IMPORTANT NOTICE

AVAILABLE ONLY TO INVESTORS WHO ARE OUTSIDE OF THE UNITED STