assets are capitalized and depreciated over the remaining life of those assets. Liabilities are recorded when environmental assessments, or remedial efforts are probable, and the cost can be reasonably estimated.

Revenue Recognition. Revenue is recognized when obligations under the terms of a contract with the Group's customer are satisfied. Generally, this occurs at a point in time when the transfer of risk and title to the product transfers to the customer. The Group's products are generally sold free on board shipping point or, with respect to countries other than the U.S., an equivalent basis. The Group's standard terms of delivery are included in the Group's contracts of sale, order confirmation documents, and invoices. As such, all revenue is considered revenue recognized from contracts with customers and the Group does not have other sources of revenue. Revenue is measured as the amount of consideration expected to be received in exchange for transferring goods or providing services. Revenue is recognized net of sales tax, value-added taxes, and other taxes. Shipping and other transportation costs charged to customers are recorded in both revenue and cost of goods sold. The Group does not have any material significant payment terms as payment is received at or shortly after the point of sale. Certain customers may receive cash-based incentives (including rebates and price supports), which are accounted for as variable consideration. Sales commissions are recorded as an increase in cost of goods sold once the performance obligation with the associated sale has been met. The Group does not expect to have significant changes in estimates for variable considerations.

Occasionally, the Group enters into bill-and-hold contracts, where the Group invoices the customer for products even though the Group retains possession of the products until a point in time in the future when the products will be shipped to the customer. In these contracts, the primary performance obligation is satisfied at a point in time when the product is segregated from the Group's general inventory, it is ready for shipment to customer, and the Group does not have the ability to use the product or direct it to another customer. Additionally, the Group has a secondary performance obligation related to custodial costs, including storage and freight, which is satisfied over time until the product has been delivered to the customer.

Research and development expenses. Research and development costs are expensed as incurred.

Leases. The Group assesses whether a contract is, or contains, a lease at the inception of a contract. A contract is, or contains, a lease if the contract conveys the right to control the use of an identified asset for a period of time in exchange for consideration. The Group recognizes a right-of-use asset and a corresponding lease liability for all leases, except for leases with a lease term of 12 months or less.

The Group takes lease extension options that are reasonably certain to be exercised, into account to determine the minimum lease payments.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date and discounted using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate, which is calculated as the weighted average interest on debt. The lease liability is subsequently

measured at amortized cost using the effective interest method and presented as a separate line item in the consolidated statement of financial position.

The right-of-use asset comprise the initial measurement of the corresponding lease liability and lease payments made at or before the commencement date, less any lease incentives received and any initial direct costs. They are subsequently measured at cost less accumulated depreciation and impairment losses. Right-of-use assets are depreciated using the straight-line method over the shorter period of lease term or useful life of the underlying asset and are presented as a separate line in the consolidated statement of financial position.

Variable rents that do not depend on an index or a rate are not included in the measurement of the lease liability and the right-of-use asset. The related payments are recognized as an expense in the period in which the event or condition that triggers those payments occurs and are included in profit or loss.

As a practical expedient, IFRS 16 permits a lessee not to separate non-lease components, but to account for any lease and associated non-lease components as a single arrangement. The Group has elected to apply this practical expedient. For contracts that contain a lease component and one or more additional lease or non-lease components, the Group allocates the consideration in the contracts to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components. The Group has no material lessor or sublease income.

Income Taxes. The Group conducts operations in separate legal entities in different jurisdictions. As a result, income tax amounts are reflected in these consolidated financial statements for each of those jurisdictions.

Taxes currently payable are based on taxable profit for the year. Taxable profit differs from net profit as reported in the consolidated statements of profit or loss and consolidated statements of other comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

A provision is recognized for those matters for which the tax determination is uncertain, but it is considered probable that there will be a future outflow of funds to a tax authority. The provisions are measured at the best estimate of the amount expected to become payable. The assessment is based on the judgment of tax professionals within the Group supported by previous experience in respect of such activities and in certain cases based on specialist independent tax advice.

Deferred tax is the tax expected to be payable or recoverable on differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit and is accounted for using the liability method. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates and interests in joint ventures, except where the Group can control the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences associated with such investments and interests are only recognized to the extent it is probable that there will be sufficient taxable profits against which to utilize the benefits of the temporary differences and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the period in which the liability is settled or the asset realized, 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 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.

Deferred tax assets and liabilities are offset if, and only if, the Group has a legally enforceable right to set off current tax assets against current tax liabilities, and the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities, which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

We currently believe that certain unremitted foreign earnings of our subsidiaries will be permanently reinvested for an infinite period of time. Accordingly, we have not provided deferred taxes for the differences between these subsidiaries' book basis and underlying tax basis or on related foreign currency translation adjustment amounts.

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case the current and deferred taxes are also recognized in other comprehensive income or directly in equity. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

The Organization for Economic Co-operation and Development ("OECD") has proposed a global minimum tax of 15% of reported profits ("Pillar 2") that has been agreed upon in principle by over 140 countries. During 2023, many countries took steps to incorporate Pillar 2 model rule concepts into their domestic laws. Although the model rules provide a framework for applying the minimum tax, countries may enact Pillar 2 slightly differently than the model rules and on different timelines and may adjust domestic tax incentives in response to Pillar 2. The Group applies the exception to recognizing and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes. Accordingly, the Group is still evaluating the potential consequences of Pillar 2 on longer-term financial positions.

Provisions. Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material). The discount rate used is a pretax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage is recognized in profit or loss as borrowing cost.

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

Third party reimbursement of expenditures to settle a provision (e.g., through insurance contracts, indemnity clauses or suppliers' warranties) are recognized when it is virtually certain that the reimbursement will be received. The asset recorded for the reimbursement does not exceed the amount of the provision.

IFRS Standards first time adopted in 2023. The Group has implemented all new accounting pronouncements that are in effect and that management believes would materially impact the financial statements. The following new or amended standards and interpretations were applied by the Group in these consolidated financial statements in 2023:

Title	Subject	Effective date	Effect
IFRS 17	Insurance contracts	January 1, 2023	No effect
Amendments to IFRS 17	Insurance contracts	January 1, 2023	No effect
Amendments to IAS 8	New definitions of accounting estimates	January 1, 2023	Disclosure
Amendments to IAS 12	Deferred tax related to assets and liabilities arising from a single transaction	January 1, 2023	Disclosure
Amendments to IAS 12	Global implementation of Pillar Two	January 1, 2023	Disclosure
Amendments to IAS 1	Disclosure of accounting policy	January 1, 2023	Disclosure

IFRS Standards to be adopted after 2023. The following standards and interpretations which have not been applied in these consolidated financial statements were in issue but not yet effective:

Title	Subject	Effective date	Estimated effect
Amendments to IFRS 16	Leases on sale and leaseback	January 1, 2024	No effect
Amendments to IAS 1	Classification of liabilities as current or non-current	January 1, 2024	No effect
Amendments to IAS 1	Non current liabilities with covenants	January 1, 2024	No effect
Amendments to IAS 12	Deferred tax related to assets and liabilities arising from a single transaction	January 1, 2023	No effect

4. Accounting Estimates and Judgments

The preparation of these consolidated financial statements in conformity with International Financial Reporting Standards ("IFRS") requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the consolidated financial statements and the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates. Changes in these accounting estimates are recognized in the period in which the estimates are revised and in any future periods affected.

Significant items subject to judgements or estimates and respective assumptions include:

- depreciation amounts (the useful lives of long-lived assets);
- inventory reserves (key assumptions in net realizable value calculation);
- impairment of long-lived assets (key assumptions underlying recoverable amounts);
- valuation of goodwill and fair value of the net assets acquired according to IFRS 3, *Business combinations* (key assumptions in fair value determination);
- the valuation of derivatives, deferred taxes and property, plant and equipment (assumptions on fair value inputs, timings and other); and
- liabilities for employee benefit obligations, income tax uncertainties, and other contingencies (key actuarial assumptions and key assumptions about the likelihood and magnitude of an outflow of resources).

5. Revenue

The Group disaggregates its revenue by segment product lines, which is how management markets the Group's products and reviews results of operations. The following tables disaggregate the Group's segment revenue by major product lines:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Performance Products	$ 511,245	$ 542,719
Specialty Polymers	352,220	322,268
Isoprene Rubber	54,024	59,706
Other	5,292	1,042
Polymer Business Revenue	$ 922,781	$ 925,735

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Tall oil fatty acids ("TOFA")	$ 431,539	$ 354,108
Tall oil rosin ("TOR")	297,924	278,585
Crude sulfate turpentine ("CST")	87,193	82,080
Non-Pine	43,478	41,017
Others	103,749	128,332
Pine Chemicals Business Revenue	$ 963,883	$ 884,122

The Group has deferred income of $22.5 million related to contractual commitments with customers for which the performance obligation will be satisfied over time, which range from one to four years. The revenue associated with these performance obligations is recognized as the obligation is satisfied, which occurs as a volume based metric over time with the transfer of risk and title of finished products to the customer.

During the year ended December 31, 2023 and 2022, the Group recognized $3.4 million and $1.5 million of revenue related to these arrangements.

Receivables from contracts with customers and contract liabilities are comprised of the following:

	December 31, 2023	December 31, 2022
	(In thousands)	
Contract receivables[(1)]	$ 201,994	$ 238,378
Contract liabilities[(2)]	$ 22,475	$ 45,290

(1) Contract receivables are recorded within receivables, net of allowances on Consolidated Statement of Financial Position.
(2) The Group's contract liability consists of $16.5 million of non-cash deferred income related to the IRSA and $6.2 million of non-cash deferred income related to a supply agreement with a significant lubricant additive customer. The impact from currency exchange rates is $0.2 million. Revenue related to opening contract liabilities and recognized during the period amounted to $22.9 million.

6. Trade Receivables

	December 31,	
	2023	2022
	(In thousands)	
Trade receivables	$ 192,462	$ 228,079
Allowance	(1,432)	(1,369)
Total trade receivables	$ 191,030	$ 226,710

7. Inventories

	December 31,	
	2023	2022
	(In thousands)	
Finished products	$ 306,703	$ 397,798
Raw materials	132,901	166,931
Supplies	54,226	54,560
Goods in transit	40,741	52,654
Work in progress	8,171	5,475
Inventories, gross	542,742	677,418
Inventory reserve	(11,761)	(19,229)
Inventories, net	$ 530,981	$ 658,189

Write-down of inventories recognized as an expense during the twelve months ended December 31, 2023 and 2022, amounted to $15.6 million and $9.7 million respectively, and was recorded within *Cost of Goods Sold* on Consolidated Statements of Profit or Loss.

8. Property, Plant, and Equipment

Details of property, plant, and equipment are as follows:

	Land	Building	Structures	Machinery	Vehicles	Other	Construction in Progress	Total
	(In thousands)							
Net Book Value at January 1, 2022	$ —	$ —	$ —	$ —	$ —	$ —	$ —	$ —
Acquired from business combination	16,296	207,184	39,525	1,041,373	1,685	207,387	93,042	1,606,492
Additions	—	51	8	2,014	—	172	84,517	86,762
Retirements	—	(47)	(7)	(1,855)	—	(289)	—	(2,198)
Depreciation	—	(10,882)	(3,859)	(74,429)	(207)	(19,984)	—	(109,361)
Impairments	—	—	—	(2,572)	—	—	—	(2,572)
Transfers	—	8,879	907	66,832	420	17,735	(94,773)	—
Effects of foreign currency translation	(536)	(2,646)	121	(8,055)	(66)	(8,127)	(239)	(19,548)
Cost	$ 15,760	$ 213,143	$ 42,085	$1,089,166	$ 2,005	$ 215,728	$ 82,547	$1,660,434
Accumulated Depreciation	—	(10,604)	(5,390)	(65,858)	(173)	(18,834)	—	(100,859)
Net Book Value at December 31, 2022	$ 15,760	$ 202,539	$ 36,695	$1,023,308	$ 1,832	$ 196,894	$ 82,547	$1,559,575
Cost	15,760	213,143	42,085	1,089,166	2,005	215,728	82,547	1,660,434
Accumulated Depreciation	—	(10,604)	(5,390)	(65,858)	(173)	(18,834)	—	(100,859)
Net Book Value at January 1, 2023	$ 15,760	$ 202,539	$ 36,695	$1,023,308	$ 1,832	$ 196,894	$ 82,547	$1,559,575
Additions	—	—	—	320	—	2,396	121,705	124,421
Retirements	—	(73)	—	(622)	—	(89)	—	(784)
Depreciation	—	(13,376)	(4,393)	(98,182)	(455)	(26,039)	—	(142,445)
Transfers	26	9,416	497	80,117	287	19,049	(109,632)	(240)
Effects of foreign currency translation	253	2,048	192	6,134	45	623	1,045	10,340
Cost	$ 16,039	$ 224,153	$ 42,840	$1,171,556	$ 2,295	$ 236,449	$ 95,665	$1,788,997
Accumulated Depreciation	—	(23,599)	(9,849)	(160,481)	(586)	(43,615)	—	(238,130)
Net Book Value at December 31, 2023	$ 16,039	$ 200,554	$ 32,991	$1,011,075	$ 1,709	$ 192,834	$ 95,665	$1,550,867

Acquired property plant and equipment was initially valued on March 15, 2022 at fair value as part DL Chemical's acquisition of the Group (Note 12, *Acquisition and mergers*).

As of December 31, 2023 $11.4 million of property, plant and equipment acquisitions are outstanding to be paid and have been excluded from the Consolidated Statement of Cash Flows.

9. Intangible Assets

Details of intangible assets are as follows:

	Goodwill	Software	Contracts and other intangible assets	Technology	Trademarks	Total
	(In thousands)					
Net Book Value at January 1, 2022	$ —	$ —	—	$ —	$ —	
Acquired from business combinations	420,701	16,200	122,013	161,100	42,363	762,377
Revision of cost (Note 12)	448	—	(618)	—	—	(170)
Additions	—	4,238	—	—	98	4,336
Retirements	—	—	(10)	—	—	(10)
Amortization	—	(3,525)	(21,084)	(8,547)	(2,311)	(35,467)
Effects of foreign currency translation	—	(238)	220		—	(18)
Cost	$ 420,701	$ 17,553	$ 122,280	$ 161,100	$ 42,400	$ 764,034
Revision of cost (Note 12)	448	—	(618)	—	$ —	(170)
Accumulated Amortization	—	(878)	$ (21,141)	(8,547)	$ (2,250)	(32,816)
Net Book Value at January 1, 2023	$ 421,149	$ 16,675	$ 100,521	$ 152,553	$ 40,150	$ 731,048
Additions	—	17,768	494	—	1,504	19,766
Reclassifications	—	(3,436)	—	—	898	(2,538)
Amortization	—	(4,587)	(25,792)	(10,740)	(2,885)	(44,004)
Effects of foreign currency translation	—	(318)	81	—	—	(237)
Cost	421,149	31,549	122,217	161,100	44,801	780,816
Accumulated Amortization	—	(5,447)	(46,913)	(19,287)	(5,134)	(76,781)
Net Book Value at December 31, 2023	$ 421,149	$ 26,102	$ 75,304	$ 141,813	$ 39,667	$ 704,035

Acquired intangible assets were initially valued on March 15, 2022 at fair value as part of DL Chemical's acquisition of the Group (Note 12, *Acquisition and mergers*). For impairment test purposes $150.6 million of goodwill was allocated to Polymer CGU and $270.5 million of goodwill was allocated to the Chemical CGU.

As of December 31, 2023 $3.1 million of intangible assets acquisitions are outstanding to be paid and have been excluded from the Consolidated Statement of Cash Flows.

Goodwill. The Group records goodwill when the purchase price of an acquired business exceeds the fair value of the net identifiable assets acquired. Goodwill is allocated to each cash-generating unit (or groups of cash generating units) that is expected to benefit from the synergies of the combination.

As of December 31, 2023 the Company has tested Goodwill for impairment and the value in use for each cash generating unit level exceeds it's carrying value, therefore no impairment losses have been recognized in the accompanying Financial Statements.

10. Leases

The Group's leases are generally for railcars, office space, and equipment. The details of right-of use assets are as follows:

	Railcars	Buildings	Structures and other	Total
	(In thousands)			
Carrying value at January 1, 2022	$ —	$ —	$ —	$ —
Acquired from business combination	28,739	48,115	31,095	107,949
Additions and modifications	5,739	—	—	5,739
Depreciation	(6,804)	(6,566)	(5,751)	(19,121)
Effects of foreign currency translation	(8)	(9)	(17)	(34)
Carrying value at December 31, 2022	$ 27,666	$ 41,540	$ 25,327	$ 94,533
Additions and modifications	5,788	17,844	2,479	26,111
Depreciation	(9,188)	(8,284)	(6,850)	(24,322)
Effects of foreign currency translation	27	29	175	231
Carrying value at December 31, 2023	$ 24,293	$ 51,129	$ 21,131	$ 96,553

The amounts recognized in profit or loss for the years ended December 31, 2023 and 2022, are as follows:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Depreciation expense on right-of-use assets	$ (24,322)	$ (19,121)
Interest expense on lease liabilities	(3,200)	(2,683)

The maturity analysis of lease liabilities as of December 31, 2023 is presented below, based on undiscounted contractual cash payments, including interest payments:

	Payments Due by Period					
	Total	2024	2025	2026	2027	2028
	(In millions)					
Lease obligations	$ 107.1	$ 23.1	$ 20.1	$ 18.0	$ 14.2	$ 31.7

Acquired right-of-use lease assets were initially valued on March 15, 2022 at fair value as part of DL Chemical's acquisition of the Group (Note 12, *Acquisition and mergers*).

11. Cost of Goods Sold

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Materials	$ 1,030,297	$ 1,060,310
Outsourcing and subcontracting fees	135,142	110,894
Salary and employee benefits	136,377	100,770
Change in finished goods inventory	80,853	(22,837)
Other	58,856	64,526
Total cost of goods sold	$ 1,441,525	$ 1,313,663

Research and development expenditures recognized as an expense during the years ended December 31, 2023 and 2022 amounted to $48.5 million and $35.8 million, respectively and were included in SG&A items in Consolidated statement of profit or loss.

12. Acquisition and Mergers

On March 15, 2022, DLC US Inc. acquired 100% of the Kraton Corporation's voting equity interest in an all-cash transaction. The transaction was announced on September 27, 2021, and received Kraton's stockholder approval on December 9, 2021. As a result of the transaction completion, the Kraton Corporation is now a wholly owned subsidiary of DL Chemical.

The $2.5 billion purchase price for the Merger and the related acquisition and financing expenses were funded through the following transactions:

- $1.5 billion of cash equity contribution to DLC US Inc. from DLC US Holdings;
- $1.0 billion of term loans and an asset backed lending facility issued as described in Note 15, *Debt and cash and cash equivalent*.

The Group has accounted for the Merger using the purchase method of accounting for business combinations. Accordingly, the purchase price has been allocated to the underlying assets and liabilities to their respective fair values. The excess of the purchase price over the estimated fair value of the net assets acquired has been recorded as goodwill. The goodwill is attributable mainly to the assembled workforce and technical know-how of the Group.

The following table outlines the fair value of assets and liabilities at the acquisition date and cash consideration paid for the Merger measured in accordance with IFRS 3, *Business Combinations* based on management's estimates, judgments, and assumptions. The amounts recorded during measurement period were provisional and were adjusted in these consolidated financial statements. The adjustment were primarily related to finalization of estimated income tax assets and liabilities. As a measurement period has expired, the fair values shown below are final.

	Provisional Fair Value recorded as of December 31, 2022	Revision	Fair Value
		(In thousands)	
Property, plant, and equipment	$ 1,606,492	$	$ 1,606,492
Intangible assets	341,676	(618)	341,058
Other long-term assets	207,268	4,488	211,756
Inventories	634,020		634,020
Accounts receivable and other current assets	301,757		301,757
Cash and cash equivalents	116,910		116,910
Total assets	3,208,123	3,870	3,211,993
Long-term lease liabilities	80,193		80,193
Other long-term liabilities	151,461		151,461
Income tax liabilities	354,442	(815)	353,627
Current liabilities	414,301	5,133	419,434
Non-controlling interest	50,367		50,367
Total liabilities	1,050,764	4,318	1,055,082
Total identifiable net assets acquired	$ 2,157,359	$ (448)	$ 2,156,911
Goodwill	$ 420,701	$	$ 421,149
Purchase price	2,578,060		2,578,060
Cash and cash equivalents	(116,910)		(116,910)
Purchase price, net of cash acquired	**$ 2,461,150**		**$ 2,461,150**

The fair value of acquired identifiable intangible assets was determined using the following methods:

Intangible assets	Useful life	Valuation method
Corporate trade name	15 years	the relief from royalty method
Technology (product portfolios)	15 years	the relief from royalty method
Supply agreements	5 years	with or without method of income approach
Software	4 years	depreciated replacement cost approach

The purchase price of the Merger exceeded the net acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. The purchase price also included the fair values of other assets that were not identifiable, not separately recognizable under accounting rules (e.g., assembled workforce) or of immaterial value in addition to a going-concern element that represents Group's ability to earn a higher rate of return on the group of assets than would be expected on the separate assets as determined during the valuation process.

Revision of comparatives. As stipulated in IFRS 3, *Business Combinations*, the Group shall recognized adjustments to the provisional amounts as if the accounting for the business combination had been completed at the acquisition date. Thus, the Group revised comparative information for prior periods presented in in these condensed consolidated interim financial statements. Revision had no effect on net income for the comparative period. The following table outlines the summary of revisions made:

	Reported in annual financial statements as of December 31, 2022	Revision	Revised amount as of December 31, 2022
		(In thousands)	
Intangible assets (including goodwill)	$ 731,218	$ (170)	$ 731,048
Deferred tax asset	68,188	4,488	72,676
Tax payable	24,422	5,133	29,555
Deferred tax liabilities	310,217	(815)	309,402

13. Finance Income (Expense)

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Finance income		
Foreign currency exchange income	$ 1,827	$ 12,193
Interest income	1,947	290
Other finance income (expense)	—	(2)
Total finance income	$ 3,774	$ 12,481
Finance expense		
Interest expense	$ 106,570	$ 54,404
Foreign currency exchange expense	7,397	1,181
Total finance expense	$ 113,967	$ 55,585

For the years ended December 31, 2023 and 2022, $2.6 million and $2.8 million, respectively of interest expense was capitalized. The interest rate used to determine the amounts of borrowing costs eligible for capitalization was 7.75%.

14. Other Income and Other Expense

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Other income		
Gain on disposal of investments	$ 3,038	$ —
Gain on disposal of fixed assets	234	35
Other	114	193
Total other income	$ 3,386	$ 228
Other expense		
Loss on disposal of fixed assets	$ 1,382	$ 1,007
Other	2,517	335
Total other expense	$ 3,899	$ 1,342

15. Debt and Cash and Cash Equivalents

Details of the Group's borrowings as of December 31, 2023 and 2022, are as follows:

	Currency	Fixed/Variable	Interest Rate	Maturity	December 31, 2023	December 31, 2022
				(In thousands)		
USD Tranche	USD	Variable	8.77%	2029	$ 565,731	$ 567,764
Euro Tranche	EUR	Variable	6.81%	2029	319,682	305,751
ABL Facility	USD	Variable	6.95% - 9.00%	2027	140,000	120,000
Korean Term Loan	USD	Variable	7.07%	2026	74,305	—
KFPC Revolving Facilities	NTD	Variable	1.76%	Various	47,863	52,747
KFPC Term Loan	NTD	Variable	1.98%	2026	9,345	—
Insurance Premium Finance Loan	USD	Fixed	5.99%	2024	3,630	—
Total debt					$ 1,160,556	1,046,262
Less current portion of total debt and short-term debt					57,493	58,747
Long-term debt					$ 1,103,063	$ 987,515

In March 2022, in relation to the Merger transaction, the Group issued $600.0 million of the U.S. Term Loan and €300.0 million of the Euro Term Loan, each due March 2029, and a $300.0 million asset backed loan (the "ABL Facility") due 2027. The U.S. Term Loan and Euro Term Loan have interest rates at SOFR + 3.25% and EURIBOR +3.25%, respectively. The ABL Facility has a variable interest rate at SOFR plus a fixed margin, dependent upon outstanding borrowings .

During the year ended December 31, 2023 the Group repaid $6.0 million of USD Tranche and borrowed $20.0 million under the ABL Facility and $75 million under the Korean Term Loan.

Asset Back Loan Facility. Borrowing availability under the ABL Facility is subject to borrowing base limitations based on the level of receivables and inventory available for security. The carrying amount of receivables and inventory pledged as security under the ABL Facility as of December 31, 2023 are $101.5 million and $340.7 million, respectively, a percentage of which is determined to be eligible borrowing base collateral according to the terms and conditions of the ABL credit agreement, which includes definitions and detailed calculations concerning eligibility provisions.

As of December 31, 2023, the Group's available borrowing capacity under the ABL Facility was $85.2 million, with $140.0 million of outstanding borrowings and $3.3 million of letters of credit outstanding under the facility.

Korean Term Loan: During the fourth quarter 2023, the Group entered into a loan agreement for a total of $150 million with Kookmin Bank New York Branch and Woori Bank New York Agency to obtain funds to prepay a portion of its existing obligations under the ABL Agreement. This loan is guaranteed by DL Chemical Co., Ltd.

As of December 31, 2023, the first loan notice was received in the amount of USD 75 million, the proceeds of which were used to prepay a portion of the outstanding balance in the ABL facility.

KFPC Revolving Facilities. KFPC has several revolving credit facilities with banks (the "KFPC Revolving Facilities") to provide funding for working capital requirements and/or general corporate purposes. All of the KFPC Revolving Facilities are subject to variable interest rates.

As of December 31, 2023, the available borrowing capacity under KFPC Revolving Facilities was $69.3 million, with $47.9 million of outstanding borrowings.

Insurance Premium Finance Loan. As of December 31, 2023, the Group entered in a short-term insurance premium finance loan with fixed interest and monthly repayments and borrowed $13.1 million and repaid $9.4 million of insurance premium finance loan.

KFPC Term Loan and KFPC 2023 Revolving Facility Tranche. During the second quarter 2023, KFPC entered into a loan agreement with the Bank of Taiwan to raise funding for an expansion project. The agreement has two tranches, one of which is a term loan under which KFPC can borrow up to NTD 2.0 billion with drawdown period during 2023-2025 and repayment period of 5 years starting in 2026 and a separate tranche that is a revolving credit facility that enables KFPC to borrow up to NTD 500 million for working capital purposes related to the expansion project. Both tranches of the KFPC loan agreement are subject to variable interest rate. During the year ended December 31, 2023, the Group borrowed $9.3 million equivalent under KFPC term loan with no outstanding borrowings under the revolving tranche of the facility.

Details of the Group's cash and cash equivalents as of December 31, 2023 and 2022, are as follows:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Cash	$ 148	$ 323
Deposits	41,630	75,638
Short-term investments	—	6,993
Total cash and cash equivalents	$ 41,778	$ 82,954

16. Fair Value of Financial Instruments

The carrying amounts of the Group's financial instruments were as follows:

	December 31, 2023	December 31, 2022
	(In thousands)	
Financial assets measured at fair value through profit or loss		
Other non-current assets - retirement plan asset (level 1)	$ 2,407	$ 1,983
Other receivables and miscellaneous assets - derivatives asset (level 2)	2,971	1,972
Financial assets measured at amortized cost		
Trade receivables	191,030	226,710
Other receivables	18,645	17,972
Other non-current assets	4,613	4,233
Cash and cash equivalents	41,778	82,954
Total financial assets	$ 261,444	$ 335,824
Financial liabilities measured at fair value through profit or loss		
Short-term financial liabilities - derivatives liability (level 2)	$ 791	$ 2,680
Financial liabilities measured at amortized cost		
Trade and other payables	314,901	393,942
Other long-term liabilities	3,945	3,259
Debt	1,160,556	1,046,262
Lease liabilities	93,881	90,712
Total financial liabilities	$ 1,574,074	$ 1,536,855

For cash and cash equivalents, receivables, payables and certain accrued expenses, the carrying amount approximates fair value due to the short maturities of these instruments. For long-term debt instruments fair value is estimated based upon market values (if applicable) or on the current interest rates available to the Group for debt with similar terms and remaining maturities. The fair value of the Group's debt was as follows:

	December 31, 2023		December 31, 2022	
	Carrying Value	Fair Value	Carrying Value	Fair Value
	(in thousands)			
USD Tranche	$ 565,732	$ 579,184	$ 567,764	$ 591,778
Euro Tranche	319,682	317,241	305,751	305,409
ABL Facility	140,000	140,000	120,000	120,000
Korean Term Loan	74,304	73,313	—	—
KFPC Revolving Facilities	47,863	47,863	52,747	52,747
KFPC Term Loan	9,345	9,345	—	—
Insurance Premium Finance Loan	3,630	3,630	—	—

The following table describe the inputs used in the measurement of the Group's financial assets and liabilities that were accounted for at fair value on a recurring basis as of December 31, 2023 and 2022. As of December 31, 2023 and 2022, the Group had no assets or liabilities utilizing significant unobservable inputs (or Level 3) to derive its estimated fair values.

	Inputs
Retirement plan asset—non-current	Quoted Prices in Active Markets for Identical Assets (level 1)
Derivative asset and liability	Significant Other Observable Inputs (level 2)

Net gains and losses on financial instruments measured at fair value through profit or loss were as follows:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Net gains (losses) on derivative assets and liabilities	$ 4,456	$ (16,663)
Net gains (losses) on retirement plan assets	59	274

17. Financial Instruments Risk Management

Capital Risk Management. The Group manages its capital to maintain its ability to continuously provide return to its shareholders and interested parties. Furthermore, the Group puts effort towards reducing capital expenses by optimizing its debt and equity balances. Items managed as capital by the Group as of December 31, 2023 and 2022, are as follows:

	December 31, 2023	December 31, 2022
	(In thousands)	
Total borrowings	$ 1,160,556	$ 1,046,262
Less: Cash and cash equivalents	(41,778)	(82,954)
Borrowings, net	$ 1,118,778	$ 963,308
Total shareholder's equity attributable to Kraton	$ 1,301,998	$ 1,461,684
Net borrowing-to-equity ratio	0.86	0.66

Credit Risk. Credit risk is a risk that a customer may default or not meet its obligations to the Group on a timely basis, leading to financial losses to the Group. The maximum exposure to credit risk is represented by the carrying amount of each financial asset in the consolidated statement of financial position (Note 16, *Fair value of financial instruments*).

The use of derivatives creates exposure to credit risk in the event that the counterparties to these instruments fail to perform their obligations under the contracts, which the Group seeks to minimize by limiting its counterparties to major financial institutions with acceptable credit ratings and by monitoring the total value of positions with individual counterparties.

The Group analyzes its counterparties' financial condition prior to extending credit, establishes credit limits and monitors the appropriateness of those limits on an ongoing basis. The Group also obtains cash, letters of credit, or other acceptable forms of security from customers to provide credit support, where appropriate, based on its financial analysis of the customer and the contractual terms and conditions applicable to each transaction.

It is Group's policy to invest its excess cash in investment instruments whose value is not subject to market fluctuations, such as bank deposits or certificates of deposit. Other permitted investments include commercial paper of major U.S. corporations with ratings of A1 by Standard & Poor's Ratings Group or P1 by Moody's Investor Services, Inc., loan participation of major U.S. corporations with a short term credit rating of A1/P1 and direct obligations of the U.S. government or its agencies.

Liquidity Risk. Liquidity risk is the risk that the Group will not be able to meet its financial obligations as they fall due. The Group's liquidity position is carefully monitored and managed to ensure that it will always have sufficient liquidity to meet its liabilities. Cash flows from operations, cash on hand, available borrowings under the ABL Facility and other debt offerings the Group may conduct from time to time are principal sources of the Group's liquidity.

Management uses consolidated net debt to determine the Group's outstanding debt obligations that would not readily be satisfied by its cash and cash equivalents on hand. Management believes that using consolidated net debt is useful to investors in determining leverage because the Group could choose to use cash and cash equivalents to retire debt.

Based upon current and anticipated levels of operations, management believes that cash flows from operations, cash on hand and borrowings available to the Group will be sufficient to fund operations and meet short-term and long-term cash requirements, including the Group's expected financial obligations, planned capital expenditures, anticipated liquidity requirements, working capital requirements, debt payments, interest payments, benefit plan contributions, and income tax obligations.

Presented below is the maturity profile of the Group's financial liabilities (including certain contractual commitments) as of December 31, 2023, based on undiscounted contractual cash payments, including interest payments:

	Payments Due by Period					
	Total	2024	2025	2026	2027	2028 and thereafter
	(In millions)					
Long-term debt obligations	$ 1,193.9	$ 53.9	$ 6.0	$ 90.3	$ 146.0	$ 897.7
Estimated interest payments on debt	369.7	90.3	77.5	72.1	59.9	69.9
Purchase obligations [1]	1,859.2	638.4	242.1	137.1	91.5	750.1
Trade and other payables	341.8	341.8	—	—	—	—
Total contractual cash obligations	**$ 3,764.6**	**$ 1,124.4**	**$ 325.6**	**$ 299.5**	**$ 297.4**	**$ 1,717.7**

(1) Included in this line are the Group's estimated minimum purchases required under KFPC agreement. Due to the indefinite term of this subsidiary, minimum purchases are based on an assumed 20 year useful life of the facility.

Market Risks. The Group is exposed to certain market risks, including risks from changes in interest rates, foreign currency exchange rates, and commodity prices that could impact its financial condition, results of operations, and cash flows. The Group selectively manages its exposure to these and other market risks through regular operating and financing activities as well as through the use of market risk sensitive instruments. The Group uses such financial instruments as risk management tools and not for trading purposes. The market risk sensitive instruments that the Group has entered into as of December 31, 2023 consist of a series of non-deliverable forward contracts.

Interest rate risk. Borrowings under the Term Loan Facility, the ABL Facility, and KFPC Revolving Facilities, and additional borrowings in the future may, bear interest at variable rates, thereby exposing the Group to interest rate risk. At December 31, 2023, approximately $1,160.6 million of the Group's debt was variable rate debt.

The Group performed a hypothetical analysis to determine the impact to its financial position if the interest rates increased or decreased by 10%, from the rates as of December 31, 2023 for the life of the variable rate debt, which would result in a change of $6.0 million as of December 31, 2023.

Foreign currency exchange risk. The Group conducts operations in many countries around the world. The Group's results of operations are subject to both currency transaction and currency translation risks. The Group incurs currency transaction risk when the Group enters into either a purchase or sale transaction using a currency other than the local currency of the transacting entity. The Group is subject to currency translation risk because its financial condition and results of operations are measured and recorded in the relevant domestic currency and then translated into U.S. dollars for inclusion in consolidated financial statements. The Group attempts to selectively manage significant exposures to potential foreign currency exchange losses based on current market conditions, future operating activities, and the associated cost in relation to the perceived risk of loss. The purpose of the Group's foreign currency risk management activities is to minimize the risk that its cash flows from the sale and/or purchase of services and products in foreign currencies will be adversely affected by changes in exchange rates.

Periodically, the Group enters into foreign currency agreements to hedge or otherwise protect against fluctuations in foreign currency exchange rates. These agreements typically do not qualify for hedge accounting and gains/losses resulting from both the up-front premiums and/or settlement of the hedges at expiration of the agreements are recognized in the period in which they are incurred. In 2023, the Group entered into a series of foreign currency forward contracts to reduce its exposure to exchange rate volatility. These contracts were structured such that the underlying foreign currency exchange gains/losses would be offset by the mark-to-market impact of the hedging instruments and reduce the impact of foreign currency exchange movements throughout the year. The notional amounts of open foreign currency forward contracts were $258.1 million at December 31, 2023. The notional amounts of the Group's forward contracts do not generally represent amounts exchanged by the parties, and thus are not a measure of the Group's exposure or of the cash requirements related to these contracts. As such, cash flows related to these contracts are typically not material. The amounts exchanged are calculated by reference to the notional amounts and by other terms of the contracts, such as exchange rates.

As of December 31, 2023, the Group's monetary assets and liabilities denominated in currencies other than functional currency of the respective subsidiaries were as follows:

	Monetary assets	Monetary liabilities
	(In millions)	
EUR	$ 41.5	$ 19.5
CNY	3.1	0.1
USD	1.0	0.1
JPY	0.4	0.9
MXN	1.5	0.4
TWD	0.3	—
Other currencies	0.1	0.2
Total	$ 47.9	$ 21.2

The Group uses sensitivity analysis models to measure the impact of a hypothetical 10% adverse movement of foreign currency exchange rates against the U.S. dollar. For foreign currency transaction risk, had the amounts remained unhedged with foreign currency forward contracts a hypothetical 10% adverse change in the foreign currency exchange rates for all the Group's foreign currency positions would have resulted in a $12.8 million pre-tax loss for net monetary assets denominated in currencies other than the respective entity's functional currency at December 31, 2023. For foreign currency translation risk, a hypothetical 10% adverse change in the applicable average foreign currency exchange rates relative to the U.S. dollar in 2024 would negatively impact its pre-tax income by $3.0 million.

There are certain limitations inherent in the sensitivity analyses presented, primarily due to the assumption that interest rates and exchange rates change instantaneously in an equally adverse fashion. In addition, the analyses are unable to reflect the complex market reactions that normally would arise from the market shifts modeled. While this is management's best estimate of the impact of the various scenarios, these estimates should not be viewed as forecasts.

Commodity price risk. The Group is exposed to commodity price risk due to its forward contractual purchase commitments for raw materials. Raw materials are primarily supplied by a portfolio of suppliers under long-term supply contracts and arrangements with various expiration dates. The Group is subject to future purchase commitments for these raw materials under minimum purchase contracts. Based on pricing as of December 31, 2023, a hypothetical 10.0% change in the market price for these raw materials would change 2024 cost of goods sold by $83.0 million.

Impact of Inflation. The Group's results of operations and financial condition are presented based on historical cost. In the fiscal year 2023, the Group continued to experience inflationary pressures with increasing raw material, logistics, utilities and secondary costs in both segments. While it is difficult to accurately measure the impact of inflation due to the imprecise nature of the estimates required, including the Group's actions to pass these costs onto customers through higher sales prices, consistent with the Group's price-right strategy. The Group did experienced these inflationary impacts, in particular within

Polymer segment, as the Group experienced margin compression. Within Chemical segment, due to favorable market dynamics, the Group was able to expand margins in excess of the aforementioned inflationary pressures.

Reconciliation of liabilities arising from financing activities. For the year ended December 31, 2023, the movements in the Group's liabilities arising from financing activities were as follows:

	Debt	Lease Liabilities
	(In thousands)	
As of January 1, 2023	$ 1,046,262	$ 90,712
Acquisition, net of payments	96,855	(542)
Transaction cost amortization and interest expense	5,399	3,200
Foreign currency translation adjustments	12,040	511
Non-cash additions, reassessments and other changes	—	—
As of December 31, 2023	$ 1,160,556	$ 93,881

18. Income Taxes

Kraton Corporation, the parent company, is domiciled in the U.S. and is subject to U.S. statutory rate of 21.0%. The income tax expense is comprised of the following:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Current tax expense:		
Current year	$ 14,421	$ 38,138
Changes in estimates related to prior years	1,271	(423)
Current tax expense:	$ 15,692	$ 37,715
Deferred tax expense		
Origination and reversal of temporary differences	$ (72,589)	$ (23,667)
Recognition of previously unrecognised tax losses	(171)	(943)
Recognition of previously unrecognised (derecognition of previously recognised) deductible temporary differences	—	10
Deferred tax expense	$ (72,760)	$ (24,600)
Income tax expense (benefit)	$ (57,068)	$ 13,115

The Group operates in various U.S. state jurisdictions and uses a blended rate approach to measure its deferred tax asset and liabilities. In December 2023, the relevant deferred tax balances have been remeasured primarily due to the increase of the blended rate U.S. state corporate tax rate from 2.1% to 1.9% respectfully for the period. This change resulted in a charge to tax expense of $5.2 million related to the remeasurement of deferred tax assets and liabilities of the Company's U.S. state operations.

The disclosure of the amount of income tax relating to each item of other comprehensive income is as follows:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Remeasurement of pension obligations		
Before tax	$ 7,042	$ 15,098
Tax expense	(2,097)	(2,786)
Net of tax	$ 4,945	$ 12,312
Foreign currency translation adjustments		
Before tax	$ 15,278	$ (18,731)
Tax expense	1,633	(1,353)
Net of tax	$ 16,911	$ (20,084)

A reconciliation of the Company's statutory income tax to the income tax expense recorded in the consolidated statement of profit or loss is as follows:

	Years Ended December 31,			
	% effect	2023	% effect	2022
		(In thousands)		
Loss before tax from continuing operations		$ (229,843)		$ (18,160)
Tax using the Company's domestic tax rate	21 %	(48,267)	21 %	(3,814)
Effect of tax rates differentials	1 %	(2,335)	(25)%	4,624
Increase in tax rate	2 %	(5,215)	(39)%	7,006
Tax effect of:				
– U.S. minimum tax on foreign entities	— %	—	(20)%	3,695
– Non-deductible expenses	(1)%	1,218	(11)%	2,032
– Tax incentives	— %	—	3 %	(598)
– Uncertain tax positions	— %	171	(9)%	1,616
– Current-year losses for which no deferred tax asset is recognized	— %	488	— %	(17)
Recognition of previously unrecognized tax losses	— %	(171)	5 %	(943)
Recognition of previously unrecognized (derecognition of previously recognized) deductible temporary differences	— %	—	— %	10
Changes in estimates related to prior years	1 %	(2,957)	3 %	(496)
Income tax expense	25 %	$ (57,068)	(72)%	$ 13,115

Deferred tax for the year ended December 31, 2023, were as follows:

	Net balance at 1 January	Recognized in profit or loss	Recognized in OCI	Recognized directly in equity	Acquired in business combinations	Net deferred tax	Deferred tax assets	Deferred tax liabilities
				(In thousands)				
Property, plant and equipment	$(261,800)	$ 17,062	$ —	$ (795)	$ (896)	$ (246,429)	$ 1,468	$ (247,896)
Intangible Property	(30,654)	13,324	—	2,012	(75)	(15,393)	49,634	(65,027)
Accruals & reserves	13,011	(4,626)	—	23	(1,478)	6,930	9,825	(2,895)
Inventory	(1,975)	4,918	—	58	489	3,490	4,320	(831)
Deferred revenue	8,760	(4,990)	—	—	—	3,770	3,770	—
Leases	1,550	1,372	—	(29)	2	2,895	3,068	(171)
Employee Benefits	11,023	(534)	(2,097)	82	—	8,474	8,474	—
Foreign currency gains/losses	2,263	3,389	—	(31)	72	5,693	5,892	(198)
Tax losses	5,636	15,180	—	(39)	875	21,652	21,671	(18)
Tax credits	2,053	(7)	—	62	—	2,108	2,109	—
Capitalized R&D	14,470	13,360	—	—	2,541	30,371	30,371	—
Interest	8,326	22,147	—	123	(883)	29,713	30,564	(851)
Investment in subsidiaries	(18,573)	1	—	—	—	(18,572)	—	(18,572)
Other	3,881	(7,837)	—	167	4,802	1,013	4,270	(3,262)
Net tax assets (liabilities)	$(242,029)	$ 72,759	$ (2,097)	$ 1,633	$ 5,449	$ (164,285)	$ 175,436	$ (339,721)

Deferred tax assets have not been recognized in respect of the following items, because it is not probable that future taxable profit will be available against which the Group can use the benefits therefrom:

	Years Ended December 31,			
	2023		2022	
	Gross amount	Tax effect	Gross amount	Tax effect
	(In thousands)			
Deductible temporary differences	$ (11,287)	$ (3,481)	$ (13,351)	$ (3,262)
Employee Benefits	(5,037)	(1,259)	(4,559)	(874)
Tax credits	—	(2,497)	—	(2,497)
Tax losses	(102,281)	(25,559)	(100,417)	(24,444)
Unrecognized deferred tax assets	$ (118,605)	$ (32,796)	$ (118,327)	$ (31,077)

Tax losses for which no deferred tax asset was recognized expire as follows.

	Years Ended December 31,			
	2023		2022	
	Gross amount	Expiry date	Gross amount	Expiry date
	(In thousands)			
Expire	$ (67)	2031-2032	$ (45)	2031-2032
Never expire	(102,214)	—	(100,372)	—
Tax losses	$ (102,281)	—	$ (100,417)	—

In 2016, Kraton acquired U.S. foreign tax credits from a business combination. These credits are not projected to be utilized prior to their expiration.

As of December 31, 2023, cumulative net operating loss for the France and United Kingdom subsidiaries has been determined that the recoverability is uncertain. Based on the five-year business plan and taking into account the reversal of existing taxable temporary differences, the subsidiaries are not expected to generate sufficient taxable profits.

In 2023, the Group continues to consider it probable that future taxable profits would be available against which the tax losses can be recovered and, therefore, the related deferred tax asset can be realized.

Uncertainty over income tax treatments. As of December 31, 2023, the Group had uncertain tax treatments of $10.6 million, if recognized, would impact the Group's effective tax rate. Interest and penalties relating to income taxes are included in income tax expense. As of December 31, 2023, the Group had $4.9 million of penalties and interest included in the recognized liability. Accrued interest and penalties relating to uncertain tax positions that are not actually assessed will be reversed in the year of resolution.

The Group believes that its accruals for tax liabilities are adequate for all open tax years based on its assessment of many factors, including interpretations of tax law and prior experience. It is reasonable that the existing liabilities for the uncertain tax treatments accrual may increase or decrease over the next 12 months as a result of audit closures and statute expirations; however, the ultimate timing of the resolution and/or closure of audits is highly uncertain.

19. Commitments and Contingencies

Provisions - Environmental and Safety Matters. The Group’s finished products are not generally classified as hazardous under U.S. environmental laws. However, the Group’s operations involve the handling, transportation, treatment, and disposal of potentially hazardous materials that are extensively regulated by environmental, health and safety laws, regulations, and permit requirements. The Group conducts environmental management programs designed to maintain compliance with applicable environmental requirements at all of its facilities.

The Group’s Belpre, Ohio, facility is subject to a number of actual and/or potential environmental liabilities primarily relating to contamination caused by former operations at this facility. Some environmental laws could impose on the Group the entire costs of cleanup regardless of fault, legality of the original disposal, or ownership of the disposal site. In some cases, the governmental entity with jurisdiction could seek an assessment for damage to the natural resources caused by contamination from this site. Shell Chemicals, the Polymer segment’s former owner, has agreed, subject to certain limitations, in time and amounts, to indemnify the Group against most environmental liabilities related to the acquired facility that arose from conditions existing prior to the closing.

As of December 31, 2023, the Group has recorded an environment obligation and corresponding receivable of $1.9 million, relating to an indemnification agreement with International Paper, the Chemical segment’s former owner. The Group

had no material operating expenditures for environmental fines, penalties, government imposed remedial, or corrective actions in each of the years ended December 31, 2023 and 2022, respectively.

Asset Retirement Obligations ("ARO"). The changes in the aggregate carrying amount of the Group's ARO liability are as follows:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Beginning balance	$ 5,372	$ —
Acquisition	—	5,293
Accretion expense	402	283
Obligations settled	(198)	(55)
Foreign currency translation	169	(149)
Ending balance	$ 5,745	$ 5,372

20. Employee Benefits

(a) Defined benefit plans.

U.S. Retirement Benefit Plan. The Group has two U.S. noncontributory defined benefit pension plans ("U.S. Pension Plans").

Polymer segment U.S. Pension Plan covers all salaried and hourly wage employees in the U.S. who were employed on or before December 31, 2005. Employees who began their employment after December 31, 2005 are not covered by the Group's Pension Plans. The benefits under the Pension Plans are based primarily on years of service and employees' pay near retirement. For employees who were employed as of March 1, 2001 and who: (1) were previously employed by Shell Chemicals; and (2) elected to transfer their pension assets to the Group, the total combined Shell Chemicals and Kraton service is considered when calculating the employee's pension benefit. For those employees who: (1) elected to retire from Shell Chemicals; or (2) elected not to transfer their pension benefit, only Kraton service (since March 1, 2001) is considered when calculating benefits.

Chemical segment U.S. Pension Plans cover all U.S. employees hired prior to July 2004 and certain retirees of the Group participate in International Paper's defined benefit pension plans. International Paper remains responsible for all benefits related to years of service prior to December 31, 2007. The Group implemented its own defined benefit pension plan for then eligible U.S. employees on March 1, 2007.

Non-U.S. Retirement Benefit Plan. The Group sponsors defined benefit pension and retirement plans ("non-U.S. Pension Plans") in certain foreign subsidiaries. Generally, the Group's non-U.S. Pension Plans are funded using the projected benefit as a target in countries where funding of benefit plans is required.

Other Postemployment Benefits ("OPEB"). Health and welfare benefits are provided to benefit eligible employees in the U.S. who retire from Kraton and were employed prior to January 1, 2006. Retirees under the age of 65 are eligible for the same medical, dental, and vision plans as active employees, but with an annual cap on premiums that vary based on years of service and ranges from $7,000 to $10,000 per employee. The Group's subsidy schedule for medical plans is based on accredited service at retirement. Retirees are responsible for the full cost of premiums for postretirement dental and vision coverage. In general, the plans stipulate that health and welfare benefits are paid as covered expenses as incurred. The Group accrues the cost of these benefits during the period in which the employee renders the necessary service. Employees who were retirement eligible as of February 28, 2001, have the option to participate in either Shell Chemicals' or Kraton's postretirement health and welfare plans.

The 2023 measurement date of the defined benefit plans' assets and obligations was December 31, 2023. The Group has more than one defined benefit plan and generally provides aggregated disclosures in respect of these plans, on the basis that they are not exposed to materially different risks. The following table shows a reconciliation from the opening balances to the closing balances for the net defined benefit liability (asset) and its components:

	Pension Plans		OPEB		Total	
	December 31,		December 31,		December 31,	
	2023	2022	2023	2022	2023	2022
			(In thousands)			
Defined benefit obligation at the beginning of period	$268,700	$ —	$ 19,854	$ —	$288,554	$ —
Included in profit or loss						
Service cost	891	1,120	168	214	1,059	1,334
Interest cost	12,967	7,682	1,047	605	14,014	8,287
Included in OCI						
Actuarial (gain) loss, arising from:						
demographic assumptions	(814)	561	—	—	(814)	561
financial assumptions	9,030	(87,148)	305	(4,522)	9,335	(91,670)
experience adjustment	630	3,603	(498)	971	132	4,574
Other movements						
Contributions	334	186	—	—	334	186
Foreign exchange and currency translation effects	5,245	(11,720)	—	—	5,245	(11,720)
Benefits paid	(13,506)	(10,719)	(1,160)	(1,492)	(14,666)	(12,211)
Acquisition from business combination	—	365,135	—	24,078	—	389,213
Plan amendment	(1,792)	—	—	—	(1,792)	—
Defined benefit obligation at the end of period	$281,685	$268,700	$ 19,716	$ 19,854	$301,401	$288,554
Fair value of plan assets at the beginning of period	$222,571	$ —	$ —	$ —	$222,571	$ —
Included in profit or loss						
Interest income	10,778	6,415	—	—	10,778	6,415
Administrative expenses	(804)	(518)	—	—	(804)	(518)
Included in OCI						
Return on plan assets	15,712	(71,482)	—	—	15,712	(71,482)
Other movements						
Contributions	3,689	4,426	1,160	1,492	4,849	5,918
Foreign exchange and currency translation effects	4,808	(10,237)		—	4,808	(10,237)
Benefits paid	(13,449)	(10,725)	(1,160)	(1,492)	(14,609)	(12,217)
Acquisition from business combination	—	304,692	—	—	—	304,692
Fair value of plan assets at the end of period	$243,305	$222,571	$ —	$ —	$243,305	$222,571
Net defined benefit liability (asset) at the end of period	$ 38,380	$ 46,129	$ 19,716	$ 19,854	$ 58,096	$ 65,983

As of December 31, 2023, the weighted-average durations of the defined benefit obligation were 12.15 years for Pension Plans and 10.0 years for OPEB. In 2024, the Group expects to pay $7.1 million and $1.7 million in contributions to its defined benefit pension plans and OPEB plans, respectively.

Significant Assumptions. The following were the principal actuarial assumptions at the reporting date (expressed as weighted averages):

	Pension Plans		OPEB	
	December 31,		December 31,	
	2023	2022	2023	2022
Weighted average assumptions used to determine benefit obligations:				
Discount rate	4.62 %	4.92 %	5.32 %	5.51 %
Rates of increase in salary compensation level	1.50 %	1.47 %	N/A	N/A

	December 31,	
	2023	2022
Assumed Pre-65 health care cost trend rates:		
Health care cost trend rate assumed for next year	6.50 %	7.00 %
Rate to which the cost trend rate is assumed to decline (the ultimate trend rate)	4.50 %	4.50 %
Year that the rate reaches the ultimate trend rate	2028	2028

Assumptions regarding future longevity have been based on published mortality tables.

The sensitivity analysis for changes in key actuarial assumptions as of December 31, 2023, is as follows (represent increase (decrease) in defined benefit obligations in case of assumption change):

	Increase by 1%	Decrease by 1%
	(In thousands)	
Discount Rate		
Pension Plans	$ (30,877)	$ 37,459
OPEB	(1,508)	1,777
Rate of increase in salary compensation level		
Pension Plans	849	(1,027)
OPEB	N/A	N/A

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant.

Pension Plan Assets. The Group maintains target allocation percentages among various asset classes based on an investment policy established for Pension Plans. The target allocation is designed to achieve long term objectives of return, while mitigating downside risk and considering expected cash flows. No pension assets were invested in debt or equity securities of the Group at December 31, 2023 or 2022. The Group's Pension Plan assets comprise the followings at December 31, 2023 and 2022:

	December 31,	
	2023	2022
	(In thousands)	
Cash and cash equivalents (Level 1 of fair value hierarchy)	$ 1,440	$ 1,022
Cash and cash equivalents (Level 2 of fair value hierarchy)	686	908
Equity (Level 1 of fair value hierarchy)	61,362	57,754
Equity (Level 2 of fair value hierarchy)	39,094	49,922
Debt (Level 1 of fair value hierarchy)	7,003	6,789
Debt (Level 2 of fair value hierarchy)	58,117	44,489
Other (Level 2 of fair value hierarchy)	5,922	—
Other (Level 3 of fair value hierarchy)	69,681	61,687
Total	$ 243,305	$ 222,571

(b) Other Retirement Benefit Plans. Certain employees were eligible to participate in non-qualified defined benefit restoration plans, which were intended to restore certain benefits under the Pension Plan in the U.S. and the Kraton Savings Plan in the U.S., that would otherwise be lost due to certain limitations imposed by law on tax-qualified plans.

(c) Defined contribution plans. The Group's contributions to the defined contribution plans for the year ended December 31, 2023, were $14.5 million.

21. Related Party Transactions

List of the Group's related parties is as follows:

Type	Name of Related Parties
Parent company	DL Chemical
Subsidiaries of the parent	Cariflex
The Group's subsidiaries and joint ventures	Please refer to Note 22

Significant transactions between the Group and related parties and respective outstanding balances are as follows:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Significant transactions		
Cariflex - sales	$ 31,473	$ 37,120
KEE - purchases	(21,477)	(27,974)
Outstanding balances		
DL Chemical - receivables	$ 1,109	$ 50
DL Chemical - payables	(40)	(135)
Cariflex - receivables	7,801	7,223
KEE - payables	(11,943)	(18,179)

Key management personnel compensation. Key management personnel compensation comprised the following:

	Years Ended December 31,	
	2023	2022
	(In thousands)	
Short-term employee benefits	$ 7,257	$ 5,677
Contributions to retirement plans	465	301
Severance benefits	6,010	2,423
Total	$ 13,732	$ 8,401

22. Investments in Significant Subsidiaries

Set out below is a list of material subsidiaries and joint ventures of the Group.

Name	Country of Incorporation	Effective interest held as of 2023	Effective interest held as of 2022
Kraton Eneos Elastomers (“KEE”) (renamed, previously "Kraton JSR Elastomers")	Japan	50 %	50 %
Kraton Formosa Polymers Corporation (“KFPC”)	Taiwan	50 %	50 %
Kraton Corporation	USA	100 %	100 %
Kraton Polymers do Brasil Industria E Comercio de Produtos Petroquimcios Ltda.	Brazil	100 %	100 %
Kraton Polymers Trading (Shanghai) Co., Ltd	China	100 %	100 %
Kraton Polymers GmbH	Germany	100 %	100 %
Kraton Chemical, LLC	USA	100 %	100 %
Kraton Chemical B.V.	The Netherlands	100 %	100 %
Kraton Chemical AB	Sweden	100 %	100 %
Kraton Chemical Oy	Finland	100 %	100 %
Kraton Chemical SAS	France	100 %	100 %
Kraton Polymers France SAS	France	100 %	100 %
Kraton Polymers Japan Ltd	Japan	100 %	100 %
Kraton Polymers Nederland B.V.	The Netherlands	100 %	100 %
Kraton Polymers Holdings B.V.	The Netherlands	100 %	100 %
K.P. Investment B.V.	The Netherlands	100 %	100 %

Kraton Formosa Polymers Corporation (“KFPC”), a legal entity located in Mailiao, Taiwan, is determined to be under the Group’s control and, therefore, the Group has consolidated the 50% investment of KFPC into the financial statements.

Under the provisions of an offtake agreement with KFPC, the Group has exclusive rights to purchase all production from KFPC and the agreement also requires the Group to purchase a minimum of 80% of the plant production capacity each year at a defined fixed margin. Thus, this offtake agreement provides the Group the power to direct the most significant activities of KFPC and exposes the Group to the economic variability of KFPC, making the Group the primary beneficiary of this legal entity. Based on this, it was determined that the Group has a control over KFPC.

The Group’s 50% investment in KEE, a joint arrangement located in Kashima, Japan, is accounted for under the equity method of accounting as management determined that this joint arrangement is a joint venture based on the analysis of legal, transaction and financing circumstances.

23. Non-controlling Interest and Investments in Joint Ventures

Non-controlling interest. The following table summarizes stand-alone financial information for KFPC, the Group's subsidiary in which the Group has material non-controlling interest:

	December 31, 2023	December 31, 2022
	(In thousands)	
Summarized statements of financial position		
Current assets	$ 62,130	$ 57,434
Non-current assets	136,316	134,779
Current liabilities	81,308	84,228
Non-current liabilities	14,967	5,864
Equity attributable to the shareholders of the subsidiary	102,171	102,121
Cash and cash equivalents	$ 10,901	$ 5,276
Revenue	87,122	81,102
Profit for the year	17,285	18,162
Total comprehensive income	16,368	10,567

During the year ended December 31, 2023, KFPC declared a dividend in aggregate amount of $16.7 million ($8.34 million related to shareholders of non-controlling interest). The dividends were paid in 2023.

Joint venture. The following table summarizes the financial information of KEE, the Group's 50% joint venture which operates the Kashima manufacturing facility and reconciles the summarized financial information to the carrying amount of the Group's interest in KEE:

	December 31, 2023	December 31, 2022
	(In thousands)	
Non-current assets	$ 10,956	$ 12,265
Current assets	78,030	81,174
Non-current liabilities	8,334	8,760
Current liabilities	66,683	69,721
Net assets	$ 13,969	$ 14,958
Non-current financial liabilities	$ 8,334	$ 8,760
Current financial liabilities	19,854	23,652
Cash and cash equivalents	25	24
Revenue	59,668	48,052
Cost of sales	(55,065)	(44,476)
Profit for the year	696	842
Total comprehensive income (100%)	696	842
Group's share of total comprehensive income (50%)	348	421
Investment in joint venture at January 1	11,613	—
Acquisition from business combination at fair value	—	12,000
Group's share of total comprehensive income	348	421
Dividends	(367)	(448)
Currency translation adjustment on investment	(1,695)	(360)
Investment in joint venture at December 31	$ 9,899	$ 11,613

24. Subsequent Events

There were no events subsequent to the reporting date that should be recognized or disclosed in these consolidated financial statements.

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Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Shareholders
Korea Development Bank

Opinion
We have audited the accompanying separate financial statements of Korea Development Bank (the "Bank"), which comprise the separate statements of financial position as of December 31, 2023 and 2022 and the separate statements of comprehensive income, the separate statements of changes in equity and the separate statements of cash flows for the years then ended, and notes to the separate financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying separate financial statements present fairly, in all material respects, the separate financial position of the Bank as of December 31, 2023 and 2022, and its separate financial performance and its separate 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 Financial Statements* section of our report. We are independent of the Bank in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the separate 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.

Other Matter
Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Financial Statements
Management is responsible for the preparation and fair presentation of the separate financial statements in accordance with Korean IFRS, and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the separate financial statements, management is responsible for assessing the Bank'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 Bank or to cease operations.

Those charged with governance are responsible for overseeing the Bank's financial reporting process.

Auditor's Responsibilities for the Audit of the Financial Statements
Our objectives are to obtain reasonable assurance about whether the separate 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 separate 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 separate 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 Bank'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 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 Bank to cease to continue as a going concern.

- Evaluate the overall presentation, structure and content of the separate financial statements, including the disclosures, and whether the separate financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

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.

Nexia Samduk

Seoul, Korea
March 28, 2024

This report is effective as of March 28, 2024, 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 separate financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

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Korea Development Bank
Separate Statements of Financial Position
December 31, 2023 and 2022

(In millions of won)	Notes		December 31, 2023	December 31, 2022
Assets				
Cash and due from banks	4,45,46,49	₩	8,659,808	11,538,806
Securities measured at FVTPL	5,45,46,49		16,058,556	11,951,906
Securities measured at FVOCI	6,39,45,46,49		33,888,064	37,684,919
Securities measured at amortized cost	7,39,45,46,49		8,583,188	6,355,884
Loans measured at FVTPL	8,45,46,49		488,432	541,811
Loans measured at amortized cost	9,45,46,49		199,981,780	198,045,603
Derivative financial assets	10,45,46,47,49		7,383,325	9,794,455
Investments in subsidiaries and associates	11,48		26,870,568	27,992,331
Property and equipment, net	12,48		802,084	812,173
Investment property, net	13,48		73,822	81,713
Intangible assets, net	14,48		85,461	118,489
Defined benefit assets	21		68,920	87,770
Current tax assets			13,547	128,218
Assets held for sale	16		3,228,444	-
Other assets	15,45,46,49		10,175,783	7,711,217
Total assets		₩	316,361,782	312,845,295
Liabilities				
Financial liabilities measured at FVTPL	17,45,46,49	₩	1,920,061	1,469,724
Deposits	18,45,46,49		65,897,732	68,326,656
Borrowings	19,45,46,49		27,745,629	25,429,244
Debentures	20,45,46,49		156,933,867	158,711,896
Derivative financial liabilities	10,45,46,47,49		7,654,901	11,317,002
Provisions	22		1,058,783	1,448,030
Deferred tax liabilities	37		3,792,309	3,465,176
Current tax liabilities			345,683	15,513
Other liabilities	23,45,46,49		12,100,425	6,993,681
Total liabilities			277,449,390	277,176,922
Equity				
Issued capital	1,24		23,926,559	23,151,559
Capital surplus	24		2,468,715	2,475,310
Accumulated other comprehensive income	24		2,158,351	2,819,333
Retained earnings	24		10,358,767	7,222,171
(Regulatory reserve for credit losses of ₩211,996 million and ₩247,253 million as of December 31, 2023 and 2022, respectively) (Required reversal of regulatory reserve for credit losses of ₩134,415 million and ₩35,257 million as of December 31, 2023 and 2022, respectively) (Planned reversal of regulatory reserve for credit losses of ₩134,415 million and ₩35,257 million as of December 31, 2023 and 2022, respectively)				
Total equity			38,912,392	35,668,373
Total liabilities and equity		₩	316,361,782	312,845,295

See accompanying notes to the separate financial statements.

Korea Development Bank
Separate Statements of Comprehensive Income
Years ended December 31, 2023 and 2022

(In millions of won, except earnings per share information)	Notes		2023	2022
Interest income	25	₩	11,489,024	6,846,735
Interest expense	25		(9,927,505)	(5,102,920)
Net interest income	48		1,561,519	1,743,815
Net fees and commission income	26		409,836	453,909
Dividend income	27		768,370	857,502
Net gain (loss) on securities measured at FVTPL	28		518,808	(39,423)
Net gain (loss) on financial liabilities measured at FVTPL	29		(148,104)	465,099
Net loss on securities measured at FVOCI	30		(9,420)	(57,194)
Net gain on derivatives	31		1,290	121,439
Net foreign currency transaction gain (loss)	32		302,365	(300,890)
Other operating expense, net	33		(386,462)	(349,827)
Non-interest income, net			1,456,683	1,150,615
Provision for (reversal of) credit losses	34		(802,644)	260,361
General and administrative expenses	35,48		823,991	876,371
Operating income	48		2,996,855	1,757,698
Reversal of impairment loss (impairment loss) on investments in subsidiaries and associates			562,550	(1,168,617)
Other non-operating income	36		16,524	13,906
Other non-operating expense	36		(314,256)	(10,328)
Non-operating expense, net			264,818	(1,165,039)
Profit before income taxes			3,261,673	592,659
Income tax expense	37		752,746	127,678
Profit for the year (Profit for the year adjusted for regulatory reserve for credit losses: ₩2,643,342 million and ₩500,238 million for the years ended December 31, 2023 and 2022, respectively)	24		2,508,927	464,981
Other comprehensive income for the year, net of tax	24			
Items that are or may be reclassified subsequently to profit or loss:				
Net gain (loss) on securities measured at FVOCI			336,088	(483,138)
Exchange differences on translation of foreign operations			20,099	93,126
Valuation gain (loss) on cash flow hedge			(2,352)	3,923
Net loss on hedges of net investments in foreign operations			(15,112)	(50,090)
			338,723	(436,179)
Items that will not be reclassified to profit or loss:				
Net loss on securities measured at FVOCI			(173,433)	(1,434,848)
Fair value changes on financial liabilities designated at fair value due to credit risk			(17,722)	90,220
Remeasurements of defined benefit liabilities			(16,138)	53,131
			(207,293)	(1,291,497)
			131,430	(1,727,676)
Total comprehensive income (loss) for the year		₩	2,640,357	(1,262,695)
Earnings per share				
Basic and diluted earnings per share (in won)	38	₩	531	104

See accompanying notes to the separate financial statements.

Korea Development Bank
Separate Statements of Changes in Equity
Years ended December 31, 2023 and 2022

(In millions of won)		Issued capital	Capital surplus	Accumulated other comprehensive income	Retained earnings	Total equity
Balance at January 1, 2022	₩	21,886,559	2,479,010	4,773,474	7,363,814	36,502,857
Profit for the year		-	-	-	464,981	464,981
Net gain on securities measured at FVOCI		-	-	(2,144,451)	226,465	(1,917,986)
Exchange differences on translation of foreign operations		-	-	93,126	-	93,126
Valuation gain on cash flow hedge		-	-	3,923	-	3,923
Net loss on hedges of net investments in foreign operations		-	-	(50,090)	-	(50,090)
Fair value changes on financial liabilities designated at fair value due to credit risk		-	-	90,220	-	90,220
Remeasurements of defined benefit liabilities		-	-	53,131	-	53,131
Total comprehensive income for the year		-	-	(1,954,141)	691,446	(1,262,695)
Dividends		-	-	-	(833,089)	(833,089)
Paid in capital increase		1,265,000	(3,700)	-	-	1,261,300
Transaction with owners		1,265,000	(3,700)	-	(833,089)	428,211
Balance at December 31, 2022	₩	23,151,559	2,475,310	2,819,333	7,222,171	35,668,373
Balance at January 1, 2023	₩	23,151,559	2,475,310	2,819,333	7,222,171	35,668,373
Profit for the year		-	-	-	2,508,927	2,508,927
Net gain on securities measured at FVOCI		-	-	(629,757)	792,412	162,655
Exchange differences on translation of foreign operations		-	-	20,099	-	20,099
Valuation gain (loss) on cash flow hedge		-	-	(2,352)	-	(2,352)
Net loss on hedges of net investments in foreign operations		-	-	(15,112)	-	(15,112)
Fair value changes on financial liabilities designated at fair value due to credit risk		-	-	(17,722)	-	(17,722)
Remeasurements of defined benefit liabilities		-	-	(16,138)	-	(16,138)
Total comprehensive income for the year		-	-	(660,982)	3,301,339	2,640,357
Dividends		-	-	-	(164,743)	(164,743)
Paid in capital increase		775,000	(6,595)	-	-	768,405
Transaction with owners		775,000	(6,595)	-	(164,743)	603,662
Balance at December 31, 2023	₩	23,926,559	2,468,715	2,158,351	10,358,767	38,912,392

See accompanying notes to the separate financial statements.

Korea Development Bank
Separate Statements of Cash Flows
Years ended December 31, 2023 and 2022

(In millions of won)	Notes		2023	2022
Cash flows from operating activities				
Profit for the year		₩	2,508,927	464,981
Adjustments for:				
Income tax expense	37		752,746	127,678
Interest income	25		(11,489,024)	(6,846,735)
Interest expense	25		9,927,505	5,102,920
Dividend income	27		(768,370)	(857,502)
Loss (gain) on valuation of securities measured at FVTPL	28		(466,098)	52,935
Loss (gain) on disposal of securities measured at FVTPL			4,944	(120,455)
Net loss (gain) on financial liabilities measured at FVTPL	29		148,104	(465,099)
Loss on disposal of securities measured at FVOCI	30		9,420	57,194
Impairment loss on securities measured at amortized cost	7		9,011	50
Net loss on loans measured at FVTPL	33		8,913	78,954
Loss (gain) on valuation of derivatives			(1,088,077)	1,993,887
Net loss (gain) on fair value hedged items	31		1,428,426	(1,528,187)
Loss (gain) on foreign exchange translations	32		(318,814)	289,321
Loss (gain) on disposal of investments in subsidiaries and associates	33		366	(5,424)
Impairment loss (reversal of impairment loss) on investments in subsidiaries and associates			(562,550)	1,168,617
Increase (reversal) of provision for loan loss allowance	34		(399,011)	410,450
Increase (reversal) of provision for other assets	34		3,104	(579)
Increase (reversal) of provision for payment guarantees	22		(379,837)	136,989
Reversal of provision for unused commitments	22		(34,922)	(256,820)
Increase (reversal) of financial guarantee provision	22		8,022	(29,679)
Reversal of provision for possible losses from lawsuits	22		(4)	(1,492)
Reversal of provision for restoration	22		(493)	(2,008)
Defined benefit costs	21		22,044	70,092
Depreciation of property and equipment	12		71,507	71,584
Impairment loss on assets held for sale			294,153	-
Loss (gain) on disposal of property and equipment	36		1,082	(740)
Loss (gain) on disposal of intangible assets	36		(2)	2
Depreciation of investment property	13		2,273	2,084
Amortization of intangible assets	14		55,043	54,262
Gain on redemption of debentures			(2)	(4)
			(2,760,541)	(497,705)
Changes in operating assets and liabilities:				
Due from banks			1,985,955	(1,054,373)
Securities measured at FVTPL			(1,850,440)	560,407
Loans measured at FVTPL			44,466	23,647
Loans measured at amortized cost			(755,056)	(24,241,420)
Derivative financial instruments			(186,503)	13,948
Other assets			(2,348,067)	(1,116,960)
Financial liabilities measured at FVTPL			29,718	30,721
Deposits			(2,417,870)	15,482,874
Defined benefit liabilities (assets)			(25,314)	(77,192)
Other liabilities			4,791,847	(845,996)
			(731,264)	(11,224,344)
Income taxes paid			(15,739)	(243,693)
Interest received			11,262,819	6,230,685
Interest paid			(9,259,247)	(4,424,200)
Dividends received			767,958	855,259
Net cash provided by (used in) operating activities		₩	1,772,913	(8,839,017)

(Continued)

(In millions of won)	Notes		2023	2022
Cash flows from investing activities				
Net increase of securities measured at FVTPL		₩	(1,667,342)	(2,590,301)
Disposal of securities measured at FVOCI			13,877,283	12,325,062
Acquisition of securities measured at FVOCI	6		(10,636,345)	(14,118,389)
Redemption of securities measured at amortized cost			3,020,000	1,522,000
Acquisition of securities measured at amortized cost	7		(5,217,386)	(4,895,925)
Disposal of property and equipment			12,023	67,505
Acquisition of property and equipment	12		(27,092)	(14,768)
Disposal of intangible assets			269	1,521
Acquisition of intangible assets	14		(22,373)	(25,993)
Disposal of investments in subsidiaries and associates			320,761	1,845,131
Acquisition of investments in subsidiaries and associates			(667,428)	(939,632)
Net cash used in investing activities			(1,007,630)	(6,823,789)
Cash flows from financing activities				
Increase of financial liabilities measured at FVTPL			266,200	125,000
Decrease of financial liabilities measured at FVTPL			(17,930)	(165,302)
Proceeds from borrowings			53,493,413	49,384,998
Repayment of borrowings			(51,152,176)	(46,137,184)
Proceeds from issuance of debentures			124,728,281	134,409,386
Repayment of debentures			(128,327,695)	(119,518,136)
Decrease in lease liabilities			(24,477)	(27,893)
Dividends			(164,743)	(833,089)
Paid in capital increase			336,268	696,300
Net cash provided by (used in) financing activities			(862,859)	17,934,080
Effects from changes in foreign currency exchange rate for cash and cash equivalents held			85,684	147,619
Net increase (decrease) in cash and cash equivalents			(11,892)	2,418,893
Cash and cash equivalents at beginning of the year			11,872,469	9,453,576
Cash and cash equivalents at end of the year	43	₩	11,860,577	11,872,469

See accompanying notes to the separate financial statements.

1. Reporting Entity

Korea Development Bank (the "Bank") was established on April 1, 1954, in accordance with *The Korea Development Bank Act* to finance and manage major industrial projects.

The Bank is engaged in the banking industry under *The Korea Development Bank Act* and other applicable statutes, and in the fiduciary in accordance with *the Financial Investment Services and Capital Markets Act*.

Korea Finance Corporation (KoFC), the former ultimate parent company, and KDB Financial Group Inc. (KDBFG), the former immediate parent company, were established by spin-offs of divisions of the Bank as of October 28, 2009. KoFC and KDBFG were merged into the Bank, effective as of December 31, 2014. Issued capital is ₩23,926,559 million with 4,785,311,768 shares of issued and outstanding as of December 31, 2023 and 100% of the Bank's shares are owned by the government of the Republic of Korea.

The Bank's head office is located in 14, Eunhaeng-ro (Yeouido-dong), Yeongdeungpo-gu, Seoul and its service network as of December 31, 2023 is as follows:

	Domestic		Overseas			
	Head Office	Branches	Branches	Subsidiaries	Representative offices	Total
KDB	1	60	11	7	7	86

2. Basis of Preparation

(1) Application of accounting standards

These separate financial statements have been prepared in accordance with the Korean International Financial Reporting Standards ("K-IFRS") enacted by the *Act on External Audit of Stock Companies*.

(2) Changes and disclosures of accounting policies

(i) New and amended standards adopted

The Bank newly applied the following amended and enacted standards for the annual period beginning on January 1, 2023. The nature and the impact of each new standard or amendment are described below:

Issuance of Korean IFRS No.1117 Insurance Contracts

Korean IFRS No.1117 Insurance Contracts replaced Korean IFRS No.1104 Insurance Contracts. This standard requires an entity to estimate future cash flows of an insurance contract and measure insurance liabilities using discount rates applied with assumptions and risks at the measurement date and recognize insurance revenue on an accrual basis including services (insurance coverage) provided to the policyholder by each annual reporting period. In addition, investment components (refunds due to termination and maturity) repaid to a policyholder even if an insured event does not occur, are excluded from insurance revenue. These amendments do not have a significant impact on the separate financial statements.

Amendments to Korean IFRS No.1001 Presentation of Financial Statements - – Accounting Policy Disclosure

The amendments require an entity to define and disclose their material accounting policy information. IFRS Practice Statement 2 Making Materiality Judgements was amended to explain and demonstrate how to apply the concept of materiality. The amendment does not have a significant impact on the separate financial statements.

Amendments to Korean IFRS No.1008 Accounting Policies, Changes in Accounting Estimates and Errors

The amendments introduce the definition of accounting estimates and clarify how to distinguish changes in accounting estimates from changes in accounting policies. The amendment does not have a significant impact on the separate financial statements.

2. Basis of Preparation, Continued

Amendments to Korean IFRS No.1012 Income Taxes – Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction
The amendments narrow the scope of the deferred tax recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary differences. The amendment does not have a significant impact on the separate financial statements.

Amendments to Korean IFRS No.1001 Presentation of Financial Statements - Disclosure of gains or losses on valuation of financial liabilities subject to exercise price adjustment conditions
The amendments require disclosures about gains or losses on valuation occurred for the reporting period (but are limited to those included in profit or loss) for the conversion options or warrants (or financial liabilities with warrants), if all or part of the financial instrument whose exercise price is adjusted due to the issuers' stock price fluctuations, are classified as financial liabilities according to paragraph 11 of Korean IFRS No.1032 Financial Instruments: Presentation. These amendments do not have a significant impact on the separate financial statements.

Amendments to Korean IFRS No.1012 Income Taxes - International Tax Reform - Pillar Two Model Rules
The amendments clarify that K-IFRS 1012 Income Taxes applies to income taxes arising from tax law enacted or substantively enacted to implement the Pillar Two model rules published by the Organization for Economic Co-operation and Development ("Pillar Two income taxes").

However, the amendments introduce a temporary exception to the requirements to recognize and disclose information about deferred tax assets and liabilities related to Pillar Two income taxes. The Company requires to disclose that it has applied the exception to recognizing and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes and disclose separately its current tax expense (income) related to Pillar Two income taxes.

The Bank applies the exception to recognizing and disclosing information about deferred tax assets and liabilities related to Pillar Two income taxes and the related tax law is effective on January 1, 2024. There is no current income tax expense recognized in the consolidated statement of profit or loss for the year ended December 31, 2023 and the Bank is still in the process of assessing the potential exposure to Pillar Two income taxes as at December 31, 2023.

2. Basis of Preparation, Continued

(ii) New standards and interpretations issued but not effective

The following new standards, interpretations and amendments to existing standards have been issued but not effective for annual periods beginning after January 1, 2023, and the Bank has not early adopted them. The nature and the impact of each new standard, amendment and enactments are described below:

Amendments to K-IFRS 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 management's expectations thereof. 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 the liability by the transfer of the entity's own equity instruments is recognized separately from the liability as an equity component of a compound financial instrument. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Bank does not expect that these amendments have a significant impact on the separate financial statements.

Amendment of Korean IFRS No.1007 "Statement of Cash Flows" and No.1107 "Financial Instruments: Disclosures" – Disclosure of Supplier Finance Arrangements

The amendments require disclosure of the effects of supplier finance arrangements on the Company's liabilities, cash flows and exposure to liquidity risk. This amendment will be applied to the financial statements for the accounting year beginning on or after January 1, 2024. the Bank expects that this amendment will not have a significant impact on the separate financial statements.

Amendment of Korean IFRS No.1116 "Leases" - Lease Liability in a Sale and Leaseback

The amendments require a seller-lessee to subsequently measure lease liabilities arising from a leaseback in a way that it does not recognize any amount of the gain or loss that relates to the right of use it retains. This amendment will be applied to the financial statements for the accounting year beginning on or after January 1, 2024. The Bank expects that this amendment will not have a significant impact on the separate financial statements.

*Amendment of Korean IFRS No.1001 "Presentation of Financial Statements" – Disclosure of Virtual Asse*t

The amendments require additional disclosure for virtual assets held by the Company, virtual assets entrusted by customers to the Company, and the issuance and transfer of virtual assets. This amendment will be applied to the financial statements for the accounting year beginning on or after January 1, 2024. The Bank expects that this amendment will not have a significant impact on the separate financial statements.

2. Basis of Preparation, Continued

(3) Basis of measurement
The financial statements have been prepared on the historical cost basis except for the following material items in the statement of financial position:

- Derivative financial instruments measured at fair value
- Financial instruments measured at fair value through profit or loss
- Financial instruments measured at fair value through other comprehensive income
- Fair value hedged financial instruments with changes in fair value, due to hedged risks, recognized in profit or loss
- Liabilities for defined benefit plans, which are recognized as net of the total present value of defined benefit obligations less the fair value of plan assets.

(4) Functional and presentation currency
These 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.

(5) Use of estimates and judgments
The preparation of the 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. Management's estimates of outcomes may differ from actual outcomes if management's estimates and assumptions based on management's best judgment at the reporting date are different from the actual environment.

Estimates and assumptions are continually evaluated and any change in an accounting estimate is recognized prospectively by including it in profit or loss in the period of the change, if the change affects that period only.

The following are the key assumptions concerning the future and other key sources of estimation uncertainty at the end of the reporting period that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year:

(i) Fair value of financial instruments
Financial instruments measured at fair value through profit or loss and other comprehensive income, and derivative instruments are recognized and measured at fair value. If the market for a financial instrument is not active, fair value is determined either by using a valuation technique or independent third-party valuation service. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, referencing to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models.

Financial instruments, which are not actively traded in the market and those with less transparent market prices, will have less objective fair values and require broad judgment on liquidity, concentration, uncertainty in market factors and assumptions in price determination and other risks.

Diverse valuation techniques are used to determine the fair value of financial instruments, from generally accepted market valuation models to internally developed valuation models that incorporate various types of assumptions and variables.

2. Basis of Preparation, Continued

(ii) Credit losses allowance

The Bank tests impairment and recognizes loss allowances on financial assets classified at amortized cost, debt instruments measured at fair value through other comprehensive income and recognizes provisions for payment guarantee, financial guarantee and unused commitments. Accuracy of allowances and provisions for credit losses is dependent upon estimation of expected cash flows of the borrower for individually assessed allowances of loans, and upon assumptions and methodology used for collectively assessed allowances for groups of loans, guarantees and unused loan commitments.

The pandemic of COVID-19 has a negative impact on the global economy despite of the Korean government's financial and economic stabilization packages. It may have a negative impact on the financial position and financial performance of the Bank due to the increase of the expected credit losses on specific portfolios and the potential losses on financial assets.

Taking these circumstances into account comprehensively, the Bank recalculated the forward-looking information used to estimate the expected credit loss in accordance with K-IFRS 1109 'Financial Instruments' as of December 31, 2023. During the 12-month period since the previous year ended, there have been changes in forward-looking information that affect expected credit losses. It is predicted that major economic factors, such as the unemployment rate and economic growth rate, will deteriorate due to the impact of COVID-19. To reflect these changes, the Bank recalculated the forward-looking information by means of increasing the probability of recession used in generating future economic scenarios and will continue to monitor the forward-looking information on a quarterly basis.

(iii) Deferred taxes

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date. Deferred income tax assets are recognised to the extent that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Actual income taxes in the future may not be identical to the recognised deferred tax assets and liabilities.

(iv) Defined benefit liabilities

The Bank operates a defined benefit plan. Defined benefit liability is calculated by annual actuarial valuations as of the reporting date. To perform the actuarial valuations, assumptions for discount rates, future salary increases and others are required to be estimated. Defined benefit plans contain significant uncertainties in estimations due to its long-term nature.

(6) Approval date for the separate financial statements

The separate financial statements were authorized for issue by the Board of Directors on March 27, 2024, which will be submitted for approval to the shareholders' meeting to be held on March 28, 2024.

3. Significant Accounting Policies

The significant accounting policies applied by the Bank in preparation of its separate financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these separate financial statements.

(1) Investments in subsidiaries and associates

The accompanying financial statements are separate financial statements in accordance with K-IFRS 1027 *'Separate Financial Statements'* and investments in subsidiaries and associates are accounted for at cost, not by performance and net asset reported by the investee. Dividends received from subsidiaries and associates are recognised as income as of the time the right to receive the dividends is established.

(2) Business combination of entities under common control

The assets and liabilities acquired under business combinations under common control are recognised at the carrying amounts recognised previously in the consolidated financial statements of the ultimate parent. The difference between consideration transferred and carrying amounts of net assets acquired is recognised as part of share premium.

(3) Operating segments

The Bank makes decisions regarding allocation of resources to segments and categorizes segments, based on internal reports reviewed periodically by the chief operating decision maker, to assess performance. Information on segments reported to the chief operating decision maker includes items directly attributable to segments as well as those that can be allocated on a reasonable basis. Unallocated items mainly comprise corporate assets (such as the Bank Headquarters), head office expenses, and income tax assets and liabilities. The Bank recognises the CEO as the chief operating decision maker.

(4) Foreign exchange

(i) Foreign currency transactions

Transactions in foreign currencies are translated to the functional currency of the Bank, at exchange rates of the dates of transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are translated to the functional currency at the exchange rate at that date. 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. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are translated to the functional currency at the exchange rate at the date that the fair value was determined.

Foreign currency differences arising on transactions and translations of monetary items are recognised in profit or loss, except for differences arising on the translation of a financial instruments designated as hedges of the net investment in foreign operations, or cash flow hedge, which are recognised in other comprehensive income.

When a gain or loss on a non-monetary item is recognised in other comprehensive income, any exchange component of that gain or loss is recognised in other comprehensive income. Conversely, when a gain or loss on a non-monetary item is recognised in profit or loss, any exchange component of that gain or loss shall be recognised in profit or loss.

(ii) Foreign operations

If the presentation currency of the Bank 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:

Unless the functional currency of foreign operations is in a state of hyperinflation, assets and liabilities of foreign operations are translated at the closing exchange rate at the end of the reporting period. Revenues and expenses on the statement of comprehensive income are translated at the exchange rates of the date of transaction. Foreign currency differences that arise from translation are recognized as other comprehensive income, and the disposal of a foreign operation is re-categorized as profit or loss as of the moment of the disposal profit or loss is recognized.

3. Significant Accounting Policies, Continued

Any goodwill arising on the acquisition of a foreign operation, and any adjustments in fair value to the carrying amounts of assets and liabilities due to such acquisition, are treated as assets and liabilities of the foreign operation. Therefore, such are expressed in the functional currency of the foreign operations and, alongside other assets and liabilities of the foreign operation, translated at the closing exchange rate.

In the case of the disposal of a foreign operation, cumulative amounts of exchange difference regarding the foreign operation, recognized separately from other comprehensive income, are re-categorized from assets to profit or loss as of the disposal profit or loss is recognized.

(iii) Foreign exchange of net investment in foreign operations
Monetary items receivable from or payable to a foreign operation, with none or little possibility of being settled in the foreseeable future, are considered a part of the net investment in the foreign operation. Therefore, the exchange difference is recognised as comprehensive income or loss in the financial statement and re-categorized to profit or loss as of the disposal of the related net investment.

(5) Recognition and measurement of financial instruments
(i) Initial recognition
The Bank recognizes a financial asset or a financial liability in its separate statement of financial position when the Bank becomes a party to the contractual provisions of the instrument. A regular way purchase or sale of financial assets is recognized and derecognized using trade date accounting.

The Bank classifies financial assets as financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income, or financial assets at amortized cost on the basis of the Bank's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets. The Bank classifies financial liabilities as financial liabilities at fair value through profit or loss, or financial liabilities at amortized cost.

At initial recognition, a financial asset or financial liability is measured at its fair value plus or minus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.

(ii) Subsequent measurement
After initial recognition, financial instruments are measured at amortized cost or fair value based on classification at initial recognition.

Amortized cost
The amortized cost is the amount at which the financial asset or financial liability is measured at initial recognition minus the principal repayments, plus or minus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount and, for financial assets, adjusted for any loss allowance.

Fair value
Fair values, which the Bank primarily uses for the measurement of financial instruments, are the published price quotations based on market prices or dealer price quotations of financial instruments traded in an active market where available. These are the best evidence of fair value. A financial instrument is regarded as quoted in an active market if quoted prices are readily and regularly available from an exchange, dealer, broker, an entity in the same industry, pricing service or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis.

If the market for a financial instrument is not active, fair value is determined either by using a valuation technique or independent third-party valuation service. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, referencing to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models.

3. Significant Accounting Policies, Continued

The Bank uses valuation models that are commonly used by market participants and customized for the Bank to determine fair values of common over-the-counter ("OTC") derivatives such as options, interest rate swaps and currency swaps which are based on the inputs observable in markets. For more complex instruments, the Bank uses internally developed models, which are usually based on valuation methods and techniques generally used within the industry, or a value measured by an independent external valuation institution as the fair values if all or some of the inputs to the valuation models are not market observable and therefore it is necessary to estimate fair value based on certain assumptions.

If the valuation technique does not reflect all factors which market participants would consider in setting a price, the fair value is adjusted to reflect those factors. Those factors include counterparty credit risk, bid-ask spread, liquidity risk and others.

The chosen valuation technique makes maximum use of market inputs and relies as little as possible on entity-specific inputs. It incorporates all factors that market participants would consider in setting a price and is consistent with economic methodologies applied for pricing financial instruments. Periodically, the Bank calibrates the valuation technique and tests its validity using prices of observable current market transactions of the same instrument or based on other relevant observable market data.

(iii) Derecognition

Derecognition is the removal of a previously recognized financial asset or financial liability from the statement of financial position. The Bank derecognizes a financial asset or a financial liability when, and only when:

Derecognition of financial assets

Financial assets are derecognized when the contractual rights to the cash flows from the financial assets expire or the financial assets have been transferred and substantially all the risks and rewards of ownership of the financial assets are also transferred, or all the risks and rewards of ownership of the financial assets are neither substantially transferred nor retained and the Bank has not retained control. If the Bank neither transfers nor disposes of substantially all the risks and rewards of ownership of the financial assets, the Bank continues to recognize the financial asset to the extent of its continuing involvement in the financial asset.

If the Bank transfers the contractual rights to receive the cash flows of the financial asset, but retains substantially all the risks and rewards of ownership of the financial asset, the Bank continues to recognize the transferred asset in its entirety and recognize a financial liability for the consideration received.

Derecognition of financial liabilities

Financial liabilities are derecognized from the statement of financial position when the obligation specified in the contract is discharged, cancelled or expires.

(iv) Offsetting

Financial assets and liabilities are offset and the net amount reported in the separate statements of financial position where there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the assets and settle the liability simultaneously.

(6) Cash and cash equivalents

Cash and cash equivalents comprise balances with original maturities of three months or less from the date of acquisition that are subject to an insignificant risk of changes in their fair value, including cash on hand, deposits held at call with banks and other highly liquid short-term investments with original maturities of three months or less.

3. Significant Accounting Policies, Continued

(7) Non-derivative financial assets

(i) Financial assets at fair value through profit or loss

Any non-derivative financial asset classified as held for trading or not classified as financial assets at fair value through other comprehensive income or financial assets measured at amortized cost is categorized under financial assets at fair value through profit or loss.

The Bank may designate certain financial assets upon initial recognition as at fair value through profit or loss when the designation eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as 'an accounting mismatch') that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

After initial recognition, a financial asset at fair value through profit or loss is measured at fair value and gains or losses arising from a change in the fair value are recognized in profit or loss. Interest income and dividend income from financial assets at fair value through profit or loss are also recognized in profit or loss.

(ii) Financial assets at fair value through other comprehensive income

The Bank classifies financial assets as financial assets at fair value through other comprehensive income if they meet the following conditions: 1) debt instruments that are a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets, and consistent with representing solely payments of principal and interest on the principal amount outstanding or 2) equity instruments, not held for trading with the objective of generating a profit from short-term fluctuations in price or dealer’s margin, designated as financial assets at fair value through other comprehensive income.

After initial recognition, a financial asset at fair value through other comprehensive income is measured at fair value. Gain and loss from changes in fair value, other than dividend income and interest income amortized using effective interest method and exchange differences arising on monetary items which are recognized directly in profit or loss, are recognized as other comprehensive income in equity.

At disposal of financial assets at fair value through other comprehensive income, cumulative gain or loss is recognized as profit or loss for the reporting period. However, cumulative gain or loss of equity instrument designated as fair value through other comprehensive income are not recycled to profit or loss at disposal.

Financial assets at fair value through other comprehensive income denominated in foreign currencies are translated at the closing rate. Exchange differences resulting from changes in amortized cost are recognized in profit or loss, and other changes are recognized as equity.

(iii) Financial assets measured at amortized cost

A financial asset, which are held within the business model whose objective is to hold assets in order to collect contractual cash flows and consistent with representing solely payments of principal and interest on the principal amount outstanding, are classified as a financial asset at amortized cost. Financial assets at amortized cost are subsequently measured at amortized cost using the effective interest method after initial recognition and interest income is recognized using the effective interest method.

3. Significant Accounting Policies, Continued

(8) Expected credit loss of financial assets

The Bank measures expected credit loss and recognizes loss allowance at the end of the reporting period for financial assets measured at amortized cost and fair value through other comprehensive income with the exception of financial asset measured at fair value through profit or loss.

The expected credit loss ("ECL") is the weighted average amount of possible outcomes within a certain range, reflecting the time value of money, estimates on the past, current and future situations, and information accessible without excessive cost of effort.

The Bank uses the following three measurement techniques in accordance with K-IFRS:
- General approach: for financial assets and off-balance-sheet unused credit line that are not applied below two approaches
- Simplified approach: for receivables, contract assets and lease receivables
- Credit-impaired approach: for purchased or originated credit-impaired financial assets

The general approach is applied differently depending on the significance of the increase of the credit risk. If, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition, an entity shall measure the loss allowance for that financial instrument at an amount equal to 12-month expected credit losses. If the credit risk on that financial instrument has increased significantly since initial recognition, an entity shall measure the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses at each reporting date.

The Bank applies the simplified approach to 1) trade receivables and contract assets that do not have a significant financing component or 2) trade receivables, contract assets and lease receivables upon determining the Bank's accounting policies as the application of the simplified approach. The approach requires expected lifetime losses to be recognized from initial recognition of the financial assets. Under credit-impaired approach, the Bank shall only recognize the cumulative changes in lifetime expected credit losses since initial recognition as a loss allowance for purchased or originated credit-impaired financial assets.

The following non-exhaustive list of information may be relevant in assessing changes in credit risk:
- Significant changes in internal price indicators of credit risk as a result of a change in credit risk since inception
- Other changes in the rates or terms of an existing financial instrument that would be significantly different if the instrument was newly originated or issued at the reporting date
- An actual or expected significant change in the financial instrument's external credit rating
- An actual or expected internal credit rating downgrade for the borrower or decrease in behavioural scoring used to assess credit risk internally
- An actual or expected significant change in the operating results of the borrower
- Past due information

(i) Forward-looking information

The Bank uses forward-looking information, when it determines whether the credit risk has increased significantly since initial recognition and measures expected credit losses.

The Bank assumes the risk component has a certain correlation with the business cycle, and calculates the expected credit loss by reflecting the forward-looking information with macroeconomic variables on the measurement inputs.

Forward looking information used in calculation of expected credit loss is derived after comprehensive consideration of a variety of factors including scenario in management planning, worst-case scenario used for stress testing, third party forecast, and others.

3. Significant Accounting Policies, Continued

(ii) Measuring expected credit losses on financial assets at amortized cost

The amount of the loss on financial assets at amortized cost is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. The Bank estimates expected future cash flows for financial assets that are individually significant (individual assessment of impairment).

For financial assets that are not individually significant, the Bank collectively estimates expected credit loss by grouping loans with homogeneous credit risk profile (collective assessment of impairment).

Individual assessment of impairment

Individual assessment of impairment losses is calculated using management's best estimate on present value of expected future cashflows. The Bank uses all the available information including operating cash flow of the borrower and net realizable value of any collateral held.

Collective assessment of impairment

Collective assessment of loss allowance involves historical loss experience along with incorporation of forward-looking information. Such process incorporates factors such as type of collateral, product and borrowers, credit rating, size of portfolio and recovery period and applies probability of default on a group of assets and loss given default by type of recovery method. Also, the expected credit loss model involves certain assumption to determine input based on loss experience and forward-looking information. These models and assumptions are periodically reviewed to reduce gap between loss estimate and actual loss experience.

The expected credit loss for financial assets measured at amortized cost is recognized as the loss allowance, and when the financial asset is determined to be irrecoverable, the carrying amount and loss allowance are decreased. If financial assets previously written off are recovered, the loss allowance is increased and the difference is recognized in the current profit or loss.

(iii) Measuring expected credit losses on financial assets at fair value through other comprehensive income

Measuring method of expected credit losses on financial assets at fair value through other comprehensive income is equal to the method of financial assets at amortized cost, except for changes in loss allowances that are recognized as other comprehensive income. Amounts recognized in other comprehensive income for sale or repayment of financial assets at fair value through other comprehensive income are reclassified to profit or loss.

3. Significant Accounting Policies, Continued

(9) Derivative financial instruments including hedge accounting

Derivative financial instruments are initially recognised at fair value at the inception of the contract and re-estimated at fair value subsequently. The recognition of profit or loss due to changes in fair value of derivative instruments is as described below:

(i) Hedge accounting

Derivative financial instruments are accounted differently depending on whether hedge accounting is applied, and therefore, are classified into trading purpose derivatives and hedging purpose derivatives.

Upon the transaction of hedging purpose derivatives, two different types of hedge accounting are applied; a fair value hedge, and a cash flow hedge. A fair value hedge is a hedge of the exposure to changes in fair value of a recognised asset or liability or an unrecognised firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss. A cash flow hedge is a hedge of the exposure to variability in cash flows that (i) is attributable to a particular risk associated with a recognised asset or liability (such as all or some future interest payments on variable rate debt) or a highly probable forecast transaction and (ii) could affect profit or loss.

At the inception of the hedge relationship, the Bank formally documents the relationship between the hedged item and the hedging instrument, including the nature of the risk, the objective and strategy for undertaking the hedge, and the method that will be used to assess the effectiveness of the hedging relationship.

Fair value hedge

For designated and qualifying fair value hedges, the change in the fair value of a hedging derivative is recognised in profit or loss in the statement of comprehensive income. Meanwhile, the change in the fair value of the hedged item, attributable to the risk hedged, is recorded as part of the carrying value of the hedged item and is also recognised in profit or loss in the statement of comprehensive income. When the hedge no longer meets the criteria for hedge accounting, the hedge relationship is terminated. For hedged item recorded at amortized cost, the difference between the carrying value of the hedged item on termination and the face value is amortized over the remaining term of the original hedge using the EIR.

Cash flow hedge

For designated and qualifying cash flow hedges, the effective portion of gain or loss on the hedging instruments is initially recognised directly in equity. The ineffective portion of the gain or loss on the hedging instrument is recognised immediately in the statement of comprehensive income. When the hedged cash flow affects the profit or loss in statement of comprehensive income, the gain or loss on the hedging instrument is recorded in the corresponding income or expense line in profit or loss in the statement of comprehensive income. When a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the hedged forecasted transaction is ultimately recognised in the statement of comprehensive income. When a forecasted transaction is no longer expected to occur, the cumulative gain and loss that was reported in equity is immediately transferred to profit or loss in the statement of comprehensive income.

Hedges of net investments in foreign operations

The Bank designates non-derivative financial instruments as hedging instruments for foreign currency risk arising from net investments in foreign operations and recognises the portion of the gain or loss on the hedging instrument that is determined to be an effective hedge in other comprehensive income. The cumulative amounts recognised in other comprehensive income relating to both the foreign exchange differences arising on translation of the results and financial position of the foreign operation and the gain or loss on the hedging instrument that is determined to be an effective hedge of the net investment are reclassed from equity to profit or loss as a reclassification adjustment when the Bank disposes of the foreign operation.

(ii) Trading purpose derivatives

For trading purpose derivatives transaction, changes in the fair value of derivatives are recognised in net income.

(10) Day one profit or loss recognition

For financial instruments classified as level 3 on the fair value level hierarchy measured using assess variables not observable in the market, the difference between the fair value at initial recognition and the transaction price, which is equivalent to Day one profit or loss, is amortized by using the straight-line method over time.

3. Significant Accounting Policies, Continued

(11) Property and equipment

The Bank's property and equipment are recognised at the carrying amount at historical costs less accumulated depreciation and accumulated impairment in value. Historical costs include the expenditures directly related to the acquisition of assets.

Subsequent costs are recognised in the carrying amount of assets or, if appropriate, as separate assets if the probabilities future economic benefits associated with the assets will flow into the Bank and the costs can be measured reliably; the carrying amount of the replaced part is derecognised. Furthermore, any other repairs or maintenances are charged to profit or loss as incurred.

Land is not depreciated. Depreciation on other assets is calculated using the straight-line method to the amount of residual value less acquisition cost over the following estimated useful lives:

Type	Useful lives (years)
Buildings	20 ~ 50
Structure	10 ~ 40
Movable property	4

Property and equipment are impaired when the carrying amount exceeds the recoverable amount. The Bank assesses residual value and economic life of its assets at each reporting date and adjusts useful lives when necessary. Any gain or loss arising from the disposal of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is recognised in non-operating income (expense) in the statement of comprehensive income.

(12) Investment property

The Bank classifies property held for rental income or benefits from capital appreciation as investment property. Investment property is measured initially at cost, including transaction costs. Subsequent to initial recognition, the cost model is applied. Subsequent to initial recognition, an item of investment property is carried at its cost less any accumulated depreciation and any accumulated impairment loss.

Investment properties are derecognised either when they have been disposed of or when the investment property is permanently withdrawn from use and no future economic benefit is expected from its disposal. The difference between the net disposal proceeds and the carrying amount of the asset is recognised in the statement of comprehensive income in the period of de-recognition. Reclassification to other account is made if there is a change in use of corresponding investment property.

Depreciation of investment property is calculated using the straight-line method over its estimated useful lives as follows:

Type	Useful lives (years)
Buildings	20 ~ 50
Structure	10 ~ 40

3. Significant Accounting Policies, Continued

(13) Intangible assets

An intangible asset is recognised only when its cost can be measured reliably, and the probabilities future economic benefits from the asset will flow into the Bank are high. Separately acquired intangible assets are recognised at the acquisition cost, and subsequently, the cost less accumulated depreciation and accumulated impairment is recognised as the carrying amount.

Intangible assets with finite lives are amortized over the four-year to 30-year period of useful economic lives using the straight-line method. At the end of each reporting period, the Bank reviews intangible assets for any evidence that indicate impairment, and upon the presence of such evidence, the Bank estimates the amount recoverable and recognises the loss accordingly.

Intangible assets with indefinite useful lives are not amortized but are tested for impairment annually. Furthermore, the Bank reviews such intangible assets to determine whether it is appropriate to consider these assets to have indefinite useful lives. If in the case the Bank concludes an asset is not qualified to be classified as non-finite, prospective measures are taken to consider such an asset as finite.

(14) Leases

The Bank recognizes a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments at the commencement date of the lease. The Bank elected not to apply the requirements to the short-term leases and leases of low value assets.

Right-of-use asset

The right-of-use asset is measured at its cost less subsequent accumulated depreciation and accumulated impairment loss with adjustments reflected arising from remeasurements of the lease liability. The cost of the right-of-use asset comprise the amount of the initial measurement of the lease liability, any initial direct costs incurred by the lessee and any lease payments made at or before the commencement date, less any lease incentive received. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis from the commencement date of the lease.

Lease liabilities

At the commencement date, the lease liability is measured at present value of the lease payments that are not paid at that date. Lease payments include fixed payments (including in-substance fixed payments), less any lease incentives receivable, variable lease payments that depend on an index or a rate, amounts expected to be payable by the lessee under residual value guarantees, the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease. The variable lease payments that do not depend on an index or a rate are recognized as an expense in the period in which the event or condition that triggers those payments occurs.

When measuring the present value, the lease payments are discounted using the interest rate implicit in the lease. If such implicit rate cannot be readily determined, the Bank uses the Bank's incremental borrowing rate. The lease liability is subsequently increased by the amount of interest expenses recognized on the lease liability and reduced by the lease payments made.

Short-term lease and lease of low-value assets

The Bank does not apply the requirements of lessee accounting to short-term leases and leases of low-value assets. The Bank recognizes the lease payments associated with these leases as expenses on a straight-line basis over the lease term.

3. Significant Accounting Policies, Continued

(15) Impairment of non-financial assets

The Bank tests for any evidence of impairment in assets and reviews whether the impairment has taken place by estimating the recoverable amount, at the end of each reporting period. The recoverable amount is the higher of the fair value less cost and value in use of an asset.

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. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceeds the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognised for the asset in prior years.

(16) Assets held for sale

Non-current 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. 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 Bank 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.

Non-current assets that are classified as held for sale or part of a disposal group classified as held for sale are not depreciated (or amortized).

(17) Non-derivative financial liabilities

The Bank classifies non-derivative financial liabilities into financial liabilities at fair value through profit or loss or other financial liabilities, in accordance with the substance of the contractual arrangement and the definitions of financial liability. The Bank recognizes these financial liabilities in the statement of financial position when the Bank becomes a party to the contractual provisions of the financial liability.

(i) Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss include financial liabilities held for trading and financial liabilities designated at FVTPL upon initial recognition. Financial liabilities and derivatives are classified as financial instruments held for trading if they are acquired for repurchasing soon. Financial liabilities are classified as financial liabilities at FVTPL upon initial recognition, if the profit or loss from the liabilities indicates to be more purpose-appropriate to be recognised as profit or loss. Financial liabilities at FVTPL are designated at fair value in subsequent measurements, and any related un-realized profit or loss is recognised as profit or loss. In addition, for the amount of change in the fair value of the financial liability that is attributable to changes in the credit risk of that liability, the Bank present this change in other comprehensive income, and does not recycle this other comprehensive income to profit or loss, subsequently.

(ii) Financial liabilities measured at amortized cost

Financial liabilities measured at amortized cost are recognised at fair value less cost less transaction cost upon initial recognition, and subsequently at amortized costs. The difference between the proceeds (net of transaction cost) and the redemption value is recognised in the statement of comprehensive income over the periods of the liabilities using the effective interest method.

Fees paid on the establishment of a loan facility are recognised as transaction costs of the loan, if the probability that some or all the facility will be drawn down is high. If, however, there is not enough evidence to conclude a draw-down of some or all the facility will occur, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

3. Significant Accounting Policies, Continued

(18) Employee benefits

(i) Short-term employee benefits
Short-term employee benefits are employee benefits that are due to be settled wholly before 12 months after the end of the period in which the employees render the related service. When an employee has rendered service to the Bank during an accounting period, the Bank recognises the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service.

(ii) Retirement benefits: defined contribution plans
A defined contribution plan is a pension plan under which the Bank pays fixed contributions into a separate fund. The Bank is no longer responsible for any foreseeable future liability after a certain amount or percentage of money is set aside for defined contribution plans. If the pension plan allows for early retirement, payments are recognised as employee benefits. If the contribution already paid exceeds the contribution due for service before the end of the reporting period, the Bank recognises that excess as an asset to the extent that the prepayment will lead to a reduction in future payments or a cash refund.

(iii) Retirement benefits: defined benefit plans
The Bank classifies all the pensions as defined benefit plans except defined contribution plans. 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 the current and prior periods, discounting that amount and deducting the fair value of any plan assets. The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid and have terms to maturity like the terms of the related pension liability.

Remeasurements of the net defined benefit liabilities (assets), which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognised immediately in other comprehensive income.

(19) Provisions
Provisions are recognized when the Bank has a present legal or constructive obligation because 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.

(20) Financial guarantees
Financial guarantee contracts are contracts that require the issuer (the Bank) to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due, in accordance with the original or changed terms of a debt instrument. Financial guarantees are initially recognized in the financial statements at fair value on the date the guarantee was given. Subsequent to initial recognition, the Bank's liabilities under such guarantees are measured at the higher of:

- The amount determined in accordance with K-IFRS 1109 *'Financial Instruments'* and
- The initial amount recognized, less, when appropriate, cumulative amortization recognized in accordance with K-IFRS 1115 'Revenue from Contracts with Customers'.

3. Significant Accounting Policies, Continued

(21) Securities under resale or repurchase agreements
Securities purchased under agreements to resell are recorded as other loans and receivables and the related interest from these securities is recorded as interest income; securities sold under agreements to repurchase are recorded as other borrowings, and the related interest from these securities is recorded as interest expense.

(22) Interest income and expense
Interest income and expense are recognized in profit or loss using the effective interest method. The effective interest method measures the amortized costs of financial instruments and allocates the interest income or expense during the related period.

Upon the calculation of the effective interest rate, the Bank estimates future cash flows by taking into consideration all contractual terms of the financial instrument, but not future credit loss. The calculation also reflects any fees or points paid or received, transaction costs and any related premiums or discounts. In the case that the cash flow and expected duration of a financial instrument cannot be estimated reliably, the effective interest rate is calculated by the contractual cash flow during the contract period.

Once an impairment loss has been recognized on a financial asset or a group of similar assets, subsequent interest income is recognized on the interest rate that was used to discount future cash flow for measuring the impairment loss.

(23) Fees and commission income
Fees and commission income and expense are classified as follows according to related regulations:

(i) Fees and commission from financial instruments
Fees and commission income and expense that are integral to the effective interest rate on a financial asset or liability are included in the measurement of the effective interest rate. It includes those related to evaluation of the borrowers' financial status, guarantee, collateral, other agreements and related evaluation as well as business transaction, rewards for activities, such as document preparation and recording and setup fees incurred during issuance of financial liabilities. However, when financial instruments are classified as financial instruments at fair value through profit or loss, fees and commission are recognized as revenue upon initial recognition.

(ii) Fees and commission from services
Fees and commission income charged in exchange for services to be performed during a certain period of time such as asset management fees, consignment fees and assurance service fees are recognized as the related services are performed. When a loan commitment is not expected to result in the draw-down of a loan and K-IFRS 1039 *'Financial Instrument: Recognition and Measurement'* is not applied for the commitment, the related loan commitment fees are recognized as revenue proportionally to time over the commitment period.

(iii) Fees and commission from significant transaction
Fees and commission from significant transactions, such as trading stocks and other securities, negotiation and mediation activities for third parties, for instance business transfer and takeover, are recognized when transactions are completed.

(24) Dividend income
Dividend income is recognized upon the establishment of the Bank's right to receive the payment.

3. Significant Accounting Policies, Continued

(25) Income tax expense

Income tax expense comprises current and deferred income tax. Current income tax and deferred income tax are recognized in profit or loss except to the extent that the tax arises from a transaction or event, which is recognized in other comprehensive income or directly in equity, or a business combination.

The Bank recognizes deferred income tax liabilities for all taxable temporary differences associated with investments in subsidiaries, associates, except to the extent that the Bank can 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 Bank recognizes deferred income tax assets for all deductible temporary differences arising from investments in 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.

Deferred income tax assets and liabilities are measured at the tax rates that are expected to apply to the reporting period when the assets are realized, or the liabilities 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 income tax assets and liabilities reflects the income tax effects that would follow from the manner in which the Bank 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 income tax asset is reviewed at the end of each reporting period and reduced 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 income tax asset to be utilized.

Deferred income tax assets and liabilities are off-set only if the Bank has a legally enforceable right to off-set the related current income tax assets and liabilities, and the assets and liabilities relate to income tax levied by the same tax authority and are intended to be settled on a net basis.

(26) Accounting for trust accounts

The Bank, for financial reporting, differentiates trust assets from identifiable assets according to the *Financial Investment Services and Capital Markets Act*. Furthermore, the Bank receives trust fees from the application, management and disposal of trust assets, and appropriates such amounts for fees from trust accounts.

Meanwhile, in the case the fee from an unspecified principal or interests guaranteed money in trust does not meet the principal or interest amount, even after appropriating deficit with trust fees and special reserve, the Bank fills in the remaining deficit in the trust account and appropriates such amounts for losses on trust accounts.

(27) Regulatory reserve for credit losses

When the total sum of allowance for possible credit losses is lower than the amount prescribed in Article 29(1) of the *Regulations on Supervision of Banking Business*, the Bank records the difference as regulatory reserve for credit losses at the end of each reporting period.

In the case that the existing regulatory reserve for credit losses exceeds the amount needed to be set aside at the reporting date, the surplus may be reversed. Furthermore, in the case that undisposed deficit exists, regulatory reserve for credit losses is saved from the time the undisposed deficit is disposed.

3. Significant Accounting Policies, Continued

(28) Earnings per share
The Bank represents its diluted and basic earnings per common share in the separate statement of comprehensive income. Basic earnings per share (EPS) is calculated by dividing net profit attributable to shareholders of the Bank by the weighted average number of common shares outstanding during the reporting period. Diluted earnings per share is calculated by adjusting net profit attributable to common shareholders of the Bank, considering dilution effects from all potential common shares, and the weighted average number of common shares outstanding.

(29) Corrections of errors
Prior period errors shall be corrected by retrospective restatement in the first set of financial statements authorised for issue after their discovery except to the extent that it is impracticable to determine either the period-specific effects or the cumulative effect of the error.

4. Cash and Due from Banks

(1) Cash and due from banks as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Cash	₩	65,738	70,525
Due from banks in Korean won:			
Due from Bank of Korea		1,972,258	3,360,908
Other due from banks in Korean won		45,715	570,295
		2,017,973	3,931,203
Due from banks in foreign currencies / off-shores		6,576,097	7,537,078
	₩	8,659,808	11,538,806

(2) Restricted due from banks as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Reserve deposit	₩	2,302,201	1,181,823
Deposit of monetary stabilization account		150,000	2,470,000
Others		308,676	405,682
	₩	2,760,877	4,057,505

5. Securities Measured at FVTPL

(1) Details of securities in financial assets at fair value through profit or loss as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		
	Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:			
Stocks	₩ -	2,151,564	2,044,046
Equity investments	-	905,853	1,002,008
Beneficiary certificates	-	9,411,162	9,887,428
Government and public bonds	1,686,000	1,637,507	1,784,605
Financial bonds	600,000	597,206	601,369
Others	50,470	50,234	50,372
	2,336,470	14,753,526	15,369,828
Securities denominated in foreign currencies/off-shores:			
Stocks	-	27,398	26,918
Equity investments	-	104,369	157,892
Beneficiary certificates	-	477,542	489,767
Debt securities	14,183	13,876	14,151
	14,183	623,185	688,728
	₩ 2,350,653	15,376,711	16,058,556

	December 31, 2022		
	Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:			
Stocks	₩ -	1,800,273	1,666,930
Equity investments	-	719,153	839,331
Beneficiary certificates	-	7,467,720	7,665,755
Government and public bonds	648,000	611,954	623,264
Financial bonds	403,000	401,715	401,127
Others	10,470	10,470	10,392
	1,061,470	11,011,285	11,206,799
Securities denominated in foreign currencies/off-shores:			
Stocks	-	13,948	13,784
Equity investments	-	80,909	109,011
Beneficiary certificates	-	649,641	622,312
Debt securities	-	-	-
	-	744,498	745,107
	₩ 1,061,470	11,755,783	11,951,906

5. Securities Measured at FVTPL, Continued

(2) Equity securities with disposal restrictions in financial assets at fair value through profit or loss as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		
Company	Number of shares	Carrying amount	Restricted period
National Happiness Fund	34,066	₩ 14,884	Undecided
SEMITECH Co., Ltd.	33,187	368	Undecided
Hongin Chemical Co., Ltd.	5,060	-	Undecided
	72,313	15,252	

	December 31, 2022		
Company	Number of shares	Carrying amount	Restricted period
National Happiness Fund	34,066	₩ 28,873	Undecided

6. Securities Measured at FVOCI

(1) Details of securities measured at FVOCI as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		
	Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:			
Stocks and equity investments	₩ -	11,277,639	11,709,407
Government and public bonds	1,575,000	1,561,815	1,558,377
Financial bonds	1,380,000	1,372,473	1,381,371
Corporate bonds	4,670,160	4,667,812	4,558,013
Others	1,500,680	1,500,680	3,933,681
	9,125,840	20,380,419	23,140,849
Securities denominated in foreign currencies/off-shores:			
Equity securities	-	498	1,128
Debt securities	11,186,342	11,297,509	10,706,746
	11,186,342	11,298,007	10,707,874
Loaned securities:			
Debt securities	40,000	39,483	39,341
	₩ 20,352,182	31,717,909	33,888,064

6. Securities Measured at FVOCI, Continued

	December 31, 2022		
	Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:			
Stocks and equity investments	₩ -	10,857,462	11,145,371
Government and public bonds	2,345,000	2,325,251	2,283,060
Financial bonds	2,690,000	2,673,516	2,657,525
Corporate bonds	7,086,079	7,083,618	6,781,202
Others	1,828,729	1,828,729	5,723,053
	13,949,808	24,768,576	28,590,211
Securities denominated in foreign currencies/off-shores:			
Equity securities	-	495	1,631
Debt securities	9,808,493	9,976,279	9,093,077
	9,808,493	9,976,774	9,094,708
Loaned securities:			
Debt securities	-	-	-
	₩ 23,758,301	34,745,350	37,684,919

Equity instruments that are acquired due to debt-to-equity swap, investment in kind and investment in ventures and small and medium-sized enterprises are designated as measured at FVOCI. The realized pre-tax income and loss on disposal of equity securities for the years ended December 31, 2023 and 2022 are the amount of ₩ 1,076,647 million of gain and ₩312,364 million of gain, respectively, which is directly recognized in retained earnings.

(2) Changes in securities measured at FVOCI for the years ended December 31, 2023 and 2022 are as follows:

	2023	2022
Beginning balance	₩ 37,684,919	37,875,136
Acquisition	11,068,483	14,683,389
Disposal	(14,296,449)	(12,076,298)
Change due to amortization	22,292	(5,575)
Change in fair value	(774,816)	(3,318,776)
Reclassification	-	19,125
Foreign exchange differences	149,606	494,413
Others (*)	34,029	13,505
Ending balance	₩ 33,888,064	37,684,919

(*) For the year ended December 31, 2023, others represent the increase in securities measured at FVOCI including shares of ALT Co., Ltd., T'way Air Co., Ltd. and others acquired through exercise of conversion rights of the convertible bonds and shares of Dae Young Metal Co., Ltd., CHEW YOUNG ROO and others acquired in accordance with the rehabilitation plan under the Debtor Rehabilitation and Bankruptcy Act. For the year ended December 31, 2022, others represent the increase in securities measured at FVOCI including shares of FADU Inc., TETOS Co., Ltd. and others acquired through exercise of conversion rights of the convertible bonds and shares of Boowon Industry Co., Ltd., EN Technologies Co., Ltd. and others acquired in accordance with the rehabilitation plan under the Debtor Rehabilitation and Bankruptcy Act.

6. Securities Measured at FVOCI, Continued

(3) Equity securities with disposal restrictions in securities measured at FVOCI as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		
Company	Number of shares	Carrying amount	Restricted period
UAMCO., Ltd.	113,050	₩ 196,670	Undecided
High Gain Antenna Co., Ltd.	18,138	372	Undecided
Kumho Tire Co., Inc.	21,339,320	115,019	Until July 6, 2024 (*)
	21,470,508	₩ 312,061	

(*) From July 6, 2021, 50% of the shares may be sold every year.

	December 31, 2022		
Company	Number of shares	Carrying amount	Restricted period
UAMCO., Ltd.	113,050	₩ 188,721	Undecided
High Gain Antenna Co., Ltd.	18,138	270	Undecided
Kumho Tire Co., Inc.	21,339,320	71,167	Until July 6, 2023 (*)
Daehan Shipbuilding Co., Ltd.	231,459	2,871	Until August 31, 2023
	21,701,967	₩ 263,029	

(*) From July 6, 2021, 50% of the shares may be sold every year.

6. Securities Measured at FVOCI, Continued

(4) Changes in the loss allowance in relation to securities measured at FVOCI for the years ended December 31, 2023 and 2022 are as follows:

	2023			
		Lifetime expected credit loss		
	12-month expected credit loss	Non credit-Impaired	Credit-impaired	Total
Beginning balance	₩ 11,041	2,398	72,740	86,179
Transfer to 12-month expected credit loss	187	(187)	-	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	-	-	-
Provision for (reversal of) loss allowance	4,534	(219)	(48)	4,267
Disposal	(283)	-	-	(283)
Foreign currency translation, etc.	707	(819)	371	259
Ending balance	₩ 16,186	1,173	73,063	90,422

	2022			
		Lifetime expected credit loss		
	12-month expected credit loss	Non credit-Impaired	Credit-impaired	Total
Beginning balance	₩ 11,661	3,120	71,668	86,449
Transfer to 12-month expected credit loss	157	(157)	-	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired debt securities	(1,127)	1,127	-	-
Transfer to credit-impaired debt securities	-	-	-	-
Provision for (reversal of) loss allowance	(1,511)	532	(139)	(1,118)
Disposal	(642)	-	-	(642)
Foreign currency translation, etc.	2,503	(2,224)	1,211	1,490
Ending balance	₩ 11,041	2,398	72,740	86,179

7. Securities Measured at Amortized Cost

(1) Securities measured at amortized cost as of December 31, 2023 and 2022 are as follows:

	December 31, 2023	
	Amortized cost	Fair value
Securities denominated in Korean won:		
Government and public bonds	₩ 3,841,102	3,841,102
Financial bonds	2,456,764	2,456,431
Corporate bonds	2,141,858	2,132,972
	8,439,724	8,430,505
Securities denominated in foreign currencies:		
Corporate bonds	152,683	152,683
Less: loss allowance	(9,219)	
	₩ 8,583,188	8,583,188

	December 31, 2022	
	Amortized cost	Fair value
Securities denominated in Korean won:		
Government and public bonds	₩ 2,964,285	2,964,285
Financial bonds	2,961,887	2,961,788
Corporate bonds	429,921	429,811
	6,356,093	6,355,884
Less: loss allowance	(209)	
	₩ 6,355,884	6,355,884

(2) Changes in securities measured at amortized cost for the years ended December 31, 2023 and 2022 are as follows:

	2023	2022
Beginning balance	₩ 6,355,884	2,968,877
Acquisition	5,217,386	4,895,925
Redemption	(3,020,000)	(1,522,000)
Change due to amortization	38,929	13,132
Impairment loss	(9,011)	(50)
Ending balance	₩ 8,583,188	6,355,884

8. Loans Measured at FVTPL

(1) Loans measured at FVTPL as of December 31, 2023 and 2022 are as follows:

		December 31, 2023		December 31, 2022	
		Amortized cost	Fair value (Carrying amounts)	Amortized cost	Fair value (Carrying amounts)
Loans in Korean won:					
Privately placed corporate bonds	₩	422,724	488,432	459,064	541,811
Loans in foreign currencies:					
Privately placed corporate bonds		2,804	-	-	-
	₩	425,528	488,432	459,064	541,811

(2) Gains (losses) related to loans measured at FVTPL for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Transaction gains (losses) on loans measured at FVTPL			
Transaction gains	₩	8,254	8,100
Transaction losses		(5,332)	(8,709)
		2,922	(609)
Valuation gains (losses) on loans measured at FVTPL			
Valuation gains		7,381	9,294
Valuation losses		(16,294)	(88,248)
		(8,913)	(78,954)
	₩	(5,991)	(79,563)

9. Loans Measured at Amortized Cost

(1) Loans measured at amortized cost and loss allowance for loan as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		December 31, 2022	
	Amortized cost	Fair value	Amortized cost	Fair value
Loans in Korean won:				
Loans for working capital	₩ 69,353,773	68,310,908	69,723,242	68,263,234
Loans for facility development	61,149,089	59,856,968	60,391,588	58,443,101
Loans for households	143,534	142,911	183,676	175,347
Inter-bank loans	2,971,744	2,807,208	3,037,471	2,746,516
	133,618,140	131,117,995	133,335,977	129,628,198
Loans in foreign currencies:				
Loans	29,820,779	29,740,998	27,770,598	27,462,025
Inter-bank loans	3,879,644	3,865,256	4,296,005	4,281,978
Off-shore loans	20,816,849	20,691,653	20,961,290	20,421,515
	54,517,272	54,297,907	53,027,893	52,165,518
Other loans:				
Bills bought in foreign currency	2,033,111	1,995,544	2,275,189	2,252,927
Advances for customers on acceptances and guarantees	24,593	11,463	8,954	1,286
Privately placed corporate bonds	2,307,802	2,231,504	2,227,012	2,191,115
Others	10,566,404	10,403,677	11,157,205	11,000,638
	14,931,910	14,642,188	15,668,360	15,445,966
	203,067,322	200,058,090	202,032,230	197,239,682
Less:				
Loss allowance for loan	(3,099,978)		(3,997,231)	
Present value discount	(11,054)		(10,620)	
Deferred loan origination costs and fees	25,490		21,224	
	₩ 199,981,780		198,045,603	

9. Loans Measured at Amortized Cost, Continued

(2) Changes in loss allowance for loan for the years ended December 31, 2023 and 2022 are as follows:

	2023			
		Lifetime expected credit losses		
	12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩ 289,254	2,340,836	1,367,141	3,997,231
Transfer to 12-month expected credit loss	62,758	(49,164)	(13,594)	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired loans	(90,108)	106,404	(16,296)	-
Transfer to credit-impaired loans	(70,171)	(287,708)	357,879	-
Provision for (reversal of) loss allowance	388,223	(704,243)	(82,991)	(399,011)
Write-offs	-	-	(203,807)	(203,807)
Recovery	-	-	40,194	40,194
Sale	-	-	(188,127)	(188,127)
Debt-to-equity swap	-	-	(134,919)	(134,919)
Foreign currency translation	7,497	12,366	117	19,980
Other	387	4,606	(36,556)	(31,563)
Ending balance	₩ 587,840	1,423,097	1,089,041	3,099,978

	2022			
		Lifetime expected credit losses		
	12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩ 342,959	2,242,499	1,568,872	4,154,330
Transfer to 12-month expected credit loss	23,391	(12,442)	(10,949)	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired loans	(184,211)	206,209	(21,998)	-
Transfer to credit-impaired loans	(71,631)	(198,640)	270,271	-
Provision for (reversal of) loss allowance	177,224	95,349	137,877	410,450
Write-offs	-	-	(85,067)	(85,067)
Recovery	-	-	20,783	20,783
Sale	-	-	(148,285)	(148,285)
Debt-to-equity swap	-	-	(355,903)	(355,903)
Foreign currency translation	2,941	41,538	12,165	56,644
Other	(1,419)	(33,677)	(20,625)	(55,721)
Ending balance	₩ 289,254	2,340,836	1,367,141	3,997,231

9. Loans Measured at Amortized Cost, Continued

(3) Gains (losses) related to loans measured at amortized cost for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Provision for (reversal of) allowance for loan losses	₩	399,011	(410,450)
Gains on disposal of loan		11,341	27,820
	₩	410,352	(382,630)

(4) Changes in net deferred loan origination costs and fees for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Beginning balance	₩	21,224	16,425
New deferrals		19,969	18,817
Amortization		(15,703)	(14,018)
Ending balance	₩	25,490	21,224

10. Derivative Financial Instruments

The Bank's derivative financial instruments consist of trading derivatives and hedging derivatives, depending on the nature of each transaction. The Bank enters into hedging derivative transactions mainly for the purpose of hedging risk related to changes in fair values of the underlying assets and liabilities and future cash flows.

The Bank enters into trading derivative transactions such as futures, forwards, swaps and options for arbitrage transactions by speculating on the future value of the underlying asset. Derivatives held-for trading transactions include contracts with the Bank's clients and its liquidation position.

For the purpose of hedging the exposure to the variability of fair values and cash flows of funds in Korean won by changes in interest rate, the Bank mainly uses interest swaps or currency swaps. The main counterparties are foreign financial institutions and local banks. In addition, to hedge the exposure to the variability of fair values of bonds in foreign currencies by changes in interest rate or foreign exchange rate, the Bank mainly uses interest swaps or currency swaps.

The Bank applies net investment hedge accounting by designating non-derivative financial instruments as hedging instruments and any gain or loss on the hedging instruments relating to the effective portion of the hedge is recognised in other comprehensive income and accumulated in the foreign currency translation reserve.

Gains and losses on the hedging instrument accumulated in the foreign currency translation reserve are reclassified to profit or loss on the disposal or partial disposal of the foreign operation.

10. Derivative Financial Instruments, Continued

(1) The notional amounts outstanding for derivative contracts and the carrying amounts of the derivative financial instruments as of December 31, 2023 and 2022 are as follows:

	December 31, 2023			
	Notional amounts		Carrying amounts	
	Buy	Sell	Asset	Liability
Trading purpose derivative financial instruments:				
Interest rate				
Futures ₩	10,000	178,898	-	-
Forwards	150,000	960,000	19,805	61,903
Swaps	328,237,476	328,249,544	1,175,713	1,590,340
Options	7,060,912	14,242,205	363,225	477,698
	335,458,388	343,630,647	1,558,743	2,129,941
Currency				
Forwards	49,981,210	34,750,324	1,138,767	681,269
Swaps	56,661,776	71,544,517	4,134,336	4,148,686
Options	283,101	284,177	755	2,437
	106,926,087	106,579,018	5,273,858	4,832,392
Stock				
Options	3,041	334,536	278	128
Allowance and other adjustments	-	-	(11,855)	(1,075)
	442,387,516	450,544,201	6,821,024	6,961,386
Hedging purpose derivative financial instruments:				
Interest rate (*)				
Swaps	37,996,299	37,996,299	88,620	337,955
Currency				
Swaps	10,411,160	10,225,034	473,876	358,865
Allowance and other adjustments	-	-	(195)	(3,305)
	48,407,459	48,221,333	562,301	693,515
₩	490,794,975	498,765,534	7,383,325	7,654,901

(*) The expected maximum period for which derivative contracts, applied the cash flow hedge accounting, are exposed to risk of cash flow fluctuation is until April 29, 2025.

10. Derivative Financial Instruments, Continued

	December 31, 2022			
	Notional amounts		Carrying amounts	
	Buy	Sell	Asset	Liability
Trading purpose derivative financial instruments:				
Interest rate				
Futures ₩	-	1,232,323	-	-
Forwards	-	50,000	1,384	-
Swaps	294,150,122	294,150,122	1,573,784	2,088,963
Options	7,881,911	14,728,387	473,586	536,364
	302,032,033	310,160,832	2,048,754	2,625,327
Currency				
Forwards	50,944,418	37,554,484	2,432,523	1,307,942
Swaps	58,740,494	74,899,023	5,225,899	6,174,071
Options	330,066	329,052	1,991	6,452
	110,014,978	112,782,559	7,660,413	7,488,465
Stock				
Options	48,904	493,689	12,762	6,003
Allowance and other adjustments	-	-	(112,903)	(1,447)
	412,095,915	423,437,080	9,609,026	10,118,348
Hedging purpose derivative financial instruments:				
Interest rate (*)				
Swaps	31,141,774	31,141,774	48,881	542,268
Currency				
Swaps	10,217,257	10,417,222	136,596	660,189
Allowance and other adjustments	-	-	(48)	(3,803)
	41,359,031	41,558,996	185,429	1,198,654
₩	453,454,946	464,996,076	9,794,455	11,317,002

(*) The expected maximum period for which derivative contracts, applied the cash flow hedge accounting, are exposed to risk of cash flow fluctuation is until April 29, 2025.

(2) The notional amounts outstanding for the hedging instruments by period as of December 31, 2023 and 2022 are as follows:

	December 31, 2023					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Interest rate:						
Notional amounts outstanding ₩	894,844	1,337,050	4,089,937	24,151,788	7,522,680	37,996,299
Currency:						
Notional amounts outstanding ₩	701,180	622,774	1,970,389	5,721,728	1,395,089	10,411,160

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Interest rate:						
Notional amounts outstanding ₩	-	1,629,878	4,135,405	20,411,219	4,965,272	31,141,774
Currency:						
Notional amounts outstanding ₩	310,198	175,155	2,851,071	5,790,132	1,090,701	10,217,257

10. Derivative Financial Instruments, Continued

(3) Details of the balances of the hedging instruments by risk type as of December 31, 2023 and 2022 are as follows:

	December 31, 2023				
	Notional amounts		Balances		Changes in fair value for 2023
	Buy	Sell	Assets	Liabilities	
Cash flow hedge accounting:					
Interest rate risk:					
Swaps	₩ 90,258	90,258	-	-	(3,222)
Fair value hedge accounting:					
Interest rate risk:					
Swaps	37,906,041	37,906,041	88,620	337,955	684,976
Currency risk					
Swaps	10,411,160	10,225,034	473,876	358,865	428,419
	48,317,201	48,131,075	562,496	696,820	1,113,395
	₩ 48,407,459	48,221,333	562,496	696,820	1,110,173

	December 31, 2022				
	Notional amounts		Balances		Changes in fair value for 2022
	Buy	Sell	Assets	Liabilities	
Cash flow hedge accounting:					
Interest rate risk:					
Swaps	₩ 88,711	88,711	-	-	5,044
Fair value hedge accounting:					
Interest rate risk:					
Swaps	31,053,063	31,053,063	48,881	542,268	(1,570,665)
Currency risk					
Swaps	10,217,257	10,417,222	136,596	660,189	(610,843)
	41,270,320	41,470,285	185,477	1,202,457	(2,181,508)
	₩ 41,359,031	41,558,996	185,477	1,202,457	(2,176,464)

10. Derivative Financial Instruments, Continued

(4) Details of the balances of the hedged items by risk type as of December 31, 2023 and 2022 are as follows:

	December 31, 2023					
	Carrying amounts		Change in value of the hedged item		Changes in fair value for 2023	Cash flow hedge reserve
	Assets	Liabilities	Assets	Liabilities		
Cash flow hedge accounting:						
Interest rate risk:						
Debt debentures	₩ -	90,258	-	-	-	4,034
Fair value hedge accounting:						
Interest rate risk:						
Securities measured at FVOCI	5,423,921	-	129,096	-	89,803	-
Debt debentures	-	33,375,068	-	(1,094,649)	(769,319)	-
Other liabilities (Deposits, etc.)	-	110,422	-	(18,518)	(885)	-
	5,423,921	33,485,490	129,096	(1,113,167)	(680,401)	-
Currency risk:						
Debt debentures	-	10,206,197	-	300,053	(425,112)	-
	5,423,921	43,691,687	129,096	(813,114)	(1,105,513)	-
	₩ 5,423,921	43,781,945	129,096	(813,114)	(1,105,513)	4,034

	December 31, 2022					
	Carrying amounts		Change in value of the hedged item		Changes in fair value for 2022	Cash flow hedge reserve
	Assets	Liabilities	Assets	Liabilities		
Cash flow hedge accounting:						
Interest rate risk:						
Debt debentures	₩ -	88,711	-	-	-	7,240
Fair value hedge accounting:						
Interest rate risk:						
Securities measured at FVOCI	3,932,336	-	(314,591)	-	(313,189)	-
Debt debentures	-	25,497,582	-	(1,900,489)	1,890,055	-
Other liabilities (Deposits, etc.)	-	107,660	-	(19,070)	22,323	-
	3,932,336	25,605,242	(314,591)	(1,919,559)	1,599,189	-
Currency risk:						
Debt debentures	-	9,816,395	-	(89,179)	611,221	-
	3,932,336	35,421,637	(314,591)	(2,008,738)	2,210,410	-
	₩ 3,932,336	35,510,348	(314,591)	(2,008,738)	2,210,410	7,240

(5) Details of hedge ineffectiveness recognized in profit or loss from derivatives for the years ended December 31, 2023 and 2022 is as follows:

	2023	2022
Interest rate risk	₩ 4,575	28,524
Currency risk	3,307	378
	₩ 7,882	28,902

10. Derivative Financial Instruments, Continued

(6) The summary of the amounts that have affected the statement of comprehensive income as a result of applying cash flow hedge accounting for the years ended December 31, 2023 and 2022 is as follows:

		2023		
		Change in the value of the hedging instrument recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss (*)	Amount reclassified from other comprehensive income to profit or loss (*)
Interest rate risk	₩	(3,207)	(16)	-

(*) Recognized in gains or losses related to hedging purpose derivatives.

		2022		
		Change in the value of the hedging instrument recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss (*)	Amount reclassified from other comprehensive income to profit or loss (*)
Interest rate risk	₩	5,311	(267)	-

(*) Recognized in gains or losses related to hedging purpose derivatives.

(7) Details of net investments in foreign operations for the years ended December 31, 2023 and 2022 are as follows:

		2023	
		Changes in fair value	Other comprehensive income for hedges of net investments in foreign operations
Currency (foreign exchange risk)	₩	20,402	(117,276)

		2022	
		Changes in fair value	Other comprehensive income for hedges of net investments in foreign operations
Currency (foreign exchange risk)	₩	67,754	(96,874)

(8) Details of hedging instruments in hedge of net investments in foreign operations as of December 31, 2023 and 2022 are as follows:

		December 31, 2023			
		Carrying amount	Changes in fair value for 2023	Change in the value of the hedging instrument recognized in other comprehensive income for 2023	Hedge ineffectiveness recognized in profit or loss for 2023
Debentures in foreign currencies	₩	1,137,428	(20,402)	(20,402)	-

		December 31, 2022			
		Carrying amount	Changes in fair value for 2022	Change in the value of the hedging instrument recognized in other comprehensive income for 2022	Hedge ineffectiveness recognized in profit or loss for 2022
Debentures in foreign currencies	₩	1,097,225	(67,754)	(67,754)	-

11. Investments in Subsidiaries and Associates

(1) Investments in subsidiaries and associates as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Subsidiaries:			
KDB Asia Ltd.	₩	332,907	332,907
KDB Bank Europe Ltd. (*1)		126,602	125,452
KDB Ireland Ltd.		62,389	62,389
KDB Bank Uzbekistan Ltd.		47,937	47,937
Banco KDB Do Brazil S.A. (*2)		51,275	39,761
PT KDB Tifa Finance Tbk		85,288	85,288
KDB Silicon Valley LLC		118,615	118,615
KDB OCCASIO II, L.P.		138,850	22,096
KDB Synergy, L.P.		19,872	19,872
KDB Investment Co., Ltd.		70,000	70,000
KDB Biz Co., Ltd.		1,500	1,500
KDB Capital Corporation		597,290	597,290
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*3)		-	1,129,769
Korea BTL Financing 1		115,086	129,136
Korea Railroad Financing 1		72,907	78,715
Korea Education Financing		35,744	40,697
KDB Infrastructure Investment Asset Management Co., Ltd.		16,843	16,843
KDB Consus Value PEF (*4)		177,353	170,462
KDB-IAP OBOR PEF (*5)		-	-
Green Initiative 2nd Private Equity Fund		135,687	72,987
KDBC Co-investment Private Equity Fund		26,751	12,627
KDB Asia PEF		88,066	84,112
KDB Small Medium Mezzanine PEF		33,350	44,350
Corporate Liquidity Assistance Agency Co., Ltd.		1,000,000	1,000,000
		3,354,312	4,302,805
Associates:			
Korea Electric Power Co., Ltd.		16,921,067	16,921,067
Korea Tourism Organization		337,286	337,286
Korea Infrastructure Fund II		212,515	212,808
Korea Ocean Business Corporation		631,777	631,777
Korea Real Estate Board		58,492	58,492
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*3)		1,496,741	-
HMM Co., Ltd. (*6)		-	1,974,499
GM Korea Company (*7)		455,904	376,454
HANJIN KAL (*8)		500,000	352,761
Korean Air Lines Co., Ltd.		330,477	330,477
Others (*9)		2,571,997	2,493,905
		23,516,256	23,689,526
	₩	26,870,568	27,992,331

11. Investments in Subsidiaries and Associates, Continued

(*1) The Bank recognized reversal of impairment losses amounting to ₩1,150 million and impairment losses amounting to ₩11,999 million for the years ended December 31, 2023 and 2022, respectively, due to an increase in value in use resulting from the enhancement of expected cash flows from the shares held by the Bank.

(*2) The Bank recognized reversal of impairment losses amounting to ₩11,513 million and ₩3,527 million for the years ended December 31, 2023 and 2022, respectively, due to an increase in value in use resulting from the enhancement of expected cash flows from the shares held by the Bank.

(*3) Daewoo Shipbuilding & Marine Engineering Co., Ltd. changed its name to Hanwha Ocean Co., Ltd. as Hanwha Group acquired the status of a majority shareholder through a third-party allotment capital increase on May 24, 2023. The Bank changed the classification from a subsidiary to an associate due to the decrease in shareholding and recognized a reversal of impairment loss of ₩366,972 million for the years ended December 31, 2023, due to the increase in the recoverable value of the shares held by the Bank. Additionally, the Bank recognized an impairment loss amounting to ₩241,283 million for the year ended December 31, 2022.

(*4) The Bank recognized a impairment losses amounting to ₩93,109 million due to an increase in value in use resulting from the enhancement of expected cash flows from the shares held by the Bank for the year ended December 31, 2023. However, the Bank recognized a reversal of impairment losses amounting to ₩13,047 million for the year ended December 31, 2022.

(*5) The decrease in the net asset value due to the decrease in the fair value of assets held prior to the previous year was considered as objective evidence of impairment and an impairment loss was recognized, resulting in a carrying value of "0".

(*6) The Bank selected the Pan Ocean-JKL consortium as the preferred bidder on December 18, 2023 for the shares of HMM Co., Ltd. for the year ended December 31, 2023. The Bank recognized reversal of impairment losses amounting to ₩51,097 million for the year ended December 31, 2023 and impairment losses amounting to ₩762,335 million for the year ended December 31, 2022, due to an increase in the recoverable value resulting from an increase in fair value of the shares before classification as assets held for sale. Meanwhile, to reflect the sale situation, an impairment loss of ₩294,153 million was recognized after being classified as assets held for sale.

(*7) The Bank recognized a reversal of impairment loss amounting to ₩79,450 million for the year ended December 31, 2023 due to the increase in value in use based on the operating cash flow. Additionally, the Bank recognized an impairment loss amounting to ₩6,281 million for the year ended December 31, 2022.

(*8) The Bank recognized a reversal of impairment loss amounting to ₩147,239million for the year ended December 31, 2023 due to an increase in the recoverable value resulting from an increase in fair value of the shares. Additionally, the Bank recognized an impairment loss amounting to ₩147,239 million for the year ended December 31, 2022.

(*9) The Bank recognized a reversal of impairment losses amounting to ₩1,763 million for AJU PRIVATE EQUITY FUND NO.2 and 13 other companies for the year ended December 31, 2023. The Bank recognized ₩ 16,082 million of impairment losses for AJU PRIVATE EQUITY FUND NO.2 and 14 other companies for the year ended December 31, 2022.

11. Investments in Subsidiaries and Associates, Continued

(2) The market value of marketable investments in subsidiaries and associates as of December 31, 2023 and 2022 are as follows:

	Market value		Carrying amounts	
	December 31, 2023	December 31, 2022	December 31, 2023	December 31, 2022
Korea Electric Power Co., Ltd.	₩ 3,992,346	4,604,929	16,921,067	16,921,067
HMM Co., Ltd.	3,939,482	1,978,446	3,228,444	1,974,499
HANJIN KAL	514,124	264,477	500,000	352,761
Korean Air Lines Co., Ltd.	292,534	280,906	330,477	330,477
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.)	1,499,429	1,132,039	1,496,741	1,129,769

11. Investments in Subsidiaries and Associates, Continued

(3) The key financial information of subsidiaries and associates invested and ownership ratios as of December 31, 2023 and 2022 are as follows:

	December 31, 2023									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Net income (loss)	Total comprehensive income (loss)	Ownership (%)
Subsidiaries:										
KDB Asia (HK) Ltd.	Hong Kong	December	Finance	₩ 4,011,578	3,299,643	711,935	322,406	62,770	80,327	100.00
KDB Bank Europe Ltd.	Hungary	December	Finance	1,379,518	1,238,011	141,507	137,648	8,454	30,487	100.00
KDB Ireland Ltd.	Ireland	December	Finance	1,182,367	1,042,978	139,389	85,944	10,194	15,241	100.00
KDB Bank Uzbekistan Ltd.	Uzbekistan	December	Finance	888,598	751,243	137,355	83,945	47,004	33,272	86.32
Banco KDB Do Brazil S.A.	Brazil	December	Finance	637,659	517,549	120,110	131,662	14,396	25,061	100.00
PT KDB Tifa Finance Tbk	Indonesia	December	Finance	150,511	54,424	96,087	14,843	4,480	7,332	84.65
KDB Silicon Valley LLC	USA	December	Finance	132,634	1,839	130,795	8,254	3,574	5,711	100.00
KDB OCCASIO II, L.P.	Cayman Islands	December	Finance	155,351	90	155,261	18,225	15,257	14,228	90.00
KDB Synergy, L.P.	Cayman Islands	December	Finance	21,185	20	21,165	2,809	1,194	1,521	100.00
KDB Capital Corporation	Korea	December	Specialized Credit Finance	9,776,950	8,227,089	1,549,861	744,953	207,287	205,033	99.92
Korea BTL Financing 1 (*2)	Korea	Semi-annually	Financial investment	279,733	192	279,541	15,888	(4,753)	(4,753)	41.67
Korea Railroad Financing 1 (*2)	Korea	Semi-annually	Financial investment	150,436	11	150,425	9,840	9,446	9,446	50.00
Korea Education Financing (*2)	Korea	Semi-annually	Financial investment	72,755	8	72,747	3,390	(10,097)	(10,097)	50.00
KDB Infrastructure Investment Asset Management Co., Ltd.	Korea	December	Asset management	73,868	10,563	63,305	40,431	19,402	19,202	84.16
KDB Investment Co., Ltd.	Korea	December	Finance	131,258	1,366	129,892	10,104	3,118	3,153	100.00
KDB Biz Co., Ltd.	Korea	December	Services	7,200	3,594	3,606	27,528	678	(55)	100.00
KDB Consus Value PEF	Korea	December	Financial investment	17,496,596	17,116,238	380,358	1,491,269	11,790	1,614,265	70.56
KDB-IAP OBOR PEF (*3)	Korea	December	Financial investment	59,864	67,299	(7,435)	-	(6,285)	(6,229)	33.52
KDB Asia PEF (*3)	Korea	December	Financial investment	217,186	182	217,004	1	(241)	14,879	50.00
KDB Small Medium Mezzanine PEF	Korea	December	Financial investment	86,610	94	86,516	4,203	972	972	66.67
Green Initiative 2nd Private Equity Fund	Korea	December	Financial investment	822,461	378,517	443,944	18,478	(7,613)	(8,251)	38.00
KDBC Co-investment Private Equity Fund	Korea	December	Financial investment	40,232	80	40,152	2,737	2,479	2,479	70.00
Corporate Liquidity Assistance Agency Co., Ltd.	Korea	December	Financial investment	1,672,215	604,360	1,067,855	61,571	2,893	2,893	100.00

11. Investments in Subsidiaries and Associates, Continued

	December 31, 2023									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Net income (loss)	Total comprehensive income (loss)	Ownership (%)
Associates:										
Korea Electric Power Co., Ltd.	Korea	December	Electricity generation	239,714,965	202,450,215	37,264,750	88,219,461	(4,822,549)	(5,032,584)	32.90
Korea Tourism Organization	Korea	December	Culture and tourism administration	1,213,223	398,563	814,660	868,365	6,129	(8,016)	43.58
Korea Infrastructure Fund II	Korea	December	Financial investment	892,813	88,389	804,424	105,605	98,850	98,850	26.67
Korea Ocean Business Corporation	Korea	December	Finance	12,445,716	4,765,386	7,680,330	382,768	(579,708)	(371,921)	20.80
Korea Real Estate Board	Korea	December	Appraisal	297,439	52,429	245,010	226,450	17,028	11,072	30.60
GM Korea Company (*4)	Korea	December	Manufacturing	8,040,972	4,673,023	3,367,949	13,829,398	1,642,204	1,642,204	17.02
HMM Co., Ltd.	Korea	December	Foreign cargo transportation	25,713,363	4,272,550	21,440,813	8,400,969	968,560	1,323,878	29.20
HANJIN KAL (*4)	Korea	December	Holding company	3,784,922	931,046	2,853,876	275,727	385,139	301,583	10.58
Korean Air Lines Co., Ltd. (*4)	Korea	December	Air passenger transportation	30,391,776	20,576,568	9,815,208	16,111,796	1,061,165	814,521	3.32
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*4)	Korea	December	Manufacturing	13,944,773	9,632,616	4,312,157	7,408,312	159,886	(10,004)	19.50

11. Investments in Subsidiaries and Associates, Continued

	December 31, 2022									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Net income (loss)	Total comprehensive income (loss)	Ownership (%)
Subsidiaries:										
KDB Asia (HK) Ltd.	Hong Kong	December	Finance	₩ 3,660,944	3,029,336	631,608	218,171	53,881	75,373	100.00
KDB Bank Europe Ltd.	Hungary	December	Finance	1,197,124	1,082,057	115,067	101,071	7,415	(4,360)	100.00
KDB Ireland Ltd.	Ireland	December	Finance	985,414	861,265	124,149	54,874	7,036	11,258	100.00
KDB Bank Uzbekistan Ltd.	Uzbekistan	December	Finance	981,301	874,872	106,429	55,269	25,765	23,614	86.32
Banco KDB Do Brazil S.A.	Brazil	December	Finance	481,207	386,159	95,048	84,252	27,132	33,709	100.00
PT KDB Tifa Finance Tbk	Indonesia	December	Finance	130,098	41,343	88,755	13,738	5,284	2,639	84.65
KDB Silicon Valley LLC	USA	December	Finance	126,606	1,522	125,084	2,237	(1,055)	7,105	100.00
KDB OCCASIO II, L.P.	Cayman Islands	December	Finance	60,554	49,495	11,059	20	(16,446)	(15,908)	90.00
KDB Synergy, L.P.	Cayman Islands	December	Finance	19,643	-	19,643	-	(596)	(328)	100.00
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	Korea	December	Manufacturing	12,235,665	11,490,693	744,972	5,805,906	(1,744,778)	(1,472,612)	55.68
Sam Woo Heavy Industries Co., Ltd. (*1)	Korea	December	Manufacturing	268,614	264,893	3,721	121,249	(10,237)	(9,681)	100.00
KDB Capital Corporation	Korea	December	Specialized Credit Finance	8,792,535	7,427,546	1,364,989	542,270	135,968	136,090	99.92
Korea BTL Financing 1 (*2)	Korea	Semi-annually	Financial investment	329,286	215	329,071	14,607	11,773	11,773	41.67
Korea Railroad Financing 1 (*2)	Korea	Semi-annually	Financial investment	158,318	9	158,309	7,492	(3,569)	(3,569)	50.00
Korea Education Financing (*2)	Korea	Semi-annually	Financial investment	95,445	7	95,438	9,675	9,442	9,442	50.00
KDB Infrastructure Investment Asset Management Co., Ltd.	Korea	December	Asset management	70,706	10,403	60,303	39,151	19,057	19,104	84.16
KDB Investment Co., Ltd.	Korea	December	Finance	152,004	19,866	132,138	84,468	54,032	54,034	100.00
KDB Biz Co., Ltd.	Korea	December	Services	6,899	3,238	3,661	26,291	325	624	100.00
KDB Consus Value PEF	Korea	December	Financial investment	17,076,144	16,636,604	439,540	1,433,059	(27,789)	5,005	68.20
KDB-IAP OBOR PEF (*3)	Korea	December	Financial investment	58,878	60,084	(1,206)	-	(1,024)	(1,017)	33.52
KDB Asia PEF (*3)	Korea	December	Financial investment	194,389	172	194,217	1	(494)	20,532	50.00
KDB Small Medium Mezzanine PEF	Korea	December	Financial investment	96,666	122	96,544	4,620	3,432	3,432	66.67
Green Initiative 2nd Private Equity Fund	Korea	December	Financial investment	190,404	5,316	185,088	2	(5,795)	(5,795)	38.00
KDBC Co-investment Private Equity Fund	Korea	December	Financial investment	17,522	27	17,495	-	(544)	(544)	70.00
Corporate Liquidity Assistance Agency Co., Ltd.	Korea	December	Financial investment	3,280,515	2,215,553	1,064,962	90,631	32,625	32,625	100.00

11. Investments in Subsidiaries and Associates, Continued

	December 31, 2022									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Net income (loss)	Total comprehensive income (loss)	Ownership (%)
Associates:										
Korea Electric Power Co., Ltd.	Korea	December	Electricity generation	234,804,994	192,804,738	42,000,256	71,257,863	(24,429,108)	(23,182,239)	32.90
Korea Tourism Organization	Korea	December	Culture and tourism administration	1,201,900	393,608	808,292	737,973	(28,798)	(8,610)	43.58
Korea Infrastructure Fund II	Korea	December	Financial investment	829,121	65,397	763,724	62,465	19,105	19,105	26.67
Korea Ocean Business Corporation	Korea	December	Finance	11,782,946	4,393,822	7,389,124	324,012	(1,986,514)	(1,915,571)	21.78
Korea Real Estate Board	Korea	December	Appraisal	288,236	49,791	238,445	215,197	11,583	19,805	30.60
GM Korea Company (*4)	Korea	December	Manufacturing	5,916,955	4,503,620	1,413,335	9,013,561	282,760	282,760	17.02
HMM Co., Ltd.	Korea	December	Foreign cargo transportation	25,973,455	5,285,543	20,687,912	18,582,770	10,085,271	10,655,184	20.69
HANJIN KAL (*4)	Korea	December	Holding company	3,915,078	1,339,021	2,576,057	200,336	659,568	851,925	10.58
Korean Air Lines Co., Ltd. (*4)	Korea	December	Air passenger transportation	28,997,701	19,705,241	9,292,460	14,096,095	1,728,363	2,268,959	3.32

(*1) The Bank consolidates the investee which was a subsidiary of Daewoo Shipbuilding & Marine Engineering Co., Ltd. as the Bank has had control over the investee through the commencement of the administrative proceeding since the past. The investee was excluded from the Bank's subsidiaries for the year ended December 31, 2023 due to the sale of shareholding.

(*2) The investees are financed by the Bank and managed by KDB Infrastructure Investments Asset Management Co., Ltd. They were included in the scope of consolidation even though the Bank holds less than half of the voting rights because the Bank is exposed to variable returns and has the ability to affect those returns through its power over the investee.

(*3) Although the Bank's shareholding in the investee is less than 50%, it controls the investee since it is exposed, or has right to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

(*4) Although the Bank's shareholding is less than 20%, the Bank has significant influence considering the right to elect the investees' directors and the Bank classifies the companies as associates.

12. Property and Equipment

Changes in property and equipment for the years ended December 31, 2023 and 2022 are as follows:

	2023					
	January 1, 2023	Acquisition/ depreciation	Disposal	Reclassifi-cation	Foreign exchange differences	December 31, 2023
Acquisition cost:						
Land	₩ 301,959	-	(35)	5,557	-	307,481
Buildings and structures	627,664	1,811	(1,977)	7,556	-	635,054
Leasehold improvements	44,856	1,390	(1,821)	1,439	139	46,003
Vehicles	719	-	(141)	-	7	585
Equipment	60,156	3,525	(1,033)	-	82	62,730
Construction in progress	-	7,389	-	(5,572)	-	1,817
Right-of-use assets (Real estate)	126,035	35,211	(40,134)	-	978	122,090
Right-of-use assets (Vehicles)	7,977	4,908	(1,652)	-	12	11,245
Right-of-use assets (Others)	93	11	(14)	-	3	93
Others	157,730	12,977	(625)	-	91	170,173
	1,327,189	67,222	(47,432)	8,980	1,312	1,357,271
Accumulated depreciation:						
Buildings and structures (*)	233,783	18,032	(780)	3,362	(39)	254,358
Leasehold improvements	36,391	2,945	(1,821)	-	5	37,520
Vehicles	628	57	(141)	-	-	544
Equipment	47,728	4,518	(976)	-	51	51,321
Right-of-use assets (Real estate)	45,968	33,895	(28,366)	-	(431)	51,066
Right-of-use assets (Vehicles)	4,154	2,800	(1,645)	-	(32)	5,277
Right-of-use assets (Others)	9	41	(14)	-	1	37
Others	140,971	9,219	(584)	-	74	149,680
	509,632	71,507	(34,327)	3,362	(371)	549,803
Accumulated impairment losses:						
Land	3,023	-	-	-	-	3,023
Buildings and structures	2,361	-	-	-	-	2,361
	5,384	-	-	-	-	5,384
	₩ 812,173	(4,285)	(13,105)	5,618	1,683	802,084

(*) The amounts include government grants.

12. Property and Equipment, Continued

	2022					
	January 1, 2022	Acquisition/ depreciation	Disposal	Reclassifi-cation	Foreign exchange differences	December 31, 2022
Acquisition cost:						
Land	₩ 302,959	-	(585)	(415)	-	301,959
Buildings and structures	628,393	1,062	(1,979)	188	-	627,664
Leasehold improvements	40,637	4,005	(930)	1,366	(222)	44,856
Vehicles	769	-	(78)	-	28	719
Equipment	59,812	2,980	(2,696)	-	60	60,156
Construction in progress	34	2,546	-	(2,580)	-	-
Right-of-use assets (Real estate)	162,089	59,073	(98,426)	-	3,299	126,035
Right-of-use assets (Vehicles)	7,447	2,928	(2,422)	-	24	7,977
Right-of-use assets (Others)	29	98	(31)	-	(3)	93
Others	154,052	4,175	(559)	-	62	157,730
	1,356,221	76,867	(107,706)	(1,441)	3,248	1,327,189
Accumulated depreciation:						
Buildings and structures (*)	217,027	17,260	-	(504)	-	233,783
Leasehold improvements	34,621	3,068	(780)	-	(518)	36,391
Vehicles	616	72	(78)	-	18	628
Equipment	45,395	4,507	(2,258)	-	84	47,728
Right-of-use assets (Real estate)	48,501	31,274	(34,909)	-	1,102	45,968
Right-of-use assets (Vehicles)	4,279	2,287	(2,434)	-	22	4,154
Right-of-use assets (Others)	29	11	(31)	-	-	9
Others	128,212	13,105	(451)	-	105	140,971
	478,680	71,584	(40,941)	(504)	813	509,632
Accumulated impairment losses:						
Land	3,023	-	-	-	-	3,023
Buildings and structures	2,361	-	-	-	-	2,361
	5,384	-	-	-	-	5,384
	₩ 872,157	5,283	(66,765)	(937)	2,435	812,173

(*) The amounts include government grants.

13. Investment Property

Changes in investment property for the years ended December 31, 2023 and 2022 are as follows:

	2023			
	January 1, 2023	Acquisition/ depreciation	Reclassification	December 31, 2023
Acquisition cost:				
Land	₩ 61,008	-	(5,558)	55,450
Buildings and structures	59,414	-	(3,422)	55,992
	120,422	-	(8,980)	111,442
Accumulated depreciation:				
Buildings and structures	35,734	2,273	(3,362)	34,645
Accumulated impairment losses:				
Land	1,197	-	-	1,197
Buildings and structures	1,778	-	-	1,778
	2,975	-	-	2,975
	₩ 81,713	(2,273)	(5,618)	73,822

	2022			
	January 1, 2022	Acquisition/ depreciation	Reclassification	December 31, 2022
Acquisition cost:				
Land	₩ 60,593	-	415	61,008
Buildings and structures	58,388	-	1,026	59,414
	118,981	-	1,441	120,422
Accumulated depreciation:				
Buildings and structures	33,146	2,084	504	35,734
Accumulated impairment losses:				
Land	1,197	-	-	1,197
Buildings and structures	1,778	-	-	1,778
	2,975	-	-	2,975
	₩ 82,860	(2,084)	937	81,713

The fair value of the Bank's investment property, as determined based on valuation by an independent appraiser, amounts to ₩92,553 million and ₩99,084 million as of December 31, 2023 and 2022, respectively. Additionally, fair value of investment in property is classified as level 3 according to the fair value hierarchy in Note 45.

14. Intangible Assets

Changes in intangible assets for the years ended December 31, 2023 and 2022 are as follows:

	2023					
	January 1, 2023	Acquisition	Disposal	Amortization	Foreign exchange differences	December 31, 2023
Development expense	₩ 87,593	14,575	-	(46,135)	(126)	55,907
Equipment usage right	452	363	-	(50)	(356)	409
Other deposits provided	11,789	-	(267)	-	20	11,542
Others	18,655	7,435	-	(8,858)	371	17,603
	₩ 118,489	22,373	(267)	(55,043)	(91)	85,461

	2022					
	January 1, 2022	Acquisition	Disposal	Amortization	Foreign exchange differences	December 31, 2022
Development expense	₩ 119,775	12,163	-	(44,363)	18	87,593
Equipment usage right	472	-	-	(49)	29	452
Other deposits provided	11,922	920	(1,523)	-	470	11,789
Others	15,530	12,910	-	(9,850)	65	18,655
	₩ 147,699	25,993	(1,523)	(54,262)	582	118,489

15. Other Assets

Other assets as of December 31, 2023 and 2022 are as follows:

	December 31, 2023	December 31, 2022
Accounts receivable	₩ 6,676,728	2,747,057
Unsettled domestic exchange receivables	1,938,307	3,747,333
Accrued income	1,200,380	914,618
Guarantee deposits	343,333	315,563
Financial guarantee asset	48,182	25,826
Prepaid expenses	19,000	18,374
Advance payments	8,555	9,036
Others	21,330	12,102
	10,255,815	7,789,909
Allowance for credit losses	(76,445)	(75,323)
Present value discount	(3,587)	(3,369)
	₩ 10,175,783	7,711,217

The carrying amounts of financial assets included in other assets above amounted to ₩10,136,642 million and ₩7,676,612 million as of December 31, 2023 and 2022, respectively, and their fair value amounted to ₩10,133,962million and ₩7,674,324 million as of December 31, 2023 and 2022, respectively.

16. Assets Held for Sale

Assets held for sale as of December 31, 2023 are as follows:

	December 31, 2023			
	Acquisition cost	Fair value less costs to sell	Carrying amount	Impairment loss
Assets held for sale:				
Investments in associates (*)	₩ 4,233,835	3,239,309	3,239,309	2,322

(*) The Bank selected the Pan Ocean-JKL consortium as the preferred bidder on December 18, 2023 for the shares of HMM Co., Ltd., an associate company, and the shares of HMM Co., Ltd. were classified as assets held for sale. Meanwhile, negotiations regarding the sale of shares with the Pan Ocean-JKL consortium broke down on February 7, 2024.

17. Financial Liabilities Measured at FVTPL

(1) Financial liabilities measured at fair value through profit or loss as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Debentures	₩	1,515,655	1,131,310
Deposits		404,406	338,414
	₩	1,920,061	1,469,724

Changes in fair value of structured debentures and deposits to which hedge accounting is applied, are recognized in profit or loss, but structured debentures not subject to hedge accounting applied to, are measured at amortized costs. Therefore, such structured debentures and deposits, not subject to hedge accounting, have been designated at FVTPL to eliminate mismatch in measurements of accounting profit and loss.

(2) The difference between the carrying amount and contractual cash flow amount of financial liabilities measured at fair value through profit or loss as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Carrying amount	₩	1,920,061	1,469,724
Contractual cash flow amounts		2,380,244	2,101,133
Difference	₩	(460,183)	(631,409)

18. Deposits

Deposits as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		December 31, 2022	
	Amortized cost	Fair value	Amortized cost	Fair value
Deposits in Korean won:				
Demand deposits	₩ 155,186	155,186	123,617	123,617
Time and savings deposits	51,011,074	51,054,680	54,389,265	54,328,886
Certificates of deposit	74,363	74,080	757,471	758,937
	51,240,623	51,283,946	55,270,353	55,211,440
Deposits in foreign currencies:				
Demand deposits	836,797	836,658	1,312,008	1,312,057
Time and savings deposits	6,049,678	6,045,288	3,955,130	3,949,240
Certificates of deposit	6,866,270	6,880,941	6,187,960	6,195,534
	13,752,745	13,762,887	11,455,098	11,456,831
Off-shore deposits in foreign currencies:				
Demand deposits	904,364	904,364	835,904	835,904
Certificates of deposit	-	-	765,301	765,794
	904,364	904,364	1,601,205	1,601,698
	₩ 65,897,732	65,951,197	68,326,656	68,269,969

19. Borrowings

(1) Borrowings as of December 31, 2023 and 2022 are as follows:

	December 31, 2023			
	Minimum interest rate (%)	Maximum interest rate (%)	Amortized cost	Fair value
Borrowings in Korean won	0.10	3.41	₩ 4,787,182	4,726,465
Borrowings in foreign currencies	0.14	7.38	16,655,307	16,584,979
Off-shore borrowings in foreign currencies	2.42	6.18	4,011,646	3,985,025
Others	-	6.02	2,298,142	2,293,650
			27,752,277	27,590,119
Deferred borrowing costs			(6,648)	
			₩ 27,745,629	

	December 31, 2022			
	Minimum interest rate (%)	Maximum interest rate (%)	Amortized cost	Fair value
Borrowings in Korean won	-	3.23	₩ 4,551,011	4,507,549
Borrowings in foreign currencies	0.06	6.57	14,220,220	14,148,918
Off-shore borrowings in foreign currencies	0.16	5.16	5,205,830	5,157,170
Others	0.05	3.25	1,452,656	1,453,711
			25,429,717	25,267,348
Deferred borrowing costs			(473)	
			₩ 25,429,244	

19. Borrowings, Continued

(2) Borrowings in Korean won before adjusting for gains and losses on deferred borrowing costs as of December 31, 2023 and 2022 are as follows:

Lender	Classification	Annual interest rate (%)		December 31, 2023	December 31, 2022
Ministry of Economy and Finance	Borrowings from government fund (*)	3.23 ~ 3.31	₩	77,629	93,155
Korea SMEs and Startups Agency	Borrowings from small and medium enterprise promotion fund	1.26 ~ 2.40		59,171	57,569
Ministry of Culture, Sports and Tourism	Borrowings from tourism promotion fund	1.48 ~ 2.73		3,080,914	3,182,920
Korea Energy Agency	Borrowings from fund for rational use of energy	1.00 ~ 1.75		256,472	268,659
Local governments	Borrowings from local small and medium enterprise promotion fund	0.50 ~ 3.41		22,620	27,167
The Bank of Korea	Borrowings from Bank of Korea	-		418,866	375,350
Others	Borrowings from petroleum enterprise fund and others	0.10 ~ 3.05		871,510	546,191
			₩	4,787,182	4,551,011

(*) Borrowings from government fund are subordinated borrowings.

19. Borrowings, Continued

(3) Borrowings and off-shore borrowings in foreign currencies before adjusting for gains and losses on deferred borrowing costs as of December 31, 2023 and 2022 are as follows:

Lender	Classification	Annual interest rate (%)		December 31, 2023	December 31, 2022
Mizuho and others	Bank loans from foreign funds	4.21 ~ 6.24	₩	2,076,759	1,394,030
The Export-Import Bank of Korea	Exchange equalization fund borrowings in foreign currencies	6.30 ~ 6.43		23,931	120,761
Central Bank of the Republic Uzbekistan and others	Off-shore short term borrowings	5.05 ~ 5.80		2,185,972	3,682,012
China Development Bank and others	Off-shore long term borrowings	2.42 ~ 6.18		1,825,674	1,523,818
Others	Short-term borrowings in foreign currencies	0.14 ~ 7.24		13,730,337	12,150,612
	Long term borrowings in foreign currencies	0.41 ~ 7.38		824,280	554,817
			₩	20,666,953	19,426,050

20. Debentures

Debentures as of December 31, 2023 and 2022 are as follows:

	December 31, 2023			
	Minimum interest rate (%)	Maximum interest rate (%)	Amortized cost	Fair value
Debentures in Korean won:				
Debentures	0.96	6.60	₩ 115,066,663	114,805,330
Discount on debentures			(147,257)	
Valuation adjustment for fair value hedges			(226,273)	
			114,693,133	
Debentures in foreign currencies:				
Debentures	0.40	10.87	23,278,766	23,733,405
Discount on debentures			(36,276)	
Premium on debentures			47	
Valuation adjustment for fair value hedges			(561,938)	
			22,680,599	
Off-shore debentures:				
Debentures	-	11.15	19,628,771	19,359,808
Discount on debentures			(62,251)	
Valuation adjustment for fair value hedges			(6,385)	
			19,560,135	
			₩ 156,933,867	157,898,543

	December 31, 2022			
	Minimum interest rate (%)	Maximum interest rate (%)	Amortized cost	Fair value
Debentures in Korean won:				
Debentures	0.88	6.60	₩ 121,351,724	118,883,372
Discount on debentures			(334,416)	
Valuation adjustment for fair value hedges			(419,107)	
			120,598,201	
Debentures in foreign currencies:				
Debentures	0.05	10.87	20,910,800	21,072,312
Discount on debentures			(37,691)	
Premium on debentures			91	
Valuation adjustment for fair value hedges			(1,000,475)	
			19,872,725	
Off-shore debentures:				
Debentures	-	11.15	18,859,840	18,272,508
Discount on debentures			(48,784)	
Valuation adjustment for fair value hedges			(570,086)	
			18,240,970	
			₩ 158,711,896	158,228,192

21. Defined Benefit Liabilities (Assets)

The Bank implements a defined benefit retirement pension plan based on employee compensation benefits and service periods. The plan assets are in trusts with Kookmin Bank, Samsung Life Insurance Co., Ltd., etc.

(1) Details of defined benefit liabilities (assets) as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Present value of defined benefit liabilities	₩	389,839	354,703
Fair value of plan assets		(458,759)	(442,473)
	₩	(68,920)	(87,770)

(2) Changes in defined benefit liabilities (assets) for the years ended December 31, 2023 and 2022 are as follows:

		2023		
		Present value of defined benefit obligation	Fair value of plan assets	Defined benefit liabilities (assets)
Beginning balance	₩	354,703	(442,473)	(87,770)
Current service costs		26,974	-	26,974
Interest expense (income)		18,219	(23,149)	(4,930)
Remeasurements of defined benefit liabilities:				
Demographic assumption		62	-	62
Financial assumption		25,482	2,713	28,195
Experience adjustment		(6,136)	-	(6,136)
		19,408	2,713	22,121
Payments from the plan		(29,465)	4,150	(25,315)
Ending balance	₩	389,839	(458,759)	(68,920)

		2022		
		Present value of defined benefit obligation	Fair value of plan assets	Defined benefit liabilities (assets)
Beginning balance	₩	391,015	(400,368)	(9,353)
Current service costs		35,998	-	35,998
Interest expense (income)		11,796	(12,065)	(269)
Past service costs		34,363	-	34,363
Remeasurements of defined benefit liabilities:				
Demographic assumption		6,171	-	6,171
Financial assumption		(83,170)	7,484	(75,686)
Experience adjustment		(1,802)	-	(1,802)
		(78,801)	7,484	(71,317)
Payments from the plan		(39,657)	(37,524)	(77,181)
Contributions to the plan		(11)	-	(11)
Ending balance	₩	354,703	(442,473)	(87,770)

21. Defined Benefit Liabilities (Assets), Continued

(3) Fair value of plan assets for each type as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		December 31, 2022	
	Quoted market prices	Unquoted market prices	Quoted market prices	Unquoted market Prices
Due from banks	₩ -	458,759	-	442,473

(4) Defined benefit costs recognized in profit or loss for the years ended December 31, 2023 and 2022 are as follows:

	2023	2022
Current service costs	₩ 26,974	35,998
Interest expense, net	(4,930)	(269)
Past service costs	-	34,363
	₩ 22,044	70,092

(5) The principal actuarial assumptions used as of December 31, 2023 and 2022 are as follows:

	December 31, 2023	December 31, 2022
Discount rate (%)	4.58 ~ 4.60	5.35
Future salary increasing rate (%)	5.50	5.50

(6) The present value sensitivity of defined benefit obligation as changes in principal actuarial assumptions as of December 31, 2023 is as follows:

	Sensitivity	
	1% increase in assumption	1% decrease in assumption
Discount rate	8.36% decrease	9.70% increase
Future salary increasing rate	9.52% increase	8.37% decrease

(7) The weighted average duration of defined benefit obligation is 9.64 years and 9.24 years as of December 31, 2023 and 2022, respectively. The contributions to the plans for the next reporting period as of December 31, 2023 is expected to be ₩ 28,083 million.

22. Provisions

(1) Details of provisions as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Provision for unused commitments	₩	398,641	431,390
Provision for financial guarantee		50,763	42,741
Provision for payment guarantees		592,098	953,425
Provision for possible losses from lawsuits		168	239
Provision for restoration		13,722	14,206
Other provision		3,391	6,029
	₩	1,058,783	1,448,030

(2) Changes in provision for unused commitments for the years ended December 31, 2023 and 2022 are as follows:

		2023			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	121,771	300,309	9,310	431,390
Transfer to 12-month expected credit loss		1,277	(985)	(292)	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(242,717)	249,928	(7,211)	-
Transfer to credit-impaired exposures		(8,993)	(1,957)	10,950	-
Provision for (reversal of) unused commitments		241,633	(275,209)	(1,346)	(34,922)
Foreign currency translation		1,306	866	1	2,173
Ending balance	₩	114,277	272,952	11,412	398,641

		2022			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	332,151	327,085	7,865	667,101
Transfer to 12-month expected credit loss		45,756	(45,756)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(18,733)	20,346	(1,613)	-
Transfer to credit-impaired exposures		(1,210)	(4,344)	5,554	-
Provision for (reversal of) unused commitments		(252,773)	(1,357)	(2,690)	(256,820)
Foreign currency translation		16,580	4,335	194	21,109
Ending balance	₩	121,771	300,309	9,310	431,390

22. Provisions, Continued

(3) Changes of financial guarantee provision for the years ended December 31, 2023 and 2022 are as follows:

	2023			
		Lifetime expected credit losses		
	12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩ 661	36,682	5,398	42,741
Transfer to 12-month expected credit loss	412	(343)	(69)	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired exposures	(42)	71	(29)	-
Transfer to credit-impaired exposures	-	(3,190)	3,190	-
Provision for (reversal of) financial guarantee	2,091	9,020	(3,089)	8,022
Ending balance	₩ 3,122	42,240	5,401	50,763

	2022			
		Lifetime expected credit losses		
	12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩ 2,721	31,427	38,272	72,420
Transfer to 12-month expected credit loss	-	-	-	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired exposures	(282)	1,494	(1,212)	-
Transfer to credit-impaired exposures	(97)	(243)	340	-
Provision for (reversal of) financial guarantee	(1,681)	4,004	(32,002)	(29,679)
Ending balance	₩ 661	36,682	5,398	42,741

22. Provisions, Continued

(4) Changes in provision for payment guarantees for the years ended December 31, 2023 and 2022 are as follows:

	2023			
		Lifetime expected credit losses		
	12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩ 64,150	537,255	352,020	953,425
Transfer to 12-month expected credit loss	10,730	(9)	(10,721)	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired exposures	(12,582)	65,431	(52,849)	-
Transfer to credit-impaired exposures	(23,162)	-	23,162	-
Provision for (reversal of) payment guarantees	170,444	(306,822)	(243,459)	(379,837)
Foreign currency translation	20,856	21,283	(23,629)	18,510
Ending balance	₩ 230,436	317,138	44,524	592,098

	2022			
		Lifetime expected credit losses		
	12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩ 179,232	199,694	378,695	757,621
Transfer to 12-month expected credit loss	9,036	(190)	(8,846)	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired exposures	(129,944)	131,290	(1,346)	-
Transfer to credit-impaired exposures	(164)	(2,667)	2,831	-
Provision for (reversal of) payment guarantees	2,486	175,279	(40,776)	136,989
Foreign currency translation	3,504	33,849	21,462	58,815
Ending balance	₩ 64,150	537,255	352,020	953,425

(5) Changes of lawsuit provision and other provision for the years ended December 31, 2023 and 2022 are as follows:

	2023		
	Lawsuit provision	Provision for restoration	Other provision
Beginning balance	₩ 239	14,206	6,029
Increase (reversal) of provision	(4)	(493)	-
Provision used and others	(67)	9	(2,638)
Ending balance	₩ 168	13,722	3,391

	2022		
	Lawsuit provision	Provision for restoration	Other provision
Beginning balance	₩ 1,731	14,620	54,037
Increase (reversal) of provision	(1,492)	(2,008)	-
Provision used and others	-	1,594	(48,008)
Ending balance	₩ 239	14,206	6,029

22. Provisions, Continued

(6) Provision for payment guarantees and financial guarantee provision

Confirmed acceptances and guarantees, unconfirmed acceptances and guarantees and bills endorsed are not recognized on the statement of financial position, but are disclosed as off-statement of financial position items in the notes to the financial statements. The Bank provides a provision for such off-statement of financial position items, applying a Credit Conversion Factor ("CCF") and provision rates under the Bank's expected credit loss model, and records the provision as a reserve for expected credit losses on acceptances and guarantees.

In the case of financial guarantee contracts, when the amount calculated using the same method as above is greater than the initial amount less amortization of fees recognized, the difference is recorded as a financial guarantee provision.

(7) Provision for unused commitments

The Bank records a provision for a certain portion of unused credit lines which is calculated using a CCF as provision for unused commitments applying provision rates under the Bank's expected credit loss model.

(8) Provision for possible losses from lawsuits

As of December 31, 2023, the Bank is involved in 6 lawsuits as a plaintiff and 18 lawsuits as a defendant. The aggregate amounts of claims as a plaintiff and a defendant amounted to ₩136,817 million and ₩217,693 million, respectively. The Bank provided a provision against contingent loss from pending lawsuits as of December 31, 2023 and additional losses may be incurred depending on the result of pending lawsuits.

Major lawsuits in progress as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		
	Contents	Amounts	Status of lawsuit
Plaintiff:			
Korea Trade Insurance Corporation and one other	Claim for guarantee insurance	₩ 136,538	1st, 2nd trial ruled against the Bank; 3rd trial in progress
Defendant:			
Shinhan Bank and Woori Bank	Claim for damages	76,838	1st trial ruled in favor of the Bank
131 individuals including Mr. Kang	Claim for wage	35,459	1st, 2nd trial ruled in favor of the Bank
Dongbu Corporation	Claim for nullity of table of rehabilitation creditor	33,997	1st trial ruled in favor of the Bank; 2nd trial ruled against the Bank; 3rd trial in progress
Dongbu Corporation	Claim for objection of request (participation to support)	19,658	1st trial in progress
Woori Bank	Claim for profit and loss settlement	14,500	1st, 2nd trial ruled against the Bank; 3rd trial in progress
Korea Trade Insurance Corporation	Claim for recovery	11,870	1st trial in progress
One individual	Claim for cancellation of pledge	8,610	1st trial in progress

22. Provisions, Continued

	December 31, 2022		
	Contents	Amounts	Status of lawsuit
Plaintiff:			
Korea Trade Insurance Corporation and one other	Claim for guarantee insurance	₩ 136,538	1st, 2nd trial ruled against the Bank; 3rd trial in progress
KAMCO 1st JV Securitization Specialty Co., Ltd.	Transfer of claim	8,792	1st, 2nd trial ruled partially in favor of the Bank; 3rd trial in progress
Hana Bank and 6 others	Claim for undue benefit	1,647	1st trial ruled against the Bank, 2nd trial in progress
e-RAP KOREA Co., Ltd. and one other	Claim for loans (participate in succession)	1,238	1st trial in progress
Defendant:			
Shinhan Bank and one other	Claim for damages	58,474	1st trial in progress
169 individuals including Mr. Kim	Claim for wage	36,573	1st trial ruled in favor of the Bank, 2nd trial in progress
Dongbu Corporation	Claim for nullity of table of rehabilitation creditor	33,997	1st trial ruled in favor of the Bank; 2nd trial ruled against the Bank; 3rd trial in progress
Woori Bank	Claim for profit and loss settlement	21,246	1st, 2nd trial ruled against the Bank
Dongbu Corporation	Claim for objection of request (participation to support)	19,658	1st trial in progress
Export-Import Bank of Korea	Claim for undue benefit	9,797	1st trial ruled in favor of the Bank, 2nd trial in progress
KAMCO 1st JV Securitization Specialty Co., Ltd.	Claim for transaction amount (counterclaim)	7,000	1st, 2nd trial ruled partially in favor of the Bank; 3rd trial in progress

(9) Other provision

The Bank recognised other provision as a reserve for other miscellaneous purpose.

23. Other Liabilities

(1) Other liabilities as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Accounts payable	₩	6,627,972	2,740,749
Lease liabilities		97,231	167,070
Accrued expense		2,515,484	1,863,498
Advance receipts		32	-
Unearned income		91,617	115,598
Deposits withholding tax		52,038	43,823
Guarantee money received		718,975	832,614
Foreign exchanges payable		19,088	40,557
Domestic exchanges payable		533,833	242,266
Borrowing from trust accounts		1,037,094	755,127
Financial guarantee liability		50,388	28,886
Others		381,831	254,627
		12,125,583	7,084,815
Present value discount		(25,158)	(91,134)
	₩	12,100,425	6,993,681

The carrying amount of financial liabilities included in other liabilities above amounted to ₩11,823,274 million and ₩6,717,731 million as of December 31, 2023 and 2022, respectively, and their fair value amounted to ₩11,800,828 million and ₩6,704,736 million as of December 31, 2023 and 2022, respectively.

(2) Details of lease liabilities as of December 31, 2023 and 2022 are as follows:

		December 31, 2023		
		Face value	Discount	Carrying amounts
Real estate	₩	90,518	(22,984)	67,534
Vehicles		6,657	462	7,119
Others		56	(2)	54
	₩	97,231	(22,524)	74,707

		December 31, 2022		
		Face value	Discount	Carrying amounts
Real estate	₩	162,676	(89,084)	73,592
Vehicles		4,321	(411)	3,910
Others		73	(3)	70
	₩	167,070	(89,498)	77,572

(3) The amount related to lease recognized in profit or loss for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Depreciation of right-of-use assets	₩		
Real estate		33,895	31,274
Vehicles		2,800	2,287
Others		41	11
		36,736	33,572
Interest expenses on the lease liabilities		2,772	1,561
Expense relating to leases of low-value assets		8,801	8,427
	₩	48,309	43,560

23. Other Liabilities, Continued

(4) Cash flows used in lease liabilities for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Decrease in lease liabilities	₩	24,477	27,893
Lease payments relating to leases of low-value assets		8,801	8,427
	₩	33,278	36,320

(5) Maturity analysis of undiscounted lease payments relating to lease liabilities as of December 31, 2023 and 2022 are as follows:

		December 31, 2023				
		Within 3 months	3 months ~ 1 year	1 year ~ 5 years	Over 5 years	Total
Lease payments	₩	10,111	24,687	49,975	12,458	97,231

		December 31, 2022				
		Within 3 months	3 months ~ 1 year	1 year ~ 5 years	Over 5 years	Total
Lease payments	₩	12,931	36,044	103,576	14,519	167,070

24. Equity

(1) Issued capital

The Bank is authorized to issue up to 6,000 million shares of common stock and has 4,785,311,768 shares issued and 4,630,311,768 shares issued as of December 31, 2023 and 2022, respectively, and outstanding with a total par value (₩5,000 of par value per share) of ₩23,926,559 million and ₩23,151,559 million as of December 31, 2023 and 2022, respectively.

(2) Capital surplus

Capital surplus as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Paid-in capital in excess of par value	₩	33,847	40,442
Surplus from capital reduction (*1)		44,373	44,373
Other capital surplus (*2)		2,390,495	2,390,495
	₩	2,468,715	2,475,310

(*1) The Bank reduced ₩5,178,600 million of its issued capital in 1998 and 2000 to offset its accumulated deficit amounting to ₩5,134,227 million. As the result of the capital reduction, ₩44,373 million of surplus exceeding accumulated deficit was recorded in capital surplus in equity.

(*2) The difference in the amount of shares issued and the carrying value of net asset acquired occurring from the merger of the Bank with KDB Financial Group Inc. and Korea Finance Corporation are recognized as other capital surplus.

24. Equity, Continued

(3) Accumulated other comprehensive income

(i) Accumulated other comprehensive income as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Net gain on securities measured at FVOCI			
Valuation gain on securities measured at FVOCI (before tax)	₩	2,528,823	3,393,442
Loss allowance for securities measured at FVOCI (before tax)		90,422	86,178
Income tax effect		(691,480)	(922,099)
		1,927,765	2,557,521
Exchange differences on translation of foreign operations:			
Exchange differences on translation of foreign operations (before tax)		152,225	132,126
Income tax effect		-	-
		152,225	132,126
Valuation gain on cash flow hedge:			
Valuation gain on cash flow hedge (before tax)		4,034	7,241
Income tax effect		(1,065)	(1,919)
		2,969	5,322
Net gain (loss) on hedges of net investments in foreign operations:			
Net gain (loss) on hedges of net investments in foreign operations (before tax)		(117,276)	(96,874)
Income tax effect		30,961	25,672
		(86,315)	(71,202)
Remeasurements of defined benefit liabilities:			
Remeasurements of defined benefit liabilities (before tax)		120,558	142,678
Income tax effect		(31,826)	(37,808)
		88,732	104,870
Fair value changes on financial liabilities designated at fair value due to credit risk:			
Valuation gain (loss) on financial liabilities designated at fair value due to credit risk (before tax)		99,153	123,398
Income tax effect		(26,178)	(32,702)
		72,975	90,696
	₩	2,158,351	2,819,333

24. Equity, Continued

(ii) Changes in accumulated other comprehensive income for the years ended December 31, 2023 and 2022 are as follows:

	2023			
	January 1, 2023	Increase (Decrease)	Tax Effect	December 31, 2023
Gain (loss) on securities measured at FVOCI	₩ 2,557,521	(860,375)	230,619	1,927,765
Exchange differences on translation of foreign operations	132,126	20,099	-	152,225
Valuation gain (loss) on cash flow hedge	5,322	(3,207)	854	2,969
Net gain (loss) on hedges of net investments in foreign operations	(71,202)	(20,402)	5,289	(86,315)
Remeasurements of defined benefit liabilities	104,870	(22,120)	5,982	88,732
Valuation gain (loss) on financial liabilities designated at fair value due to credit risk	90,696	(24,245)	6,524	72,975
	₩ 2,819,333	(910,250)	249,268	2,158,351

	2022			
	January 1, 2022	Increase (Decrease)	Tax Effect	December 31, 2022
Gain (loss) on securities measured at FVOCI	₩ 4,701,972	(3,005,858)	861,407	2,557,521
Exchange differences on translation of foreign operations	39,000	93,126	-	132,126
Valuation gain (loss) on cash flow hedge	1,399	5,311	(1,388)	5,322
Net gain (loss) on hedges of net investments in foreign operations	(21,112)	(67,754)	17,664	(71,202)
Remeasurements of defined benefit liabilities	51,739	71,316	(18,185)	104,870
Valuation gain (loss) on financial liabilities designated at fair value due to credit risk	476	122,741	(32,521)	90,696
	₩ 4,773,474	(2,781,118)	826,977	2,819,333

24. Equity, Continued

(4) Retained earnings

In accordance with the *Korea Development Bank Act,* the Bank is required to appropriate at least 40% of net income as a legal reserve. This reserve can be transferred to paid-in capital or offset an accumulated deficit.

In accordance with the *Korea Development Bank Act*, the Bank offsets an accumulated deficit with reserves. If the reserve is insufficient to offset the accumulated deficit, the Korean government is responsible for the deficit.

(i) Retained earnings as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Legal reserve	₩	2,721,885	2,535,892
Voluntary reserve			
Regulatory reserve for loan losses		211,996	247,253
Unappropriated retained earnings		7,424,886	4,439,026
	₩	10,358,767	7,222,171

(ii) Changes in legal reserve for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Beginning balance	₩	2,535,892	1,551,154
Transfer from retained earnings		185,993	984,738
Ending balance	₩	2,721,885	2,535,892

(iii) Changes in unappropriated retained earnings for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Beginning balance	₩	4,439,027	5,329,775
Contribution to legal reserve		(185,993)	(984,738)
Transfer from regulatory reserve for credit losses		35,256	235,633
Dividends		(164,743)	(833,089)
Reclassification of gain or loss on equity securities measured at FVOCI		792,412	226,465
Profit for the year		2,508,927	464,981
Ending balance	₩	7,424,886	4,439,027

24. Equity, Continued

(iv) Statements of appropriation of retained earnings for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
I. Unappropriated retained earnings:			
Unappropriated retained earning carried forward from the prior year	₩	4,123,547	3,747,581
Gain on disposal of securities measured at FVOCI		792,412	226,465
Profit for the year		2,508,927	464,981
		7,424,886	4,439,027
II. Transfers such as discretionary reserves			
Transfer from to regulatory reserve for credit losses		134,415	35,256
		134,415	35,256
III. Appropriation of retained earnings:			
Contribution to legal reserve		1,003,571	185,993
Dividends (₩184 for 2023 and ₩36 for 2022 per share)		878,124	164,743
		1,881,695	350,736
IV. Unappropriated retained earnings to be carried over to subsequent year	₩	5,677,606	4,123,547

24. Equity, Continued

(5) Regulatory reserve for credit losses

The Bank is required to provide a regulatory reserve for credit losses in accordance with *Regulations on Supervision of Banking Business 29(1) and (2)*. The details of regulatory reserve for credit losses are as follows:

(i) Regulatory reserve for credit losses as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Beginning balance	₩	211,996	247,253
Planned reversal of reserve for credit losses		(134,415)	(35,257)
Ending balance	₩	77,581	211,996

(ii) Required reversal of regulatory reserve for credit losses and profit after adjusting regulatory reserve for loan losses for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Profit for the year	₩	2,508,927	464,981
Obligated amount of reversal of regulatory reserve for credit losses		134,415	35,257
Profit after adjusting regulatory reserve for credit losses	₩	2,643,342	500,238
Earnings per share after adjusting regulatory reserve for credit losses (in won)	₩	560	112

25. Net Interest Income

Net interest income for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Interest income:			
Due from banks	₩	399,442	133,499
Securities measured at FVTPL		57,273	23,681
Securities measured at FVOCI		821,316	559,328
Loans measured at amortized cost		245,955	87,840
Loans measured at FVTPL		12,326	12,402
Loans measured at amortized cost		9,952,712	6,029,985
		11,489,024	6,846,735
Interest expense:			
Financial liabilities measured at FVTPL		(86,275)	(82,977)
Deposits		(2,371,427)	(1,162,006)
Borrowings		(1,443,925)	(554,587)
Debentures		(6,025,878)	(3,303,350)
		(9,927,505)	(5,102,920)
	₩	1,561,519	1,743,815

26. Net Fees and Commission Income

Net fees and commission income for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Fees and commission income:			
Loan commissions	₩	157,190	141,401
Underwriting and investment consulting commissions		96,350	123,490
Brokerage and agency commissions		8,297	7,059
Trust and retirement pension plan commissions		39,059	34,240
Fees on asset management		1,857	2,049
Other fees		145,774	183,709
		448,527	491,948
Fees and commission expenses:			
Brokerage and agency fees		(11,338)	(9,093)
Other fees		(27,353)	(28,946)
		(38,691)	(38,039)
	₩	409,836	453,909

27. Dividend Income

Dividend income for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Securities measured at FVTPL	₩	204,838	297,652
Securities measured at FVOCI		121,754	171,706
Investments in subsidiaries and associates		441,778	388,144
	₩	768,370	857,502

28. Net Gain (Loss) on Securities Measured at FVTPL

Net gain (loss) related to securities measured at FVTPL for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Gains on securities measured at FVTPL:			
Gains on sale	₩	144,875	190,140
Gains on valuation		632,028	289,190
		776,903	479,330
Losses on securities measured at FVTPL:			
Losses on sale		(92,147)	(176,304)
Losses on valuation		(165,930)	(342,125)
Purchase related expense		(18)	(324)
		(258,095)	(518,753)
	₩	518,808	(39,423)

29. Net Gain (Loss) on Financial Liabilities Measured at FVTPL

Net gain (loss) related to financial liabilities measured at fair value through profit or loss for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Gains on financial liabilities measured at FVTPL:			
Gains on redemption	₩	-	5,438
Gains on valuation		7,049	459,661
		7,049	465,099
Losses on financial liabilities measured at FVTPL:			
Losses on redemption		(697)	-
Losses on valuation		(154,456)	-
		(155,153)	-
	₩	(148,104)	465,099

30. Net Loss on Securities Measured at FVOCI

Net loss related to securities measured at FVOCI for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Gains on securities measured at FVOCI:			
Gains on sale	₩	4,717	6,486
Reversal of impairment losses		631	2,432
		5,348	8,918
Losses on securities measured at FVOCI:			
Losses on sale		(9,870)	(64,798)
Impairment losses		(4,898)	(1,314)
		(14,768)	(66,112)
	₩	(9,420)	(57,194)

31. Net Gain on Derivatives

Net gain on derivatives for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Net gain on trading purpose derivatives:			
Gains on trading purpose derivatives:			
Interest	₩	4,693,102	5,165,418
Currency		12,626,046	17,393,137
Stock		30,210	7,216
Gains on adjustment of derivatives		50,960	17,241
		17,400,318	22,583,012
Losses on trading purpose derivatives:			
Interest		(4,626,262)	(4,580,277)
Currency		(12,594,489)	(17,170,546)
Stock		(1,262)	(16,401)
Losses on adjustment of derivatives		(1,977)	(49,297)
		(17,223,990)	(21,816,521)
		176,328	766,491
Net gain (loss) on hedging purpose derivatives:			
Gains on hedging purpose derivatives:			
Interest		891,895	350,465
Currency		754,498	262,364
Gains on adjustment of derivatives		28	309
		1,646,421	613,138
Losses on hedging purpose derivatives:			
Interest		(137,354)	(1,971,755)
Currency		(255,026)	(814,174)
Losses on adjustment of derivatives		(653)	(448)
		(393,033)	(2,786,377)
		1,253,388	(2,173,239)
Net gain (loss) on fair value hedged items:			
Gains on fair value hedged items:			
Gains on valuation		140,424	2,264,372
Gains on redemption		199,661	101,186
		340,085	2,365,558
Losses on fair value hedged items:			
Losses on valuation		(1,365,202)	(441,181)
Losses on redemption		(403,309)	(396,190)
		(1,768,511)	(837,371)
		(1,428,426)	1,528,187
	W	1,290	121,439

Related with cash flow hedge, the Bank recognized ₩16 million of loss and ₩267 million of loss in the statements of comprehensive income as the ineffective portion for the years ended December 31, 2023 and 2022, respectively.

32. Net Foreign Currency Transaction Gain (Loss)

Net foreign currency transaction gain (loss) for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Net loss on foreign exchange transactions:			
Gains on foreign exchange transactions	₩	923,756	1,044,586
Losses on foreign exchange transactions		(940,205)	(1,056,155)
		(16,449)	(11,569)
Net gain (loss) on foreign currency translations:			
Gains on foreign currency translations		8,793,292	14,184,182
Losses on foreign currency translations		(8,474,478)	(14,473,503)
		318,814	(289,321)
	₩	302,365	(300,890)

33. Other Operating Income (Expense), net

Other operating income (expense) for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Other operating income:			
Gains on sale of loans	₩	28,597	36,930
Gains on disposal of loans measured at FVTPL		8,254	8,100
Gains on valuation of loans measured at FVTPL		7,381	9,294
Gains on disposal of investments in subsidiaries and associates		-	9,823
Reversal of provisions		634	47,622
Others		38,856	21,026
		83,722	132,795
Other operating expenses:			
Losses on sale of loans		(17,256)	(9,110)
Losses on disposal of loans measured at FVTPL		(5,332)	(8,709)
Losses on valuation of loans measured at FVTPL		(16,294)	(88,248)
Losses on disposal of investments in subsidiaries and associates		(366)	(4,399)
Increase in provisions		(137)	(159)
Insurance expenses		(100,830)	(91,363)
Credit guarantee fund salary		(216,076)	(201,730)
Educational taxes		(54,588)	(38,695)
Foreign security contributions		(17,587)	(11,256)
Others		(41,718)	(28,953)
		(470,184)	(482,622)
	₩	(386,462)	(349,827)

34. Provision for (Reversal of) Credit Losses

Provision for (reversal of) credit losses for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Provision for (reversal of) loan loss allowance	₩	(399,011)	410,450
Provision for (reversal of) other assets		3,104	(579)
Provision for (reversal of) payment guarantees		(379,837)	136,989
Reversal of unused commitments		(34,922)	(256,820)
Provision for (reversal of) financial guarantee provision		8,022	(29,679)
	₩	(802,644)	260,361

35. General and Administrative Expenses

General and administrative expenses for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Payroll costs:			
Short-term employee benefits	₩	393,016	392,968
Defined benefit costs		22,044	70,092
Defined contribution costs		7,509	9,081
		422,569	472,141
Depreciation and amortization:			
Depreciation of property and equipment		71,507	71,584
Amortization of intangible assets		55,043	54,262
		126,550	125,846
Other:			
Employee welfare benefits		35,343	38,684
Rent expenses		6,586	5,783
Taxes and dues		38,170	39,686
Advertising expenses		18,377	17,762
Electronic data processing expenses		90,068	86,406
Fees and charges		41,000	39,410
Others		45,328	50,653
		274,872	278,384
	₩	823,991	876,371

36. Other Non-Operating Income and Expense

Other non-operating income and expense for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Other non-operating income:			
Gain on disposal of property and equipment	₩	5,291	1,912
Gain on disposal of intangible assets		2	3
Rental income on investment property		3,122	3,138
Others		8,109	8,853
		16,524	13,906
Other non-operating expense:			
Impairment loss on assets held for sale		(294,153)	-
Losses on disposal of property and equipment		(6,373)	(1,172)
Loss on disposal of intangible assets		-	(5)
Depreciation of investment property		(2,273)	(2,084)
Donations		(8,574)	(5,578)
Others		(2,883)	(1,489)
		(314,256)	(10,328)
	₩	(297,732)	3,578

37. Income Tax Expense

(1) Income tax expense for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Current income tax (*)	₩	494,903	35,069
Changes in income tax before the prior years		(34,323)	(156,122)
Changes in deferred income taxes on temporary differences		170,515	(335,728)
Effect of unused tax loss		156,618	(156,618)
Deferred income tax recognized directly to equity			
Other comprehensive income		249,268	826,977
Retained earnings		(284,235)	(85,900)
Income tax expense	₩	752,746	127,678

(*) Includes changes such as those that arise from final tax returns.

(2) Profit before income taxes and income tax expense for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Profit before income taxes	₩	3,261,673	592,659
Income taxes calculated using enacted tax rates		861,082	162,981
Adjustments:			
Non-deductible losses and tax-free gains		(22,887)	(25,196)
Non-recognition effect of deferred income taxes and others		(148,375)	108,071
Net adjustments for prior years		10,698	(38,944)
Tax rate reduction effects		-	(94,731)
Others		52,228	15,497
		(108,336)	(35,303)
Income tax expense	₩	752,746	127,678
Effective tax rate (%)		23.08	21.54

37. Income Tax Expense, Continued

(3) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2023 and 2022 are as follows:

	2023				
	January 1, 2023 (*)	Decrease	Increase	December 31, 2023	Deferred tax assets (liabilities)
Derivatives	₩ 1,015,549	1,015,549	(293,338)	(293,338)	(77,441)
Investments in subsidiaries and associates	(8,028,677)	4,173	(285,369)	(8,318,219)	(2,779,072)
Losses on fair value hedged items valuation	(1,797,984)	(1,797,984)	(721,347)	(721,347)	(190,436)
Losses on foreign exchange translation for hedged liabilities	(132,878)	(132,878)	(365,725)	(365,725)	(96,551)
Impairment losses on debt securities	65,933	-	-	65,933	17,406
Impairment losses on equity securities	11,935	50	80	11,965	3,159
Defined benefit obligation	332,684	29,150	65,951	369,485	97,544
Plan assets	(405,768)	(29,150)	(13,222)	(389,840)	(102,918)
Financial assets held for trading	(61,685)	(10,644)	(151,849)	(202,890)	(53,563)
Available-for-sale financial assets	(146,364)	51	-	(146,415)	164
Write-off	1,616,032	29,179	110,585	1,697,438	448,124
Provisions	995,687	1,502,388	1,005,186	498,485	131,600
Property impairment losses	6,111	173	-	5,938	1,568
Dividends Receivable	17,397	-	77	17,474	4,613
Loan origination fees	(21,697)	(21,697)	(32,138)	(32,138)	(8,484)
Gains on sales of loans	(2,541,608)	(13,623)	-	(2,527,985)	(667,388)
Others	(1,235,725)	876,497	331,742	(1,780,480)	(520,634)
	(10,311,058)	1,451,234	(349,367)	(12,111,659)	(3,792,309)
Temporary differences from unrecognized deferred tax assets and liabilities:					
Investments in subsidiaries and associates, etc.	2,512,727	(259,579)		2,253,148	-
	₩ (12,823,785)			(14,364,807)	(3,792,309)
Unused tax loss	₩ 591,011	591,011	-	-	-

(*) Temporary differences as of January 1, 2023 reflected previous year's additional tax adjustment after the financial statements were issued.

37. Income Tax Expense, Continued

	2022				
	January 1, 2022 (*)	Decrease	Increase	December 31, 2022	Deferred tax assets (liabilities)
Derivatives	₩ (484,588)	(484,588)	1,198,740	1,198,740	317,666
Investments in subsidiaries and associates	(9,363,282)	(164,416)	1,168,617	(8,030,249)	(2,863,687)
Gains (losses) on fair value hedged items valuation	123,404	123,404	(1,797,984)	(1,797,984)	(476,466)
Losses on foreign exchange translation for hedged liabilities	(162,252)	(162,252)	(132,878)	(132,878)	(35,213)
Impairment losses on debt securities	65,933	-	-	65,933	17,472
Impairment losses on equity securities	55,831	43,931	-	11,900	3,154
Defined benefit obligation	367,092	35,937	-	331,155	87,756
Plan assets	(366,341)	(27,677)	(65,574)	(404,238)	(107,123)
Financial assets held for trading	(50,634)	407	(10,644)	(61,685)	(16,347)
Available-for-sale financial assets	(146,364)	-	-	(146,364)	178
Write-off	3,461,549	2,208,028	24,555	1,278,076	332,973
Provisions	1,067,718	1,574,419	1,494,405	987,704	261,742
Property impairment losses	6,284	173	-	6,111	1,619
Dividends Receivable	13,609	-	-	13,609	3,606
Loan origination fees	(16,573)	(16,573)	(21,697)	(21,697)	(5,750)
Gains on sales of loans	(2,396,048)	(4,542)	(150,102)	(2,541,608)	(673,526)
Others	(674,045)	2,043,140	1,106,100	(1,611,085)	(469,850)
	(8,498,707)	5,169,391	2,813,538	(10,854,560)	(3,621,794)
Temporary differences from unrecognized deferred tax assets and liabilities:					
Investments in subsidiaries and associates, etc.	2,512,727	299,860		2,812,587	-
	₩ (11,011,434)			(13,667,147)	(3,621,794)
Unused tax loss	₩ -	-	591,011	591,011	156,618

(*) Temporary differences as of January 1, 2022 reflected previous year's additional tax adjustment after the financial statements were issued.

37. Income Tax Expense, Continued

(4) Changes in income tax expense recognized directly to equity for the years ended December 31, 2023 and 2022 are as follows:

	2023				
	December 31, 2023		January 1, 2023		
	Amounts before tax	Tax effect	Amounts before tax	Tax effect	Changes in tax effect
Net gain on securities measured at FVOCI	₩ 1,927,765	(691,480)	2,557,521	(922,099)	230,619
Exchange differences on translation of foreign operations	152,225	-	132,126	-	-
Net gain on valuation of cash flow hedge	2,969	(1,065)	5,322	(1,919)	854
Net gain (loss) on hedges of net investments in foreign operations	(86,315)	30,961	(71,202)	25,672	5,289
Remeasurements of defined benefit liabilities	88,732	(31,826)	104,870	(37,808)	5,982
Fair value changes on financial liabilities designated at fair value due to credit risk	72,975	(26,178)	90,696	(32,702)	6,524
	₩ 2,158,351	(719,588)	2,819,333	(968,856)	249,268

Income tax benefit recognized direct to retained earnings amounting to ₩284,235 million is the tax effect of realized income amounting to ₩1,076,647 million from disposal of equity securities measured at FVOCI.

	2022				
	December 31, 2022		January 1, 2022		
	Amounts before tax	Tax effect	Amounts before tax	Tax effect	Changes in tax effect
Net gain on securities measured at FVOCI	₩ 2,557,521	(922,099)	4,701,972	(1,783,506)	861,407
Exchange differences on translation of foreign operations	132,126	-	39,000	-	-
Net gain on valuation of cash flow hedge	5,322	(1,919)	1,399	(531)	(1,388)
Net loss on hedges of net investments in foreign operations	(71,202)	25,672	(21,112)	8,008	17,664
Remeasurements of defined benefit liabilities	104,870	(37,808)	51,739	(19,623)	(18,185)
Fair value changes on financial liabilities designated at fair value due to credit risk	90,696	(32,702)	476	(181)	(32,521)
	₩ 2,819,333	(968,856)	4,773,474	(1,795,833)	826,977

Income tax benefit recognized direct to retained earnings amounting to ₩85,900 million is the tax effect of realized income amounting to ₩312,365 million from disposal of equity securities measured at FVOCI.

38. Earnings per Share

(1) Basic earnings per share

The Bank's basic earnings per share for the years ended December 31, 2023 and 2022 are computed as follows:

(i) Basic earnings per share

		2023	2022
Profit attributable to ordinary shareholders of the Bank (A) (in won)	₩	2,508,927,404,481	464,981,486,967
Weighted-average number of ordinary shares outstanding (B)		4,720,569,302	4,477,598,343
Basic earnings per share (A/B) (in won)	₩	531	104

(ii) Weighted-average number of ordinary shares outstanding

	2023		
	Number of ordinary shares	Days	Cumulative shares
Number of ordinary shares outstanding at the beginning of the year (A)	4,630,311,768	365	1,690,063,795,320
Increased paid-in capital (B)	87,000,000	276	24,012,000,000
Increased paid-in capital (C)	24,000,000	220	5,280,000,000
Increased paid-in capital (D)	44,000,000	83	3,652,000,000
Cumulative shares (E = A+B+C+D)			1,723,007,795,320
Weighted-average number of ordinary shares outstanding (E/365)			4,720,569,302

	2022		
	Number of ordinary shares	Days	Cumulative shares
Number of ordinary shares outstanding at the beginning of the year (A)	4,377,311,768	365	1,597,718,795,320
Increased paid-in capital (B)	78,400,000	318	24,931,200,000
Increased paid-in capital (C)	61,600,000	184	11,334,400,000
Increased paid-in capital (D)	113,000,000	3	339,000,000
Cumulative shares (E = A+B+C+D)			1,634,323,395,320
Weighted-average number of ordinary shares outstanding (E/365)			4,477,598,343

(2) Diluted earnings per share

Diluted and basic earnings per share for the years ended December 31, 2023 and 2022 are equal because there is no potential dilutive instrument.

39. Pledged Assets

Assets pledged by the Bank as collateral as of December 31, 2023 and 2022 are as follows:

		December 31, 2023		December 31, 2022	
		Pledged assets	Related liabilities	Pledged assets	Related liabilities
Securities measured at FVOCI (*)	₩	3,264,199	448,961	3,721,125	432,969
Securities measured at amortized cost (*)		15,413,180		3,196,592	
	₩	18,677,379	448,961	6,917,717	432,969

(*) Pledged as collateral related to bonds sold under repurchase agreements and borrowings.

40. Guarantees and Commitments

Guarantees and commitments as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Confirmed acceptances and guarantees:			
Acceptances in foreign currency	₩	179,849	220,420
Guarantees for bond issuance		2,347,527	1,860,754
Guarantees for loans		537,699	560,129
Letter of guarantee		35,858	64,924
Guarantees for on-lending debt		2,821	4,877
Others		7,700,977	6,219,285
		10,804,731	8,930,389
Unconfirmed acceptances and guarantees:			
Letter of credit		2,219,357	1,940,855
Others		5,340,302	5,836,016
		7,559,659	7,776,871
Commitments:			
Commitments on loans		54,816,638	47,205,974
Others		2,046,383	2,020,595
		56,863,021	49,226,569
	₩	75,227,411	65,933,829

41. Trust Accounts

(1) Trust accounts as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Accrued trust fee	₩	16,123	10,052
Borrowings from trust accounts		881,342	583,034
Accrued interest on deposits		2,257	511

(2) Transactions with trust accounts for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Fees on trust accounts	₩	35,770	31,223
Interest expenses of borrowings from trust accounts		54,577	17,585

(3) The carrying amounts of principals guaranteed money trust and principals and interest guaranteed money trust as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Principals guaranteed money trust	₩	219,950	224,876
Principals and interest guaranteed money trust		219,081	229,324
	₩	439,031	454,200
Principal of money and property trust	₩	400,818	421,623
Accrued trust profit		38,213	32,577

42. Related Party Transactions

(1) The Bank's related parties as of December 31, 2023 are as follows:

Classification	Corporate name
Subsidiaries	KDB Capital Corporation, KDB Infrastructure Investment Asset Management Co., Ltd., KDB Asia Ltd., KDB Ireland Ltd., KDB Bank Europe Ltd., Banco KDB Do Brazil S.A., KDB Bank Uzbekistan, PT KDB Tifa Finance Tbk and 6 others, KDB Investment PEF No. 2, KDB Consus Value PEF, KDB Small Medium Mezzanine PEF and 7 others, Principals guaranteed trust accounts of KDB, Principals and interests guaranteed interest trust accounts of KDB, KDB ESG 1ST INC. and 14 others, KIAMCO Road Investment Private Fund Special Asset Trust 2 and 17 others
Associates	Korea Electric Power Co., Ltd., Korea Tourism Organization, Korea Real Estate Board, GM Korea Company, HMM Co., Ltd., HANJIN KAL, Korean Air Lines Co., Ltd., Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.), Korea Ocean Business Corporation and 13 others, Keistone Value Investment 2nd Private Equity Fund and 97 others, Hana K-New Deal Unicorn Fund and 114 others
Others	Key management personnel

(2) Significant balances with related parties as of December 31, 2023 and 2022 are as follows:

	Account		December 31, 2023	December 31, 2022
Subsidiaries:				
KDB Capital Corporation	Loans	₩	876	1,924
	Allowance for loan losses		(1)	(1)
	Derivative financial assets		1,331	1,305
	Other assets		1	2
	Deposits		39	100,255
	Derivative financial liabilities		791	-
	Other liabilities		37,212	35,408
KDB Infrastructure Investment Asset Management Co., Ltd.	Deposits		14,847	606
	Other liabilities		118	1
KDB Ireland Ltd.	Loans		853,433	753,188
	Allowance for loan losses		(416)	(241)
	Derivative financial assets		2,461	18
	Other assets		7,873	3,138
	Derivative financial liabilities		15,377	19,778
KDB Bank Europe Ltd.	Cash and due from banks		578,908	365,513
	Loans		84,224	40,536
	Allowance for loan losses		(41)	(13)
	Other assets		4,726	2,854
	Derivative financial liabilities		313	501
Banco KDB Do Brazil S.A.	Cash and due from banks		104,441	87,444
	Loans		321,061	234,451
	Allowance for loan losses		(156)	(75)
	Other assets		8,415	2,802
	Allowance of other assets		(4)	(1)
PT KDB Tifa Finance Tbk	Loans		25,788	25,346
	Allowance for loan losses		(13)	(8)
	Other assets		134	92

42. Related Party Transactions, Continued

	Account		December 31, 2023	December 31, 2022
KDB Silicon Valley LLC	Deposits	₩	91,547	107,721
	Other liabilities		185	321
KDB Asia Ltd.	Cash and due from banks		1,291,474	1,346,583
	Loans		128,940	228,114
	Allowance for loan losses		(63)	(73)
	Derivative financial assets		98	25
	Other assets		10,313	8,872
	Allowance of other assets		(1)	(1)
	Deposits		2	2
	Borrowings		-	32,967
	Derivative financial liabilities		5,002	14,551
	Other liabilities		-	146
KDB Bank Uzbekistan	Cash and due from banks		128,940	38,019
	Derivative financial assets		-	9
	Other assets		429	140
	Derivative financial liabilities		-	8
KDB Consus Value PEF	Securities		274,423	18,494
	Allowance of securities		(23)	-
	Derivative financial assets		2,899	13,564
	Other assets		25,516	149
	Deposits		69	139
	Derivative financial liabilities		6,234	8,302
	Other liabilities		47,386	708
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*)	Loans		-	1,549,024
	Allowance for loan losses		-	(821,394)
	Derivative financial assets		-	460,879
	Other assets		-	10,650
	Deposits		-	169,965
	Derivative financial liabilities		-	18
	Other liabilities		-	13,144
	Other provisions		-	786,164
Corporate Liquidity Assistance Agency Co., Ltd.	Loans		440,000	440,000
	Allowance for loan losses		(238)	(152)
	Other assets		64,756	44,544
	Allowance of other assets		(35)	(15)
	Deposits		107,763	444,924
	Other liabilities		137	507
	Other provisions		224	144
Others	Loans		431,960	1,336,253
	Allowance for loan losses		(62,201)	(141,003)
	Derivative financial assets		7,722	5,473
	Other assets		3,019	3,105
	Allowance of other assets		(9)	(344)
	Deposits		128,073	136,609
	Borrowings		80,076	44,553
	Derivative financial liabilities		314	850
	Other liabilities		2,359	6,078
	Other provisions		17,929	3,728

42. Related Party Transactions, Continued

	Account		December 31, 2023	December 31, 2022
Associates:				
Korea Electric Power Co., Ltd.	Securities	₩	168,701	177,317
	Loans		328,097	227,477
	Allowances for loan losses		(1,082)	(1,151)
	Derivative financial assets		84,826	92,381
	Other assets		5,783	4,409
	Deposits		371,020	23,196
	Borrowings		1,801	2,253
	Derivative financial liabilities		160,304	223,611
	Other liabilities		46,449	57,487
	Other provisions		85	59
HMM Co., Ltd.	Securities		3,286,533	5,233,622
	Loans		123,682	164,292
	Allowances for loan losses		(775)	(2,243)
	Other assets		4,280	7,123
	Deposits		258,880	509,920
	Other liabilities		17,292	10,468
HANJIN KAL	Loans		447,774	373,445
	Allowances for loan losses		(3,142)	-
	Other assets		526	481
	Deposits		2,000	70,000
	Other liabilities		333	1,050
Korean Air Lines Co., Ltd.	Securities		64,154	-
	Loans		1,482,916	1,189,100
	Allowances for loan losses		(4,831)	(8,798)
	Derivative financial assets		8,790	-
	Other assets		13,743	11,989
	Deposits		1,605,661	1,716,833
	Derivative financial liabilities		47,542	23,075
	Other liabilities		81,256	73,131
	Other provisions		561	-
Korea Ocean Business Corporation	Securities		55,020	-
	Other assets		401	-
	Deposits		25,000	25,000
	Other liabilities		713	386
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*)	Securities		64	-
	Loans		1,468,780	-
	Allowances for loan losses		(146,570)	-
	Derivative financial assets		328,988	-
	Other assets		8,443	-
	Deposits		156,336	-
	Other liabilities		11,968	-
	Other provisions		417,443	-

42. Related Party Transactions, Continued

	Account	December 31, 2023	December 31, 2022
Associates:			
Others	Securities	26,345	-
	Loans	218,912	209,978
	Allowances for loan losses	(546)	(480)
	Derivative financial assets	19	-
	Other assets	8,068	6,472
	Deposits	397,953	323,333
	Derivative financial liabilities	2,671	2,215
	Other liabilities	1,174	-
	Other provisions	46	46

(*) The Bank loses control on Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) and classifies Hanwha Ocean Co., Ltd. as the Bank's associate for the year ended December 31, 2023.

42. Related Party Transactions, Continued

(3) Significant profit or loss with related parties for the years ended December 31, 2023 and 2022 are as follows:

	Account		2023	2022
Subsidiaries:				
KDB Capital Corporation	Interest income	₩	277	305
	Dividend income		21,060	69,766
	Reversal of allowance for loan losses		1	35
	Fees and commission income, other income		2,255	5,418
	Interest expenses		(1,795)	(1,058)
	Other operating expenses		(886)	(119)
KDB Infrastructure Investments Asset Management Co., Ltd.	Dividend income		13,634	13,499
	Interest expenses		(463)	(106)
KDB Ireland Ltd.	Interest income		42,763	12,111
	Fees and commission income, other income		10,909	4,626
	Interest expenses		(43)	(1)
	Provision for loan losses		(167)	(74)
	Other operating expenses		(12,778)	(26,771)
KDB Bank Europe Ltd.	Interest income		24,340	5,846
	Fees and commission income, other income		1,118	183
	Interest expenses		-	(4)
	Provision for loan losses		(27)	(13)
	Other operating expenses		(1,609)	(6,900)

42. Related Party Transactions, Continued

	Account		2023	2022
Banco KDB Do Brazil S.A.	Interest income	₩	20,548	5,133
	Reversal of allowance for loan losses		-	8
	Provision for loan losses		(79)	-
	Other operating expenses		(4)	(1)
PT KDB Tifa Finance Tbk	Interest income		1,497	576
	Provision for loan losses		(5)	(1)
KDB Silicon Valley LLC	Fees and commission income, other income		4	384
	Interest expenses		(5,271)	(2,648)
KDB Asia Ltd.	Interest income		84,207	36,144
	Reversal of allowance for loan losses		11	63
	Fees and commission income, other income		3,174	830
	Interest expenses		(483)	(821)
	Other operating expenses		(4,964)	(14,167)
KDB Bank Uzbekistan	Interest income		4,028	-
	Fees and commission income, other income		153	-
KDB Investment PEF No.1	Interest income		-	2,926
	Fees and commission income, other income		-	2,949
	Interest expenses		-	(230)
KDB Consus Value PEF	Interest income		11,852	1,404
	Fees and commission income, other income		15,749	34,354
	Interest expenses		(21)	(7)
	Other operating expenses		(6,165)	(11,114)
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*)	Interest income		-	55,968
	Fees and commission income, other income		-	1,101,411
	Interest expenses		-	(4,732)
	Provision for loan losses		-	(195,154)
	Other operating expenses		-	(527,175)
Corporate Liquidity Assistance Agency Co., Ltd.	Interest income		20,212	20,212
	Fees and commission income, other income		-	-
	Interest expenses		(3,567)	(7,752)
	Provision for loan losses		(86)	(10)
	Other operating expenses		(100)	(16)
Others	Interest income		22,478	40,171
	Dividend income		56,040	58,996
	Reversal of allowance for loan losses		44,599	253,724
	Fees and commission income, other income		21,219	222,300
	Interest expenses		(4,703)	(2,631)
	Provision for loan losses		(55,623)	(382,807)
	Other operating expenses		(19,352)	(184,219)

42. Related Party Transactions, Continued

	Account		2023	2022
Associates:				
Korea Electric Power Co., Ltd.	Interest income	₩	24,512	12,096
	Reversal of allowance for loan losses		-	379
	Fees and commission income, other income		121,605	136,288
	Interest expenses		(11,360)	(3,357)
	Provision for loan losses		(1,082)	-
	Other operating expenses		(221,506)	(208,915)
HMM Co., Ltd.	Interest income		38,998	42,406
	Dividend income		121,439	60,720
	Reversal of allowance for loan losses		-	28,372
	Fees and commission income, other income		1,916	19,561
	Interest expenses		(44,123)	(7,724)
	Provision for loan losses		(775)	-
	Other operating expenses		(69,013)	(192,015)
HANJIN KAL	Interest income		11,735	6,713
	Dividend income		1,201	-
	Fees and commission income, other income		30	15
	Interest expenses		(841)	(1,184)
	Provision for loan losses		(3,142)	-
	Other operating expenses		(5,671)	(75,807)
Korean Air Lines Co., Ltd.	Interest income		72,984	44,609
	Dividend income		9,180	-
	Reversal of allowance for loan losses		-	13,348
	Fees and commission income, other income		89,082	62,228
	Interest expenses		(66,766)	(41,878)
	Provision for loan losses		(4,831)	-
	Other operating expenses		(119,041)	(144,436)
Korea Ocean Business Corporation	Interest income		1,695	343
	Reversal of allowance for loan losses		-	2
	Fees and commission income, other income		2	2,907
	Interest expenses		(524)	(266)
	Other operating expenses		(1,086)	-
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*)	Interest income		117,836	-
	Fees and commission income, other income		462,472	-
	Interest expenses		(6,391)	-
	Provision for loan losses		(146,570)	-
	Other operating expenses		(481,806)	-

42. Related Party Transactions, Continued

	Account		2023	2022
Others	Interest income	₩	8,983	6,738
	Dividend income		260,290	218,852
	Reversal of allowance for loan losses		-	4
	Fees and commission income, other income		7,315	5,639
	Interest expenses		(8,135)	(6,422)
	Provision for loan losses		(546)	(129)
	Other operating expenses		(2,465)	(329)

(*) The Bank loses control on Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) and classifies Hanwha Ocean Co., Ltd. as the Bank's associate for the year ended December 31, 2023.

42. Related Party Transactions, Continued

(4) Details of guarantees and commitments to the related parties as of December 31, 2023 and 2022 are as follows:

	Account		December 31, 2023	December 31, 2022
Subsidiaries:				
KDB Capital Corporation	Commitments	₩	500,000	500,000
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*)	Confirmed acceptances and guarantees		-	2,560,260
	Unconfirmed acceptances and guarantees		-	2,781,317
	Commitments		-	2,337,089
KDB Consus Value PEF	Confirmed acceptances and guarantees		132,840	-
Corporate Liquidity Assistance Agency Co., Ltd.	Commitments		560,000	560,000
Others	Unconfirmed acceptances and guarantees		885	5,885
	Commitments		1,059,271	85,625
Associates:				
Korean Air Lines Co., Ltd.	Confirmed acceptances and guarantees		172,957	177,367
	Commitments		30,000	-
Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) (*)	Confirmed acceptances and guarantees		3,529,955	-
	Unconfirmed acceptances and guarantees		2,150,165	-
	Commitments		1,836,929	-
Others	Commitments		377,891	426,085
		₩	10,350,893	9,433,628

(*) The Bank loses control on Hanwha Ocean Co., Ltd. (priorly known as Daewoo Shipbuilding & Marine Engineering Co., Ltd.) and classifies Hanwha Ocean Co., Ltd. as the Bank's associate for the year ended December 31, 2023.

(5) Details of compensation to key management personnel for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Short-term employee benefits	₩	957	1,166
Post-employment benefits		41	30
	₩	998	1,196

(6) The Bank are not pledged any assets as collaterals to the related parties and from the related parties as of December 31, 2023 and 2022.

43. Statements of Cash Flows

(1) Cash and cash equivalents in the statements of cash flows as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Cash and due from banks:			
Cash and foreign currencies	₩	65,738	70,525
Due from banks in Korean won		2,017,973	3,931,203
Due from banks in foreign currencies / off-shores		6,576,097	7,537,078
		8,659,808	11,538,806
Less: Restricted due from banks, others		(2,464,287)	(4,450,242)
Add: Financial instruments reaching maturity within three months from date of acquisition			
Securities measured at FVTPL			
Government and public bonds		162,256	39,903
Loans measured at amortized cost:			
Call-loans		4,456,954	2,249,447
Inter-bank loans		1,045,846	2,494,555
		5,502,800	4,744,002
		5,665,056	4,783,905
	₩	11,860,577	11,872,469

(2) Significant transactions not involving cash flows for the years ended December 31, 2023 and 2022 are as follows:

		2023	2022
Decrease in loans due to write-offs	₩	203,807	85,067
Increase in securities measured at FVOCI due to debt-to-equity swap, etc		34,030	13,505
Increase (decrease) in accumulated other comprehensive income due to securities valuation		(860,375)	(3,005,858)
Deferred income tax effect due to securities valuation		230,619	861,407
Reclassification of assets held for sale to investments in subsidiaries and associates		-	1,371,052
Reclassification of investments in subsidiaries and associates to assets held for sale		3,522,597	-
Reclassification of investments in subsidiaries and associates to securities measured at FVTPL		4,800	-
Reclassification from investments in subsidiaries and associates to securities measured at FVOCI		-	19,125
Reclassification from securities measured at FVOCI to investments in subsidiaries and associates		1,497,000	-
Transfer from property and equipment to investment property		-	937
Transfer from investment property to property and equipment		5,618	-
Recognition of right-of-use assets and lease liabilities		40,130	62,099
In-kind equity		432,137	565,000

44. Transfers of Financial Instruments

Details of financial assets and liabilities related to repurchase agreements and loaned securities sold and loaned debt securities that do not qualify for derecognition as of December 31, 2023 and 2022 are as follows:

		December 31, 2023		December 31, 2022	
Characteristics of transactions		Carrying amounts for transferred assets	Carrying amounts for related liabilities	Carrying amounts for transferred assets	Carrying amounts for related liabilities
Repurchase agreements	₩	1,447,767	30,095	2,373,401	57,619
Loaned securities		39,341	-	-	-
	₩	1,487,108	30,095	2,373,401	57,619

45. Fair Value of Financial Assets and Liabilities

The Bank classifies and discloses fair value of the financial instruments into the following three-level hierarchy:

- Level 1: Financial instruments measured at quoted prices from active markets are classified as level 1.
- Level 2: Financial instruments measured using valuation techniques where all significant inputs are observable market data are classified as level 2.
- 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.

(1) Fair value hierarchy of financial instruments measured at fair value

(i) The fair value hierarchy of financial instruments measured at fair value as of December 31, 2023 and 2022 are as follows:

		December 31, 2023			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Securities measured at FVTPL	₩	1,784,605	1,567,893	12,706,058	16,058,556
Securities measured at FVOCI		2,397,136	16,646,131	14,844,797	33,888,064
Loans measured at FVTPL		-	-	488,432	488,432
Derivative financial assets		-	7,383,047	278	7,383,325
	₩	4,181,741	25,597,071	28,039,565	57,818,377
Financial liabilities:					
Financial liabilities measured at FVTPL	₩	-	1,920,061	-	1,920,061
Derivative financial liabilities		32	7,631,930	22,939	7,654,901
	₩	32	9,551,991	22,939	9,574,962

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Securities measured at FVTPL	₩	623,264	718,103	10,610,539	11,951,906
Securities measured at FVOCI		2,929,043	18,531,804	16,224,072	37,684,919
Loans measured at FVTPL		-	-	541,811	541,811
Derivative financial assets		-	9,781,693	12,762	9,794,455
	₩	3,552,307	29,031,600	27,389,184	59,973,091
Financial liabilities:					
Financial liabilities measured at FVTPL	₩	-	1,469,724	-	1,469,724
Derivative financial liabilities		34	11,276,609	40,359	11,317,002
	₩	34	12,746,333	40,359	12,786,726

45. Fair Value of Financial Assets and Liabilities, Continued

(ii) Changes in the fair value of level 3 financial instruments for the years ended December 31, 2023 and 2022 are as follows:

	2023					
	Financial assets					Financial liabilities
	Securities measured at FVTPL	Securities measured at FVOCI	Loans measured at FVTPL	Derivative financial assets	Total	Derivative financial liabilities
January 1, 2023	₩ 10,610,539	16,224,072	541,811	12,762	27,389,184	40,359
Profit or loss	317,948	-	(8,913)	241	309,276	(11,455)
Other comprehensive income	-	(1,305,498)	-	-	(1,305,498)	-
Acquisition / Issue	2,404,013	831,851	6,804	-	3,242,668	-
Sale / Settlement	(626,442)	(684,083)	(51,270)	(12,725)	(1,374,520)	(5,965)
Transfer out (*)	-	(221,545)	-	-	(221,545)	-
December 31, 2023	₩ 12,706,058	14,844,797	488,432	278	28,039,565	22,939

	2022					
	Financial assets					Financial liabilities
	Securities measured at FVTPL	Securities measured at FVOCI	Loans measured at FVTPL	Derivative financial assets	Total	Derivative financial liabilities
January 1, 2022	₩ 7,864,436	18,635,704	644,412	10,067	27,154,619	11,223
Profit or loss	118,898	-	(78,954)	5,295	45,239	29,136
Other comprehensive income	-	(2,321,954)	-	-	(2,321,954)	-
Acquisition / Issue	2,981,856	1,364,206	50,950	-	4,397,012	-
Sale / Settlement	(360,003)	(853,910)	(74,597)	(2,600)	(1,291,110)	-
Transfer out (*)	-	(599,974)	-	-	(599,974)	-
Transfer in (*)	5,352	-	-	-	5,352	-
December 31, 2022	₩ 10,610,539	16,224,072	541,811	12,762	27,389,184	40,359

(*) When significant inputs become observable market data, the financial instruments are transferred to (from) other levels.

(iii) Changes in deferred day one profit or loss for the years ended December 31, 2023 and 2022 are as follows:

	2023	2022
Beginning balance	₩ 3,604	3,989
Amortization	(385)	(385)
Ending balance	₩ 3,219	3,604

45. Fair Value of Financial Assets and Liabilities, Continued

(iv) Details of valuation technique and inputs used in the fair value measurement categorized within level 2 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2023 and 2022 are as follows:

	Valuation technique	Input
Securities measured at FVTPL		
Equity securities	Net asset value approach	Underlying asset price
Debt securities	Discounted cash flow method	Discount rate
Securities measured at FVOCI		
Equity securities	Net asset value approach	Underlying asset price
Debt securities	Discounted cash flow method	Discount rate
Derivatives financial assets:		
Interest rate swaps Currency forwards and swaps Currency options Commodities options	Discounted cash flow method, Black-Scholes model, Modified Black model, Formula model	Discount rate, exchange rate, volatility, commodity index, etc.
Financial liabilities measured at FVTPL:		
Debentures	Discounted cash flow method	Discount rate

45. Fair Value of Financial Assets and Liabilities, Continued

(v) Details of valuation technique and quantitative information about unobservable inputs used in the fair value measurement categorized within level 3 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2023 and 2022 are as follows:

	December 31, 2023		
	Valuation technique	Unobservable input	Range (%)
Securities measured at FVTPL			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach, etc.	Discount rate	7.04 ~ 17.0
		Rate of increase in property disposal price	-
		Rate of increase in liquidation value	-
		Volatility	19.68 ~ 76.22
Securities measured at FVOCI			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach, etc.	Growth rate	-
		Discount rate	9.25 ~ 20.40
		Volatility	16.68 ~ 76.22
		Interest rate Volatility	0.51 ~ 0.86
Loans measured at FVTPL			
Convertible bonds, etc.	LSMC, Binomial model	Volatility	16.68 ~ 76.22
Derivatives financial assets			
Interest rate swaps	Hull-White	Volatility	0.51 ~ 1.06
	Two-Factor model	Correlation coefficient	(70) ~ 100
Stock index options	Discounted cash flow method, Relative value approach, Net asset value approach, Binomial Tree(T-F)	Volatility	19.59 ~ 25.45

	December 31, 2022		
	Valuation technique	Unobservable input	Range (%)
Securities measured at FVTPL			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach, etc.	Discount rate	6.35 ~ 41.31
		Rate of increase in property disposal price	-
		Rate of increase in liquidation value	-
		Volatility	16.89 ~ 44.54
Securities measured at FVOCI			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach, etc.	Growth rate	-
		Discount rate	9.08 ~ 18.51
		Volatility	16.52 ~ 46.53
Loans measured at FVTPL			
Convertible bonds, etc.	LSMC, Binomial model	Volatility	16.89 ~ 44.54
Derivatives financial assets			
Interest rate swaps	Hull-White Two-Factor model	Volatility	0.56 ~ 1.27
		Correlation coefficient	(70) ~ 100
Stock index options	Discounted cash flow method, Relative value approach, Net asset value approach, Binomial Tree(T-F)	Volatility	21.98 ~ 46.53

45. Fair Value of Financial Assets and Liabilities, Continued

(vi) The sensitivity analysis on changes in unobservable inputs for financial instruments categorized within level 3 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2023 and 2022 are as follows:

	December 31, 2023			
	Profit(loss) for the year		Other comprehensive income(loss)	
	Favorable change	Unfavorable change	Favorable change	Unfavorable change
Securities measured at FVTPL (*1)	₩ (1,876)	(2,487)	-	-
Securities measured at FVOCI (*1)	-	-	26,489	(23,913)
Loans measured at FVTPL (*2)	6,170	(5,936)	-	-
Derivative financial assets (*2)	264	(247)	-	-
	₩ 4,558	(8,670)	26,489	(23,913)

	December 31, 2022			
	Profit(loss) for the year		Other comprehensive income(loss)	
	Favorable change	Unfavorable change	Favorable change	Unfavorable change
Securities measured at FVTPL (*1)	₩ 50,112	(47,080)	-	-
Securities measured at FVOCI (*1)	-	-	36,873	(29,480)
Loans measured at FVTPL (*2)	10,372	(9,957)	-	-
Derivative financial assets (*2)	218	(217)	-	-
	₩ 60,702	(57,254)	36,873	(29,480)

(*1) Sensitivity amounts of equity securities are calculated by increasing and decreasing the correlations between the discount rates and the growth rates (0~1%) or the rate of increase in liquidation value (-1~1%) which are significant unobservable inputs. Sensitivity amounts for beneficiary certificates are calculated by increasing and decreasing the correlations between the discount rate of rent cash flow (-1~1%) and the rate of increase in property disposal price (-1~1%), only when they consist of real properties. Other than that, it is difficult to measure the sensitivity amounts of beneficiary certificates for practical reasons. Also, for financial instruments categorized within level 3 in 2023 and 2022, ₩21,479,411 million and ₩18,704,023 million, respectively, are excluded from the sensitivity disclosure because it is impossible to calculate the sensitivity due to changes in unobservable variables for practical reasons.

(*2) Sensitivity amounts of loans measured at FVTPL and derivatives financial instruments are calculated by increasing and decreasing the correlation coefficient and volatility (-10~10%) which are significant unobservable inputs.

45. Fair Value of Financial Assets and Liabilities, Continued

(2) Fair value hierarchy of financial instruments measured at amortized cost

(i) The Bank's policies for measuring fair value of financial instruments at amortized costs are as follows:

- Cash and due from banks: Fair value of cash is considered equivalent to the carrying amount. In the case of due from banks on demand, which do not have a set maturity and can be realized instantly, the carrying amount is a close estimate of the fair value and is assumed so. In the case of other ordinary due from banks, the cash flow discount method is used to estimate the fair value.
- Securities measured at amortized cost: The fair value of securities measured at amortized cost is computed by widely-accepted appraisal agencies upon request.
- Loans measured at amortized cost: The fair value of loans measured at amortized cost is the expected future cash flows, reflecting premature redemption ratio, discounted by the market interest rate, adjusted by a spread sheet considering the probability of default. Exceptions to this method include loans with credit line facilities, loans with a maturity of three months or less left and impaired loans, which the Bank assumes the carrying amount as the fair value.
- Deposits: The fair value of deposits is computed using the discounted cash flow method. However, for deposits, whose cash flows cannot be estimated reasonably, the Bank assumes the carrying amount as the fair value.
- Borrowings: The fair value of industrial financial debentures is computed using the discounted cash flow method by the Bank's Fair Value Evaluation System. However, for borrowings including call money whose contractual maturity is three months or less, the Bank assumes the carrying amount as the fair value.
- Debentures: The fair value of industrial financial debentures is computed using the discounted cash flow method by the Bank's Fair Value Evaluation System.
- Other financial assets and liabilities: The fair value of other financial assets and liabilities is computed using the discounted cash flow method. However, in cases cash flow cannot be estimated reasonably, the Bank assumes the carrying amount as the fair value.

(ii) The fair value hierarchy of financial instruments measured at amortized cost as of December 31, 2023 and 2022 are as follows:

		December 31, 2023			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Cash and due from banks (*)	₩	6,195,521	2,464,287	-	8,659,808
Securities measured at amortized cost		3,841,102	4,742,086	-	8,583,188
Loans measured at amortized cost (*)		-	4,547,212	195,510,878	200,058,090
Other financial assets (*)		-	8,432,806	1,701,156	10,133,962
	₩	10,036,623	20,186,391	197,212,034	227,435,048
Financial liabilities:					
Deposits (*)	₩	-	1,896,208	64,054,989	65,951,197
Borrowings (*)		-	2,268,046	25,322,073	27,590,119
Debentures		-	157,898,543	-	157,898,543
Other financial liabilities (*)		-	7,027,953	4,772,875	11,800,828
	₩	-	169,090,750	94,149,937	263,240,687

45. Fair Value of Financial Assets and Liabilities, Continued

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Cash and due from banks (*) ₩	7,088,563	4,450,243	-	11,538,806
Securities measured at amortized cost	2,964,285	3,391,599	-	6,355,884
Loans measured at amortized cost (*)	-	2,249,447	194,990,235	197,239,682
Other financial assets (*)	-	6,344,790	1,329,534	7,674,324
₩	10,052,848	16,436,079	196,319,769	222,808,696
Financial liabilities:				
Deposits (*) ₩	-	2,271,579	65,998,390	68,269,969
Borrowings (*)	-	1,395,037	23,872,311	25,267,348
Debentures	-	158,228,192	-	158,228,192
Other financial liabilities (*)	-	2,836,258	3,868,478	6,704,736
₩	-	164,731,066	93,739,179	258,470,245

(*) For financial instruments categorized as level 2, the carrying amount is considered as a reasonable approximation of the fair value and is thus, disclosed by fair value.

45. Fair Value of Financial Assets and Liabilities, Continued

(iii) Details of valuation technique and inputs used in the fair value measurement categorized within level 2 and level 3 of the fair value hierarchy of financial instruments measured at amortized cost as of December 31, 2023 and 2022 are as follows:

	Valuation technique	Input
Level 2		
Financial assets:		
Securities measured at amortized cost	Discounted cash flow method	Discount rate
Financial liabilities:		
Debentures	Discounted cash flow method	Discount rate
Level 3		
Financial assets:		
Loans measured at amortized cost	Discounted cash flow method	Credit spread, Other spread, Prepayment rate
Other financial assets	Discounted cash flow method	Other spread
Financial liabilities:		
Deposits	Discounted cash flow method	Other spread
Borrowings	Discounted cash flow method	Other spread
Other financial liabilities	Discounted cash flow method	Other spread

46. Categories of Financial Assets and Liabilities

Categories of financial assets and liabilities as of December 31, 2023 and 2022 are as follows:

	December 31, 2023							
	Cash and cash equivalents	Financial instruments measured at FVTPL	Financial instruments designated at FVTPL	Financial instruments measured at FVOCI	Financial instruments designated at FVOCI	Financial instruments measured at amortized cost	Hedging purpose derivative instruments	Total
Financial assets:								
Cash and due from banks	₩ 6,195,521	-	-	-	-	2,464,287	-	8,659,808
Securities measured at FVTPL	162,256	15,896,300	-	-	-	-	-	16,058,556
Securities measured at FVOCI	-	-	-	18,243,848	15,644,216	-	-	33,888,064
Securities measured at amortized cost	-	-	-	-	-	8,583,188	-	8,583,188
Loans measured at FVTPL	-	488,432	-	-	-	-	-	488,432
Loans measured at amortized cost	5,502,800	-	-	-	-	194,478,980	-	199,981,780
Derivative financial assets	-	6,821,024	-	-	-	-	562,301	7,383,325
Other financial assets	-	-	-	-	-	10,136,642	-	10,136,642
	₩ 11,860,577	23,205,756	-	18,243,848	15,644,216	215,663,097	562,301	285,179,795
Financial liabilities:								
Financial liabilities measured at FVTPL	₩ -	-	1,920,061	-	-	-	-	1,920,061
Deposits	-	-	-	-	-	65,897,732	-	65,897,732
Borrowings	-	-	-	-	-	27,745,629	-	27,745,629
Debentures	-	-	-	-	-	156,933,867	-	156,933,867
Derivative financial liabilities	-	6,961,386	-	-	-	-	693,515	7,654,901
Other financial liabilities	-	-	-	-	-	11,823,274	-	11,823,274
	₩ -	6,961,386	1,920,061	-	-	262,400,502	693,515	271,975,464

46. Categories of Financial Assets and Liabilities, Continued

	December 31, 2022							
	Cash and cash equivalents	Financial instruments measured at FVTPL	Financial instruments designated at FVTPL	Financial instruments measured at FVOCI	Financial instruments designated at FVOCI	Financial instruments measured at amortized cost	Hedging purpose derivative instruments	Total
Financial assets:								
Cash and due from banks	₩ 7,088,563	-	-	-	-	4,450,243	-	11,538,806
Securities measured at FVTPL	39,903	11,912,003	-	-	-	-	-	11,951,906
Securities measured at FVOCI	-	-	-	20,814,864	16,870,055	-	-	37,684,919
Securities measured at amortized cost	-	-	-	-	-	6,355,884	-	6,355,884
Loans measured at FVTPL	-	541,811	-	-	-	-	-	541,811
Loans measured at amortized cost	4,744,002	-	-	-	-	193,301,601	-	198,045,603
Derivative financial assets	-	9,609,026	-	-	-	-	185,429	9,794,455
Other financial assets	-	-	-	-	-	7,676,612	-	7,676,612
	₩ 11,872,468	22,062,840	-	20,814,864	16,870,055	211,784,340	185,429	283,589,996
Financial liabilities:								
Financial liabilities measured at FVTPL	₩ -	-	1,469,724	-	-	-	-	1,469,724
Deposits	-	-	-	-	-	68,326,656	-	68,326,656
Borrowings	-	-	-	-	-	25,429,244	-	25,429,244
Debentures	-	-	-	-	-	158,711,896	-	158,711,896
Derivative financial liabilities	-	10,118,348	-	-	-	-	1,198,654	11,317,002
Other financial liabilities	-	-	-	-	-	6,717,731	-	6,717,731
	₩ -	10,118,348	1,469,724	-	-	259,185,527	1,198,654	271,972,253

47. Offsetting of Financial Assets and Liabilities

Details of financial instruments subject to offsetting, enforceable master netting agreements or similar agreements as of December 31, 2023 and 2022 are as follows:

	December 31, 2023					
	Gross amounts of recognized financial asset	Gross amounts of recognized financial liabilities set off in the statement of financial position	Net amounts of financial assets presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral received	
Derivative financial assets (*)	₩ 7,383,325	-	7,383,325	4,953,052	171,466	2,258,807
Unsettled spot exchange receivables (*)	6,494,499	-	6,494,499	6,493,455	-	1,044
Unsettled domestic exchange receivables	5,110,172	3,171,865	1,938,307	-	-	1,938,307
Security pledged as collateral for repurchase agreements	1,447,767	-	1,447,767	30,095	-	1,417,672
Reverse repurchase agreements	2,599,900	-	2,599,900	2,599,900	-	-
Loaned securities	39,341	-	39,341	39,341	-	-
Receivables from securities transaction	39,213	-	39,213	39,213	-	-
	₩ 23,114,217	3,171,865	19,942,352	14,155,056	171,466	5,615,830

	December 31, 2023					
	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the statement of financial position	Net amounts of financial liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral pledged	
Derivative financial liabilities (*)	₩ 7,654,901	-	7,654,901	4,385,976	207,942	3,060,983
Unsettled spot exchange payables (*)	6,494,121	-	6,494,121	6,493,455	-	666
Unsettled domestic exchange payables	3,705,699	3,171,866	533,833	-	-	533,833
Repurchase agreements	30,095	-	30,095	30,095	-	-
Payables from securities transaction	13,536	-	13,536	13,536	-	-
	₩ 17,898,352	3,171,866	14,726,486	10,923,062	207,942	3,595,482

47. Offsetting of Financial Assets and Liabilities, Continued

	December 31, 2022					
	Gross amounts of recognized financial asset	Gross amounts of recognized financial liabilities set off in the statement of financial position	Net amounts of financial assets presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral received	
Derivative financial assets (*) ₩	9,794,455	-	9,794,455	5,814,449	71,536	3,908,470
Unsettled spot exchange receivables (*)	2,597,457	-	2,597,457	2,593,577	-	3,880
Unsettled domestic exchange receivables	6,008,639	2,261,306	3,747,333	-	-	3,747,333
Security pledged as collateral for repurchase agreements	2,373,401	-	2,373,401	57,619	-	2,315,782
Reverse repurchase agreements	2,240,000	-	2,240,000	2,240,000	-	-
Loaned securities	-	-	-	-	-	-
Receivables from securities transaction	11,940	-	11,940	11,940	-	-
₩	23,025,892	2,261,306	20,764,586	10,717,585	71,536	9,975,465

	December 31, 2022					
	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the statement of financial position	Net amounts of financial liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral pledged	
Derivative financial liabilities (*) ₩	11,317,002	-	11,317,002	5,552,654	501	5,763,847
Unsettled spot exchange payables (*)	2,593,992	-	2,593,992	2,593,577	-	415
Unsettled domestic exchange payables	2,503,572	2,261,306	242,266	-	-	242,266
Repurchase agreements	57,619	-	57,619	57,619	-	-
Payables from securities transaction	18,305	-	18,305	18,305	-	-
₩	16,490,490	2,261,306	14,229,184	8,222,155	501	6,006,528

(*) For the derivatives covered by the ISDA derivative contracts, all contracts are settled and the net amount of derivative contracts is measured and paid based on the liquidation value if the counterparty files for bankruptcy or has any credit issues.

48. Operating Segments

(1) The Bank has four reportable segments, as described below, which are the Bank's strategic business units. They are managed separately because each business requires different technology and marketing strategies. The following summary describes general information about each of the Bank's reportable segments:

Segments	General information
Corporate finance	Provides trade finance and loans to corporate customers
Investment finance	Provides consulting services to corporate such as capital finance, restructuring, etc.
Asset management	Provides asset management services to individual and corporate customers
Others	Any other segment not mentioned above

(2) Operating income (loss) from external customers and among operating segments for the years ended December 31, 2023 and 2022 are as follows:

	2023				
	Corporate finance	Investment finance	Asset management	Others	Total
Operating income (loss) from external customers	₩ 2,609,692	1,828,864	51,772	(1,493,473)	2,996,855
Operating income (loss) from intersegment sales	(24,918)	(1,256,628)	-	1,281,546	-
	₩ 2,584,774	572,236	51,772	(211,927)	2,996,855

	2022				
	Corporate finance	Investment finance	Asset management	Others	Total
Operating income (loss) from external customers	₩ 1,999,886	(1,899,135)	42,247	1,614,700	1,757,698
Operating income (loss) from intersegment sales	(13,094)	2,134,556	-	(2,121,462)	-
	₩ 1,986,792	235,421	42,247	(506,762)	1,757,698

48. Operating Segments, Continued

(3) Details of segment results for the Bank's reportable segments for the years ended December 31, 2023 and 2022 are as follows:

	2023				
	Corporate finance	Investment finance	Asset management	Others	Total
Net interest income	₩ 2,160,494	(559,810)	17,914	(57,079)	1,561,519
Non-interest income					
Income related to securities (*1)	7,580	317,583	-	165,838	491,001
Other non-interest income	281,883	639,310	41,013	(47,310)	914,896
	289,463	956,893	41,013	118,528	1,405,897
Provision for loan losses and others (*2)	571,796	234,803	-	46,831	853,430
General and administrative expenses	(436,979)	(59,650)	(7,155)	(320,207)	(823,991)
Operating income	₩ 2,584,774	572,236	51,772	(211,927)	2,996,855

	2022				
	Corporate finance	Investment finance	Asset management	Others	Total
Net interest income	₩ 2,030,189	(429,610)	13,837	129,399	1,743,815
Non-interest income					
Income related to securities (*1)	(9,557)	(138,082)	-	56,346	(91,293)
Other non-interest income	465,438	1,134,085	36,051	(310,336)	1,325,238
	455,881	996,003	36,051	(253,990)	1,233,945
Provision for loan losses and others (*2)	(42,999)	(265,453)	-	(35,237)	(343,689)
General and administrative expenses	(456,279)	(65,519)	(7,641)	(346,934)	(876,373)
Operating income	₩ 1,986,792	235,421	42,247	(506,762)	1,757,698

(*1) Income related to securities is composed of net gain (loss) on securities measured at FVTPL, securities measured at FVOCI and securities measured at amortized cost.
(*2) Provision for loan losses and others comprises of provision for loan losses, provision for derivative credit risks, gains (losses) on sales of loans, and increase (reversal) of provision.

(4) Geographical revenue information about the Bank's operating segments for the years ended December 31, 2023 and 2022 and the geographical non-current asset information as of December 31, 2023 and 2022 are as follows:

	Revenues (*1)		Non-current assets (*2)	
	2023	**2022**	**December 31, 2023**	**December 31, 2022**
Domestic	₩ 40,864,069	47,753,159	27,708,568	28,918,343
Overseas	2,637,622	2,198,448	123,367	86,363
	₩ 43,501,691	49,951,607	27,831,935	29,004,706

(*1) Revenues consist of interest income, fees and commission income, dividend income, income related to securities, gain on derivatives, foreign currency transaction gain, other operating income and provision for loan losses.
(*2) Non-current assets consist of investments in subsidiaries and associates, property and equipment, investment property and intangible assets.

49. Risk Management

(1) Introduction

(i) Objectives and principles

The Bank's risk management aims to maintain financial soundness and effectively manage various risks pertinent to the nature of the Bank's business. The Bank has set up and fulfilled policies to manage risks timely and effectively. Pursuant to the policies, the Bank's risks shall be

- managed comprehensively and independently,
- recognized timely, evaluated exactly and managed effectively,
- maintained to the extent that the risks balance with profit,
- diversified appropriately to avoid concentration on specific segments,
- managed to prevent excessive exposure by the setting up and managing of tolerance limits and guidelines.

(ii) Risk management strategy and process

The Bank's risk management business is separated into two different stages; the 'metrification stage,' in which risks are estimated and monitored, and the 'integration stage,' in which information gained during the risk management process is integrated and used in management strategies. Risk management is recognized as a key component of the Bank's management and seeks to change from its previously adaptive and limited role to more leading and comprehensive role.

Furthermore, the Bank focuses on consistent communication among different departments to establish a progressive consensus on risk management.

(iii) Risk management governance

Risk Management Committee

The Bank's Risk Management Committee (the "Committee") is composed of the President of the committee (an outside director), and three other commissioners. The Committee functions to establish policies of risk management, evaluate the capital adequacy of the Bank, discuss material issues relating to risk management, and present preliminary decisions on such matters.

The CEO of the Bank and the head of Risk Management Segment

The CEO of the Bank, according to the policies of risk management, performs his or her role to manage and direct risk management to sustain efficiency and internal control. The head of the Risk Management Segment is responsible for supervising the overall administration of the Bank's risk management business and providing risk-related information to members of the board of directors and the Bank's management.

Risk Management Policy Committee

The Bank's Risk Management Policy Committee is composed of the leaders of all business segments. and exercises its role to decide important matters relating to the Bank's portfolio including allocating internal capital limits by segment and setting exposure limits by industry within the scope that Risk Management Committee regulated.

(iv) Performance of risk management committee

The Risk Management Committee performs comprehensive reviews of all the affairs related to risk management and deliberates the decisions of the board of directors. For the year ended December 31, 2023, the key activities of the Risk Management Committee are as follows:

- Major decision
  - Risk management plan for 2023
  - Contingency funding plan for 2023
  - Setting and managing exposure limits by country for 2023
  - Changing in the calculation method of default rate for loan loss allowance
  - Adjustment of limit of credit portfolio and exposure limits by country

49. Risk Management, Continued

- Major reporting
- Resolution of Credit Committee for the fourth quarter of 2022
- Result of ex-post validation of credit rating system and default rates, and verification of risk measurement factors for internal purposes
- Setting management limit of credit portfolios of 2023
- Allocation of internal capital limits of 2023
- Resolution of Credit Committee for the first quarter of 2023
- Adjustment of limit of credit portfolio (industry, policy)
- Adjustment of exposure limits by country
- Result of validation of changing in the calculation method of default rate for loan loss allowance
- Result of integrated crisis analysis for the first half of 2023
- Resolution of Credit Committee for the second quarter of 2023
- Verification of risk-weighted assets for BIS ratio as of March 31, 2023
- Result of operation of corporate credit rating system in 2023
- Resolution of Credit Committee for the third quarter of 2023
- Result of BCP training for 2023
- Result of integrated crisis analysis for the second half of 2023
- Result of assessment of suitability for internal capital for 2023

(v) Improvement of risk management system

For the continuous improvement of risk management, financial soundness and capital adequacy, the Bank performs the following:

- Continuous improvement of Basel
  - Improvements in the internal capital adequacy assessment system, in line with the guidelines set by the Financial Supervisory Service (FSS) in 2008, to manage capital adequacy more effectively
  - Improvements in the credit assessment system on Low Default Portfolio (LDP)
  - Elaboration of risk measuring criteria including credit risk parameters and measurement logics
  - Development of the application system for timely calculation of LCR and NSFR
  - Rebuilding the Corporate Credit Rating System (approved by Financial Supervisory Services on October 26, 2017)
  - Establishment of the system to calculate Basel Interest Rate Risk in the Banking Book coming to domestic in September 2018
  - Establishment of the system to comply with the amended regulation relating to risk-weighted assets under Basel III in December 2020
  - Development of system related to Fundamental Review of the Trading Book (FRTB) under Basel III in August 2022
  - Development of system related to operational risk under Basel III in September 2022

- Expansion of risk management infrastructure
  - Establishment of the RAPM system to reflect risks to the Bank's business and support decision-making upon management, and application of performance assessment at the branch level since 2010
  - Enforcement of risk management related to irregular compound derivatives and validation of the derivative pricing model developed by the Bank's Front Office
  - Establishment of IFRS 9 accounting system to calculate a loan loss allowances under IFRS 9 in March 2017 and, since then, run of IFRS 9 accounting system in January 2018

49. Risk Management, Continued

(vi) Risk management reporting and measuring system

The Bank endeavours consistently to objectively and rationally measure and manage all significant risks considering the characteristics of operational areas, assets and risks. In relation to reporting and measurement, the Bank has developed application systems as follows:

Application system	Approach	Completion date	Major function
Corporate Credit Rating System	Logit Model	Oct. 2017	Rebuilding the Corporate Credit Rating System
Market Risk Management System	Murex FRTB	Sep. 2022	Calculation of regulatory and internal capital based on FRTB SA Stress Test
Interest/Liquidity Risk Management System	In-house	May. 2019	Calculation of interest risk, liquidity risk, etc.
Operational Risk Management System	Standardized Approach	Sep. 2022	Calculation of operation risk, RCSA, KRI, management of loss events, etc
BIS Capital Ratio Calculation/Credit Risk Measurement System	Fermat RaY	Sep. 2006 Dec. 2013	Calculate equity, credit risk-weighted assets and credit risk, etc.
Loan Loss Allowance Calculation System	IFRS IFRS 9	Jan. 2011 Mar. 2017	Incurred loss model Expected loss model

(vii) Response to Basel

The Korean financial authorities have implemented Basel II since January 2008, and the Standardized Approach and the Foundation Internal Ratings-Based Approach for calculating credit risk are applicable.

In conformity with the implementation roadmap of Basel II, the Bank obtained the approval to use the Foundation Internal Ratings-Based Approach on credit risk from the FSS in July 2008 and has applied the approach since late June 2008. The Bank applies the Standardized Approach on market risks and operational risks.

The Bank completed the Basel III standard risk management system in preparation of the adoption of the Basel III regulations announced on December 1, 2013. Starting from 2013 year-end, the BIS capital adequacy ratio has been measured in accordance to the Basel III regulations.

Responding to the requirements of the financial authorities, the Bank recognizes interest rate risk, liquidity risk, credit bias risk and reputation risk besides Pillar I risks (credit risk, market risk and operational risk). The Bank has actively responded to the Pillar 2 regulation, including additional capital requirements based on comprehensive assessment of risk management levels since 2015. In addition, from the end of 2015, the Bank has applied the uniform standards for the public announcement of financial business for Basel compliance.

The Bank completed revised standards such as capital requirements for banks' investments in funds in 2017, capital requirements for securitization in 2018, and the Standardised Approach for measuring counterparty credit risk (SA-CCR) in 2019.

To comply with the amended regulation relating to risk-weighted assets under Basel III, the Bank completed the consultation and the development of the relevant systems and the amended regulation has been applied since the calculation of the BIS ratio at the end of 2020.

The Bank has completed IT consulting and system development related to Market Risk Regulation (Fundamental Review of the Trading Book , FRTB) and Operational Risk Regulation under Basel III during the second half of 2022.

49. Risk Management, Continued

(viii) Internal capital adequacy assessment process

Internal capital adequacy assessment process is defined as the process that the Bank aggregates significant risks, calculates its internal capital, compares the internal capital with the available capital and assesses its internal capital adequacy. The internal capital adequacy report including the assessment results at the end of the year is prepared and reported to the Risk Management Policy Committee.

- Internal capital adequacy assessment

For the internal capital adequacy assessment, the Bank calculates its aggregated internal capital by evaluating all significant risks and available capital considering the quality and components of capital, and then assesses the internal capital adequacy by comparing the aggregated internal capital with the available capital.

In addition, the Bank conducts periodic stress tests more than once every six months to assess potential weakness in crisis situations and uses its results to assess the internal capital adequacy. The Bank assumes the macroeconomic situation as three stages of 'normal- pessimistic-serious' and is preparing countermeasures such as checking the adequacy of capital by each stage.

- Goal setting of internal capital management

The Bank sets up and manages an internal capital limit on an annual basis, through the approval of the Risk Management Committee, to maintain internal capital adequacy by managing internal capital (integrated risks) within the extent of available capital.

The prior year's internal capital, analysis of domestic and foreign environment changes in the current year, and the direction and size of operations are all reflected in the goal setting of internal capital management to calculate the integrated internal capital scale. Moreover, Bank for International Settlements(BIS) capital adequacy ratio and risk appetite are taken into consideration in the goal setting of internal capital management.

- Allocation of internal capital

The Bank's Risk Management Committee approves entire internal capital and the Risk Management Policy Committee allocates the capital to each segment and department, considering the extent of possible risk faced and size of operations. The allocated internal capital is monitored regularly and managed using various management methods. The results of monitoring and managing the allocated internal capital are reported to the Risk Management Committee. In case of any material changes in the Bank's business plan or risk operation strategy, the Bank adjusts the allocations elastically.

- Composition of internal capital

Internal capital comprises all the significant risks of the Bank and is composed of quantifiable and non-quantifiable risks. Quantifiable risks are composed of credit risk, market risk, interest rate risk, operational risk and credit concentration risk, foreign currency settlement risk, and are risks measured quantitatively by applying reasonable methodology using objective data. Non-quantifiable risks are composed of strategy risk, reputation risk, residual risk on asset securitization and furthermore. Non-quantifiable risks are those risks that cannot be measured quantitatively because of lack of data or the absence of appropriate measuring methodologies.

(2) Credit Risk

(i) Concept

Credit risk can be defined as potential loss resulting from the refusal to perform obligations or default of counterparties. More generally, it is used to refer to the possibility of loss from engaged bonds that cannot be redeemed properly or from substitute payments.

49. Risk Management, Continued

(ii) Approach to credit risk management

Summary of credit risk management
The Bank regards credit risk as the most significant risk area in its business operations, and accordingly, closely monitors its credit risk exposure. The Bank manages both credit risks at portfolio level and at individual credit level. At portfolio level, the Bank reduces credit concentration and restructures the portfolio in such a way to maximize profitability considering the risk level. To avoid credit concentration on a particular sector, the Bank manages credit limits by client, group, and industry. The Bank also resets exposure management directives for each industry by conducting an industry credit evaluation twice a year.

At the individual credit level, the relationship manager (RM), the credit officer (CO) and the Credit Review Committee manage each borrower's credit risk.

Post management and insolvent borrower management
The Bank monitors the borrower's credit rating from the date of the loan to the date of the final collection of debt consistently and inspects the borrower's status frequently to prevent the generation of new bad debts and to stabilize the number of debt recoveries.

In addition, an early warning system is operated to spot borrowers that are highly likely to be insolvent. The early warning system provides financial information, financial transaction information, public information and market information of the borrower, and such information is used by the RM and the CO to monitor and manage changes in the borrower's credit rating.

A borrower that is likely to be insolvent is classified as an early warning borrower, depending on the level of insolvency risk. The Bank sets up a specific and applicable stabilization plan for such a borrower considering the borrower's characteristics. Furthermore, sub-standard borrowers are classified as insolvent borrowers, and are managed intensively by the Bank, which takes legal proceedings, disposals or corporate turnaround measures if necessary.

Classification of asset soundness and provision of allowance for loss
Classification of asset soundness is fulfilled by the analysis and assessment of credit risk. The classification is used to provide an appropriate allowance, prevent further occurrences of insolvent assets and promote the normalization of existing insolvent assets to enhance the stabilization of asset operations.

Based on the Financial Supervisory Regulations of the Republic of Korea, the Bank has established standards and guidelines on the classification of asset soundness, according to the Forward-Looking Criteria, which reflects not only the borrower's past records of repayment but also their future debt repayment capability.

In conformity with these standards, the Bank classifies the soundness of its assets as "normal", "precautionary", "substandard", "doubtful", or "estimated loss" and differentiates the coverage ratio by the level of classification.

Details of loans by credit rating as of December 31, 2023 and 2022 are as follows:

< Corporate >

	December 31, 2023			
		12-month expected credit loss	Lifetime expected credit losses	
	Carrying amounts		Non credit-impaired	Credit-impaired
AAA ~ BBB1	₩ 173,049,276	154,937,789	18,111,487	-
BBB2 ~ CCC	28,462,327	10,457,743	16,807,917	1,196,667
Below CC	1,412,185	-	-	1,412,185
	₩ 202,923,788	165,395,532	34,919,404	2,608,852

49. Risk Management, Continued

		December 31, 2022			
			12-month expected credit loss	Lifetime expected credit losses	
		Carrying amounts		Non credit-impaired	Credit-impaired
AAA ~ BBB1	₩	169,982,892	150,604,520	19,378,372	-
BBB2 ~ CCC		30,582,238	8,314,570	20,210,063	2,057,605
Below CC		1,283,425	-	52,693	1,230,732
	₩	201,848,555	158,919,090	39,641,128	3,288,337

< Retail >

		December 31, 2023			
			12-month expected credit loss	Lifetime expected credit losses	
		Carrying amounts		Non credit-impaired	Credit-impaired
Grade 1~ Grade 6	₩	140,982	135,315	5,667	-
Grade 7~ Grade 8		1,322	-	1,306	16
Grade 9~ Grade 10		1,230	-	-	1,230
	₩	143,534	135,315	6,973	1,246

		December 31, 2022			
			12-month expected credit loss	Lifetime expected credit losses	
		Carrying amounts		Non credit-impaired	Credit-impaired
Grade 1~ Grade 6	₩	181,023	173,381	7,642	-
Grade 7~ Grade 8		2,116	-	2,084	32
Grade 9~ Grade 10		536	-	-	536
	₩	183,675	173,381	9,726	568

Details of payment guarantees (including financial guarantees) and unused commitments by credit rating as of December 31, 2023 and 2022 are as follows:

< Corporate >

		December 31, 2023			
			12-month expected credit loss	Lifetime expected credit losses	
		Exposures		Non credit-impaired	Credit-impaired
Unused commitments:					
AAA ~ BBB1	₩	48,742,342	44,927,503	3,814,839	-
BBB2 ~ CCC		6,034,409	2,350,626	3,622,987	60,796
Below CC		-	-	-	-
	₩	54,776,751	47,278,129	7,437,826	60,796
Payment guarantees (including financial guarantees):					
AAA ~ BBB1	₩	7,779,809	6,962,566	817,243	-
BBB2 ~ CCC		10,515,773	4,612,674	5,885,145	17,954
Below CC		68,808	-	86	68,722
	₩	18,364,390	11,575,240	6,702,474	86,676

49. Risk Management, Continued

		December 31, 2022			
			12-month expected credit loss	Lifetime expected credit losses	
		Exposures		Non credit-impaired	Credit-impaired
Unused commitments:					
AAA ~ BBB1	₩	42,065,612	38,276,358	3,789,254	-
BBB2 ~ CCC		5,108,112	1,943,066	3,112,816	52,230
Below CC		-	-	-	-
	₩	47,173,724	40,219,424	6,902,070	52,230
Payment guarantees (including financial guarantees):					
AAA ~ BBB1	₩	6,921,986	6,008,602	913,384	-
BBB2 ~ CCC		9,773,163	4,598,273	3,826,826	1,348,064
Below CC		12,110	-	154	11,956
	₩	16,707,259	10,606,875	4,740,364	1,360,020

< Retail >

		December 31, 2023			
			12-month expected credit loss	Lifetime expected credit losses	
		Exposures		Non credit-impaired	Credit-impaired
Unused commitments:					
Grade 1~ Grade 6	₩	39,887	39,310	577	-
Grade 7~ Grade 8		-	-	-	-
Grade 9~ Grade 10		-	-	-	-
	₩	39,887	39,310	577	-

		December 31, 2022			
			12-month expected credit loss	Lifetime expected credit losses	
		Exposures		Non credit-impaired	Credit-impaired
Unused commitments:					
Grade 1~ Grade 6	₩	32,230	31,779	451	-
Grade 7~ Grade 8		20	-	20	-
Grade 9~ Grade 10		-	-	-	-
	₩	32,250	31,779	471	-

49. Risk Management, Continued

(iii) Measurement methodology of credit risk

Pursuant to Basel III, the Bank selects the measurement methodology of credit risk considering the complexity of measurement, measurement factors, estimating methods and others. Measurement approaches are divided into Standardized Approach and Internal Ratings-Based Approach.

Standardized Approach ("SA")

In the case of the Standardized Approach, the risk weights are applied according to the credit rating assessed by External Credit Assessment Institution ("ECAI"). Risk weights in each credit rating are as follows:

Credit rating	Corporate	Country	Bank
AAA ~ AA-	20.0%	0.0%	20.0%
A+ ~ A-	50.0%	20.0%	30.0%
BBB+ ~ BBB-	75.0%	50.0%	50.0%
BB+ ~ BB-	100.0%	100.0%	100.0%
B+ ~ B-	150.0%	100.0%	100.0%
Below B-	150.0%	150.0%	150.0%
Unrated	100.0% (*)	100.0%	Rating based on due diligence

(*) In case of small and medium-sized business, 85.0% is applied.

The OECD is designated as foreign ECAI and Korea Investrors Service Co., Ltd., NICE Investors Services Co., Ltd. and the Korea Ratings Co., Ltd. are designated as domestic ECAI.

The Bank applies the credit rating based on the corresponding loan and same borrower's unsecured senior loans. In the case the borrower's risk weight is higher than the unrated exposure's risk weight (100%), the higher weight is applied. In the case the borrower has more than one rating, the higher weight of the two lowest weights (Second Best Criteria) is applied.

49. Risk Management, Continued

Internal Ratings-Based Approach (IRB)
To use the Internal Ratings-Based Approach, a bank must be approved by the FSS and should also meet the requirement pre-set by the FSS.

In relation to Basel II that has been adopted domestically as of January 2008, the Bank gained approval from the FSS to use the Foundation Internal Ratings-Based Approach in July 2008. The Bank has calculated credit risk-weighted assets using the approach since late June 2008.

Measurement method of credit risk-weighted asset
The Bank calculates credit risk-weighted assets of corporate exposures and asset securitization exposures using the Foundation Internal Ratings-Based Approach as of December 31, 2023.

The Standardized Approach is applied to country exposures, public institution exposures and bank exposures permanently and applied to overseas subsidiary and the Bank's branch pursuant to prior consultation with the FSS.

<Approved measurement method>

Measurement method		Exposure
Standardized Approach	Permanent SA	- Countries, public institutions, banks, equity
	SA	- Overseas subsidiaries and branches, and other assets, retail, residential mortgage, commercial properties
Foundation Internal Ratings-Based Approach		- Corporate, small and medium enterprises, asset securitization (at each credit level)
Application of IRB by phase		- Special lending, non-residence and others

The mitigated effect of credit risks reflects the related policies which consider eligible collateral and guarantees. The Bank calculates the credit risk-weighted assets using the capital adequacy ratio.

Upon the calculation of credit risk-weighted assets for derivatives, the Bank takes into consideration the set-off effects of transactions under legally enforceable rights to set-off to calculate exposures.

49. Risk Management, Continued

Credit rating model
The results of credit rating are presented as grades through an assessment of the debt repayment capacity that the principal and interest of debt securities or loans are redeemed while complying with contractual redemption schedule.

Using the Bank's internal credit rating model, the Bank classifies debtors' credit rating into 14 grades (AAA~D). To distinguish the difference between credits in the same grade, the Bank uses 20 stages as auxiliaries to 14 grades.

The Bank's regular credit rating process is carried out once a year and in the case of the change of debtor's credit condition, the credit rating is frequently adjusted as necessary to retain the adequacy of credit rating.

The results of credit rating are applied to various areas such as discrimination of loan processes, loan limit, loan interest rate, post loan management standard process, credit risk measurement, and allowance for loan losses assessment.

Credit rating process control structure
According to the Principle of Checks and Balances, the Bank has established the credit rating process control structure by which the credit rating system operates appropriately.

- Independent assessment of credit rating: The Bank's business segment (RM) and credit rating assessment segment (SRO) are independently operated.
- Independent control of credit rating system: The control of credit rating system including the development of credit rating model is independently implemented by the Bank's Risk Management Department.
- Independent verification of credit rating system: Credit rating system is independently verified by Risk Validation Team of the Financial Planning Department.
- Internal audit of credit rating process: Credit rating process is audited by the Bank's internal audit department.
- Role of the Board of Directors and the Bank's management: Major issues relating to credit process are approved by the Board of Directors and are regularly monitored by the Bank's top management.

The Bank reviews debt serviceability based on a credit analysis when handling loans. Depending on the results, credit loan preservation is adjusted as necessary using such methods as interest rate preservation due to credit risk.

The Bank evaluates the value of the collateral, performing ability and legal validity of the guarantee at the initial acquisition. The Bank re-evaluates the provided collateral and guarantees regularly for them to be reasonably preserved.

For guarantees, the Bank demands a corresponding written guarantee according to loan handling standards and the guarantor's credit rating is independently calculated when in conformance with the credit rating endowment method.

The quantification of the extent to which collateral and other credit enhancements mitigate credit risk of impaired financial assets as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
Securities measured at FVOCI	₩	73,063	72,739
Loans measured at amortized cost		2,663,591	3,345,216
Other assets		13,481	14,221

49. Risk Management, Continued

(iv) *Credit exposure*

Geographical information of credit exposure as of December 31, 2023 and 2022 are as follows:

	December 31, 2023									
	Korea	Hong Kong	Ireland	Uzbekistan	Brazil	Hungary	UK	USA	Ohers	Total
Due from banks (excluding due from BOK)	₩ 138,552	1,346,131	-	128,940	104,441	578,910	256,742	2,782,499	1,222,893	6,559,108
Securities measured at FVOCI: Bonds (excluding government bonds)	10,137,604	227,397	-	-	-	-	354,937	5,573,303	3,305,218	19,598,459
Securities measured at amortized cost: Bonds (excluding government bonds)	2,653,129	-	-	-	-	-	-	152,683	-	2,805,812
Loans	162,410,485	2,068,402	1,942,429	501,707	826,633	1,038,070	1,541,959	7,283,163	45,660,084	223,272,932
Derivative financial assets	207,334	9,763	-	-	-	-	49,559	813	295,027	562,496
Other assets	3,991,060	-	-	-	-	-	-	-	6,294,514	10,285,574
	179,538,164	3,651,693	1,942,429	630,647	931,074	1,616,980	2,203,197	15,792,461	56,777,736	263,084,381
Guarantees (including financial guarantees)	17,523,463	-	-	-	-	48,997	-	743,963	47,967	18,364,390
Commitments	46,663,341	72,725	114,919	-	25,788	-	313,368	4,155,937	3,470,560	54,816,638
	64,186,804	72,725	114,919	-	25,788	48,997	313,368	4,899,900	3,518,527	73,181,028
	₩ 243,724,968	3,724,418	2,057,348	630,647	956,862	1,665,977	2,516,565	20,692,361	60,296,263	336,265,409

	December 31, 2022									
	Korea	Hong Kong	Ireland	Uzbekistan	Brazil	Hungary	UK	USA	Ohers	Total
Due from banks (excluding due from BOK)	₩ 1,449,224	1,405,648	-	38,019	87,444	365,514	536,418	3,329,355	1,031,286	8,242,908
Securities measured at FVOCI: Bonds (excluding government bonds)	13,531,541	241,512	12,533	-	-	-	297,115	4,953,262	2,807,821	21,843,784
Loans	164,692,863	1,913,983	1,534,814	687,498	339,476	929,402	1,471,985	5,616,327	44,228,252	221,414,600
Derivative financial assets	108,797	3,572	-	-	-	-	8,681	18,656	45,771	185,477
Other assets	1,559,148	-	-	-	-	-	-	-	6,233,425	7,792,573
	181,341,573	3,564,715	1,547,347	725,517	426,920	1,294,916	2,314,199	13,917,600	54,346,555	259,479,342
Guarantees (including financial guarantees)	16,226,813	-	-	-	-	48,285	-	241,660	190,503	16,707,261
Commitments	42,293,299	166,993	110,971	-	126,730	20,268	416,056	2,281,667	1,789,989	47,205,973
	58,520,112	166,993	110,971	-	126,730	68,553	416,056	2,523,327	1,980,492	63,913,234
	₩ 239,861,685	3,731,708	1,658,318	725,517	553,650	1,363,469	2,730,255	16,440,927	56,327,047	323,392,576

49. Risk Management, Continued

Industry information of credit exposure as of December 31, 2023 and 2022 are as follows:

	December 31, 2023			
	Manufacturing	Service	Others	Total
Due from banks (excluding due from BOK)	₩ -	5,814,916	744,192	6,559,108
Securities measured at FVOCI:				
Bonds (excluding government bonds)	3,403,270	12,644,311	3,550,878	19,598,459
Securities measured at amortized cost:				
Bonds (excluding government bonds)	369,654	1,673,363	762,795	2,805,812
Loans	86,309,450	116,687,925	20,275,557	223,272,932
Derivative financial assets	-	562,496	-	562,496
Other assets	308,939	615,661	9,360,974	10,285,574
	90,391,313	137,998,672	34,694,396	263,084,381
Guarantees (including financial guarantees)	16,171,129	2,091,952	101,309	18,364,390
Commitments	26,388,986	26,117,146	2,310,506	54,816,638
	42,560,115	28,209,098	2,411,815	73,181,028
	₩ 132,951,428	166,207,770	37,106,211	336,265,409

	December 31, 2022			
	Manufacturing	Service	Others	Total
Due from banks (excluding due from BOK)	₩ -	7,636,352	606,556	8,242,908
Securities measured at FVOCI:				
Bonds (excluding government bonds)	3,642,461	14,432,050	3,769,273	21,843,784
Loans	84,698,134	117,538,177	19,178,289	221,414,600
Derivative financial assets	-	185,477	-	185,477
Other assets	244,043	468,531	7,079,999	7,792,573
	88,584,638	140,260,587	30,634,117	259,479,342
Guarantees (including financial guarantees)	14,244,265	2,070,682	392,314	16,707,261
Commitments	22,153,544	23,477,561	1,574,868	47,205,973
	36,397,809	25,548,243	1,967,182	63,913,234
	₩ 124,982,447	165,808,830	32,601,299	323,392,576

49. Risk Management, Continued

Credit exposures of debt securities by credit rating as of December 31, 2023 and 2022 are as follows:

		December 31, 2023			
			12-month	Lifetime expected credit losses	
		Carrying amounts	expected credit loss	Non credit-impaired	Credit-impaired
AAA ~ BBB1	₩	26,723,386	26,383,861	339,525	-
BBB2 ~ CCC		112,869	30,000	82,869	-
Below CC		-	-	-	-
	₩	26,836,255	26,413,861	422,394	-

		December 31, 2022			
			12-month	Lifetime expected credit losses	
		Carrying amounts	expected credit loss	Non credit-impaired	Credit-impaired
AAA ~ BBB1	₩	27,133,598	26,789,221	344,377	-
BBB2 ~ CCC		37,359	14,927	22,432	-
Below CC		-	-	-	-
	₩	27,170,957	26,804,148	366,809	-

(3) Capital management activities

(i) Capital adequacy

The FSS approved the Bank's use of the Foundation Internal Ratings-Based Approach in July 2008. The Bank has been using the same approach when calculating credit risk-weighted assets since the end of June 2008. The equity capital ratio and equity capital according to the standards of the Bank for International Settlements are calculated for such disclosure. The equity capital ratio and equity capital are calculated on a consolidated basis. In conformity with the Banking Act, which is based on the implementation of Basel III on December 1, 2013, the regulatory capital is divided into the following two categories.

Tier 1 capital

- Common Equity Tier 1

Regulatory capital that represents the most subordinated claim in liquidation of the Bank, takes the first and proportionately greatest share of any losses as they occur, and which principal is never repaid outside of liquidation meets the criteria for classification as common equity, including capital stock, capital surplus, retained earnings and accumulated other comprehensive income as common equity Tier 1.

- Additional Tier 1 capital

Capital stock and capital surplus related to issuance of capital securities that are subordinated, have non-cumulative and conditional dividends or interests, and have no maturity or step-up conditions.

49. Risk Management, Continued

Tier 2 capital (Supplementary Tier 2 capital)
Regulatory capital that fulfills supplementary capital adequacy requirements, and includes subordinated debt with maturities over 5 years and allowance for loan losses in conformity with external regulatory standards and internal standards.

The BIS capital adequacy ratio and capital in accordance to Basel III standards as of December 31, 2023 and 2022 are as follows:

BIS capital adequacy ratio

		December 31, 2023	December 31, 2022
Equity capital based on BIS (A):			
Tier 1 capital:			
Common Equity Tier 1	₩	37,417,288	35,125,348
Additional Tier 1 capital		-	-
		37,417,288	35,125,348
Tier 2 capital		3,854,806	3,197,936
	₩	41,272,094	38,323,284
Risk-weighted assets (B):			
Credit risk-weighted assets	₩	285,177,131	277,265,026
Market risk-weighted assets		2,895,790	1,329,603
Operational risk-weighted assets		13,164,005	7,458,674
	₩	301,236,926	286,053,303
BIS capital adequacy ratio (A/B):		13.70%	13.40%
Tier 1 capital ratio:		12.42%	12.28%
Common Equity Tier 1 ratio		12.42%	12.28%
Additional Tier 1 capital ratio		-	-
Tier 2 capital ratio		1.28%	1.12%

Equity capital based on BIS

		December 31, 2023	December 31, 2022
Tier 1 capital (A):			
Common Equity Tier 1			
Capital stock	₩	23,926,559	23,151,559
Capital surplus, etc.		1,435,780	748,121
Retained earnings		9,900,499	7,355,027
Accumulated other comprehensive income		3,148,442	4,185,537
Common stock deductibles		(993,991)	(314,896)
		37,417,288	35,125,348
Tier 2 capital (B):			
Allowance for doubtful accounts, etc.		955,241	972,578
Qualified capital securities		3,176,000	2,244,000
Non-qualified capital securities		-	-
Additional stock deductibles		(276,435)	(18,642)
		3,854,806	3,197,936
Equity capital (A+B)	₩	41,272,094	38,323,284

49. Risk Management, Continued

(4) Market risk

(i) Concept

Market risk is defined as the possibility of potential loss resulting from fluctuations in interest rates, foreign exchange rates and the price of stocks and commodities. Trading position is exposed to risks, such as interest rate, stock price, and foreign exchange rate, etc. Non-trading position is mostly exposed to interest rates. Accordingly, the Bank classifies market risks into those exposed from trading position or those exposed from non-trading position.

(ii) Market risks of trading positions

Management method on market risks arising from trading positions

In response to the full implementation of Basel III market risk regulations, the Bank has been calculating and managing market risk capital in accordance with the Standardized Approach under Basel III since January 2023. The Standardized Approach under Basel III measures market risk by three components: sensitivity risk, default risk and residual risk. Sensitivity risk measures the market risk by five risk classes, which are general interest rate, credit spread, equity, foreign exchange and commodity. Default risk quantifies losses in the event of a default that exceeds normal market price fluctuations. Lastly, residual risk quantifies risk that cannot be measured by sensitivity risk and default risk. These components are then simply added together to calculate the total required capital.

The Bank sets total limit of market risk based on annual business plan, risk appetite and others and monitors Market Risk limit of each trading department on a daily basis.

Capital Requirements for Market risk

The Bank's Capital Requirements for Market risk as of December 31, 2023 are as follows:

		December 31, 2023
Sensitivity risk:		
General interest rate	₩	112,612
Credit spread		84,971
Equity		815
Foreign exchange (FX)		8,383
Commodity		120
		206,901
Default risk		7,696
Residual risk		3,901
	₩	218,498

The year ended December 31, 2022 were prior to the adoption of Basel III and therefore there is no comparable Basel III market risk required equity calculation for the current period.

For reference, the market risk capital under Basel 2.5 is as follows:

		December 31, 2022
Interest rate	₩	62,386
Stock		93
Foreign exchange (FX)		17,235
Option		11,249
	₩	90,963

49. Risk Management, Continued

(iii) Market risks of non-trading positions

Management method on market risks arising from non-trading positions

The most critical market risk that arises in non-trading position is the interest rate risk. Interest rate risk is defined as the likely loss resulting from the unfavorable fluctuation of interest rate in the Bank's financial condition and is measured by IRRBB (Interest Rate Risk in Banking Book), △EVE (change in Economic Value of Equity) and △NII (change in Net Interest Income).

△EVE represents fluctuations in the economic value of equity capital that may occur due to changes in interest rates affecting the present values of assets, liabilities and off-balance sheet items. △NII represents changes in net interest income that may occur over a certain period of time (e.g. one year) in the future due to changes in interest rates.

The Bank's Risk Management Committee sets and manages interest rate risk limits on a yearly basis and interest rate risk is monthly measured and monitored.

△EVE and △NII of the Bank's non-trading positions as of December 31, 2023 and 2022 are as follows:

		December 31, 2023	December 31, 2022
△EVE	₩	1,920,912	1,484,769
△NII		583,853	389,249

49. Risk Management, Continued

(iv) *Foreign currency risk*

Outstanding balances by currency with significant exposure as of December 31, 2023 and 2022 are as follows:

	December 31, 2023						
	KRW	USD	EUR	JPY	GBP	Others	Total
Financial assets:							
Cash and due from banks	₩ 2,053,194	6,109,070	54,613	88,293	31,063	323,575	8,659,808
Securities measured at FVTPL	15,369,828	667,073	-	2,116	-	19,539	16,058,556
Securities measured at FVOCI	23,180,190	9,601,225	76,216	499,704	-	530,729	33,888,064
Securities measured at amortized cost	8,430,505	152,683	-	-	-	-	8,583,188
Loans measured at FVTPL	488,432	-	-	-	-	-	488,432
Loans measured at amortized cost	136,780,322	54,107,004	4,261,084	2,095,045	1,045,941	1,692,384	199,981,780
Derivative financial assets	5,079,144	1,962,602	62,952	15,177	216,238	47,212	7,383,325
Other financial assets	5,805,262	3,051,990	52,799	34,950	2,293	1,189,348	10,136,642
	197,186,877	75,651,647	4,507,664	2,735,285	1,295,535	3,802,787	285,179,795
Financial liabilities:							
Financial liabilities measured at FVTPL	1,659,485	260,576	-	-	-	-	1,920,061
Deposits	51,240,623	14,219,436	33,889	393,757	185	9,842	65,897,732
Borrowings	4,817,839	19,649,421	272,211	1,610,656	1,481	1,394,021	27,745,629
Debentures	114,993,187	31,115,161	3,206,528	153,390	97,197	7,368,404	156,933,867
Derivative financial liabilities	4,894,577	2,431,566	63,937	7,236	212,812	44,773	7,654,901
Other financial liabilities	6,848,988	3,508,339	56,519	35,828	1,627	1,371,973	11,823,274
	184,454,699	71,184,499	3,633,084	2,200,867	313,302	10,189,013	271,975,464
Net financial position	₩ 12,732,178	4,467,148	874,580	534,418	982,233	(6,386,226)	13,204,331

	December 31, 2022						
	KRW	USD	EUR	JPY	GBP	Others	Total
Financial assets:							
Cash and due from banks	₩ 3,980,664	7,358,901	24,870	52,023	14,083	108,265	11,538,806
Securities measured at FVTPL	11,206,799	691,367	-	2,218	-	51,522	11,951,906
Securities measured at FVOCI	28,590,211	8,016,390	25	376,526	-	701,767	37,684,919
Securities measured at amortized cost	6,355,884	-	-	-	-	-	6,355,884
Loans measured at FVTPL	541,811	-	-	-	-	-	541,811
Loans measured at amortized cost	138,177,034	51,883,126	3,573,847	1,682,518	1,051,281	1,677,797	198,045,603
Derivative financial assets	6,804,262	2,674,562	64,348	22,321	175,820	53,142	9,794,455
Other financial assets	5,194,841	2,330,511	45,396	51,070	16,868	37,926	7,676,612
	200,851,506	72,954,857	3,708,486	2,186,676	1,258,052	2,630,419	283,589,996
Financial liabilities:							
Financial liabilities measured at FVTPL	1,289,717	180,007	-	-	-	-	1,469,724
Deposits	55,270,353	12,572,982	34,059	448,083	78	1,101	68,326,656
Borrowings	4,609,133	18,257,698	62,662	1,101,058	-	1,398,693	25,429,244
Debentures	120,509,021	27,774,042	2,752,363	181,000	97,197	7,398,273	158,711,896
Derivative financial liabilities	7,858,410	3,056,382	114,369	8,662	218,257	60,922	11,317,002
Other financial liabilities	4,197,192	2,264,017	34,930	31,419	16,893	173,280	6,717,731
	193,733,826	64,105,128	2,998,383	1,770,222	332,425	9,032,269	271,972,253
Net financial position	₩ 7,117,680	8,849,729	710,103	416,454	925,627	(6,401,850)	11,617,743

49. Risk Management, Continued

(v) *Interest rate risk management*

The Bank is closely monitoring the outputs prepared by the industrial working groups which is managing the transition to alternative benchmark rates and the markets related the rates. The outputs include the information published by regulatory authorities related to IBORs. The authorities have made it clear that after the end of 2021, they will no longer persuade or force banks to submit IBORs. Responding the transition, the Bank organized a task force led by the head of the risk management division and the task force has established the LIBOR transition plan that consists of work flows such as alternative interest rate determination, application development, customer communication management, risk management, taxation, finance, legal, and accounting system establishment. The important progress of the plan is reported to the management and may also be reported to the board of directors if necessary. The purpose of the task force is to review where exposure to IBOR occurs within the Bank's business, and to develop and implement the plan to transit to the alternative benchmark rates. As of December 31, 2023, we have finalized the introduction of conversion and replacement rates for the majority of our U.S. dollar-denominated contracts. However, we aim to complete the conversion of certain unconverted contracts with maturities after December 2023 by the first interest rate rebalancing date that occurs.

The financial instruments that have yet to transition to alternative benchmark rates as of December 31, 2023 and 2022 are as follows. The amounts of the non-derivative financial instruments are the carrying amounts and the amounts of the derivatives, the commitments and the guarantees are the nominal amounts.

		December 31, 2023
		USD
Non-derivative financial assets:		
Financial assets measured at amortized cost	₩	1,134,895
Derivative:		
Trading purpose:		
Interest rate		477,504

		December 31, 2022
		USD
Non-derivative financial assets:		
Financial assets measured at FVOCI	₩	6,342
Financial assets measured at amortized cost		10,932,787
Privately placed corporate bonds		19,010
		10,958,139
Non-derivative financial liabilities:		
Financial liabilities measured at amortized cost		781,924
Derivative:		
Trading purpose:		
Interest rate		76,158,628
Currency		42,669,517
Hedging purpose:		
Interest rate		16,209,017
Currency		5,025,604
		140,062,766
Commitments and guarantees	₩	75,022

49. Risk Management, Continued

(5) Liquidity risk management

(i) Concept

Liquidity risk is defined as the possibility of potential loss due to a temporary shortage in funds caused by a maturity mismatch or an unexpected capital outlay. Liquidity risk soars when funding rates rise, assets are sold below a normal price, or a good investment opportunity is missed.

(ii) Approach to liquidity risk management

The Bank manages its liquidity risks as follows:

Allowable limit for liquidity risk

- The allowable limit for liquidity risk sets LCR, NSFR and Mid- to long-term foreign currency fund management ratio
- The management standards with regards to the allowable limit for liquidity risk should be set using separate and stringent set ratios in accordance with the FSS guidelines.

<Measurement Methodology>

- LCR: (High quality liquid assets / Total net cash outflows over the next 30 calendar days) X 100
- NSFR: Available Stable Funding / Required Stable Funding X 100
- Mid- to long-term foreign currency fund management ratio: Foreign currency funding being repaid after 1 year / Foreign currency lending being collected after 1 year X 100

Early warning indicator

To identify prematurely and cope with worsening liquidity risk trends, the Bank has set up 15 indexes such as the "Foreign Exchange Stabilization Bond CDS Premium," and measures the trend monthly as a means for establishing the allowable liquidity risk limit complementary measures.

Stress-Test analysis and contingency plan

- The Bank evaluates the effects on the liquidity risk and identifies the inherent flaws. In the case where an unpredictable and significant liquidity crisis occurs, the Bank executes risk situation analysis quarterly based on crisis specific to the Bank, market risk and complex emergency, and reports to the Risk Management Committee for the Bank's solvency securitization.
- The Bank established detailed contingency plan to manage the liquidity risks at every risk situations.

49. Risk Management, Continued

(iii) Analysis on remaining contractual maturity of financial instruments

Remaining contractual maturity analysis of non-derivative financial instruments including interest payment as of December 31, 2023 and 2022 are as follows:

	December 31, 2023					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Financial assets:						
Cash and due from banks	₩ 6,496,029	435,423	1,052,742	675,016	-	8,659,210
Securities measured at FVTPL	148,946	183,900	1,240,381	357,045	14,108,295	16,038,567
Securities measured at FVOCI	993,549	818,347	4,937,042	9,576,173	15,126,966	31,452,077
Securities measured at amortized cost	329,935	648,441	3,341,184	4,242,848	30,000	8,592,408
Loans	14,612,469	18,283,041	70,764,523	77,534,031	18,136,771	199,330,835
Other financial assets	8,432,805	-	-	-	1,773,897	10,206,702
	₩ 31,013,733	20,369,152	81,335,872	92,385,113	49,175,929	274,279,799
Financial liabilities:						
Financial liabilities measured at FVTPL	₩ 472,317	156,783	447,317	583,068	260,576	1,920,061
Deposits	27,470,945	11,085,432	20,825,008	6,400,963	128,990	65,911,338
Borrowings	4,644,515	5,118,500	11,503,777	5,421,288	840,401	27,528,481
Debentures	5,640,391	8,903,959	48,962,250	86,164,795	7,795,760	157,467,155
Other financial liabilities	8,439,585	2,664,173	-	-	5,703,816	16,807,574
	₩ 46,667,753	27,928,847	81,738,352	98,570,114	14,729,543	269,634,609

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Financial assets:						
Cash and due from banks	₩ 9,025,666	430,095	1,031,942	930,574	-	11,418,277
Securities measured at FVTPL	117,102	99,673	184,468	412,498	11,157,484	11,971,225
Securities measured at FVOCI	188,333	1,164,031	4,422,058	12,510,195	15,487,979	33,772,596
Securities measured at amortized cost	249,997	500,011	1,777,966	3,828,118	-	6,356,092
Loans	15,068,406	21,683,856	68,144,918	77,451,592	15,820,283	198,169,055
Other financial assets	6,344,790	-	-	-	1,447,354	7,792,144
	₩ 30,994,294	23,877,666	75,561,352	95,132,977	43,913,100	269,479,389
Financial liabilities:						
Financial liabilities measured at FVTPL	₩ 60,946	123,271	388,312	290,403	88,371	951,303
Deposits	30,564,386	12,664,843	20,632,157	4,364,976	126,939	68,353,301
Borrowings	3,632,166	5,829,318	11,367,549	3,528,097	967,068	25,324,198
Debentures	4,841,503	11,647,424	54,655,589	83,734,150	4,151,709	159,030,375
Other financial liabilities	3,837,948	2,057,141	-	-	946,270	6,841,359
	₩ 42,936,949	32,321,997	87,043,607	91,917,626	6,280,357	260,500,536

49. Risk Management, Continued

Remaining contractual maturity analysis of derivative financial instruments as of December 31, 2023 and 2022 are as follows:

Net settlement of derivative financial instruments

		December 31, 2023					
		Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:							
Currency	₩	(2,033)	(28,349)	(275,111)	(366,676)	826,714	154,545
Interest rate		(1)	-	-	-	-	(1)
Hedging purpose derivatives:							
Interest rate		43,722	144,662	543,394	1,595,618	1,336,540	3,663,936
	₩	41,688	116,313	268,283	1,228,942	2,163,254	3,818,480

		December 31, 2022					
		Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:							
Currency	₩	14,310	56,466	123,397	(231,289)	329,021	291,905
Interest rate		1	-	-	-	-	1
Hedging purpose derivatives:							
Interest rate		(43,682)	(20,611)	265,185	907,552	912,990	2,021,434
	₩	(29,371)	35,855	388,582	676,263	1,242,011	2,313,340

49. Risk Management, Continued

Gross settlement of derivative financial instruments

	December 31, 2023					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:						
Currency						
Inflow	₩ 45,348,884	27,478,545	57,355,351	87,467,138	5,566,523	223,216,441
Outflow	45,470,176	27,330,617	56,975,759	86,723,581	5,583,057	222,083,190
Hedging purpose derivatives:						
Currency						
Inflow	1,581,339	714,124	5,614,897	17,506,798	4,659,118	30,076,276
Outflow	1,828,956	1,245,814	5,799,883	17,135,514	4,444,721	30,454,888
Total inflow	₩ 46,930,223	28,192,669	62,970,248	104,973,936	10,225,641	253,292,717
Total outflow	₩ 47,299,132	28,576,431	62,775,642	103,859,095	10,027,778	252,538,078

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:						
Currency						
Inflow	₩ 52,226,487	31,340,410	63,562,432	77,160,037	7,031,148	231,320,514
Outflow	52,120,608	31,419,674	63,702,102	76,526,053	6,968,341	230,736,778
Hedging purpose derivatives:						
Currency						
Inflow	382,466	331,653	8,692,048	15,738,325	3,653,029	28,797,521
Outflow	727,331	518,563	8,825,328	16,632,521	3,577,128	30,280,871
Total inflow	₩ 52,608,953	31,672,063	72,254,480	92,898,362	10,684,177	260,118,035
Total outflow	₩ 52,847,939	31,938,237	72,527,430	93,158,574	10,545,469	261,017,649

Remaining contractual maturity analysis of guarantees and commitments as of December 31, 2023 and 2022 are as follows:

	December 31, 2023					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Guarantees	₩ 1,210,778	2,221,822	5,049,000	9,253,213	629,577	18,364,390
Commitments	282,001	103,672	1,586,296	1,763,658	53,127,394	56,863,021
	₩ 1,492,779	2,325,494	6,635,296	11,016,871	53,756,971	75,227,411

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Guarantees	₩ 1,004,990	1,588,345	3,883,351	9,810,539	420,035	16,707,260
Commitments	100,641	51,336	761,191	1,500,964	46,812,437	49,226,569
	₩ 1,105,631	1,639,681	4,644,542	11,311,503	47,232,472	65,933,829

Independent Auditors' Review Report on Internal Control over Financial Reporting

Based on a report originally issued in Korean

The Chief Executive Officer
Korea Development Bank

We have reviewed the accompanying report on the operations of the Internal Control over Financial Reporting ("ICFR") of Korea Development Bank (the "Bank") as of December 31, 2023. The Bank's management is responsible for designing and operating ICFR and for its assessment of the effectiveness of ICFR. Our responsibility is to review management's assessment of ICFR and issue a report based on our review. In the accompanying report of management's assessment of ICFR, the Bank's management stated: "Based on the assessment of the operations of the ICFR, no material weakness existed and the Bank's ICFR has been effectively designed and operated as of December 31, 2023 in accordance with the ICFR standards"

We conducted our review in accordance with ICFR Review Standards, issued by the Korean Institute of Certified Public Accountants. Those standards require that we plan and perform, in all material respects, the review of management's report on the operations of the ICFR to obtain a lower level of assurance than an audit. Our review consists principally of obtaining an understanding of the Bank's ICFR, inquiries of Bank personnel about the details of the report, and tracing to related documents we considered necessary in the circumstances.

The Bank's ICFR is a process designed to provide reasonable assurance regarding the reliability of financial reporting and the preparation of financial statements for external purposes in accordance with K-IFRS. Because of its inherent limitations, however, ICFR may not prevent or detect misstatements. Also, projections of any evaluation of effectiveness to future periods are subject to the risk that controls may become inadequate because of changes in conditions, or that the degree of compliance with the policies or procedures may deteriorate.

Based on our review, nothing has come to our attention that causes us to believe that report on the operations of ICFR as of December 31, 2023 is not prepared in all material respects, in accordance with ICFR standards issued by the Internal Accounting Control System Operation Committee.

This report applies to the Bank's ICFR in existence as of December 31, 2023. We did not review the Bank's ICFR subsequent to December 31, 2023.

Nexia Samduk

Seoul, Korea
March 28, 2024

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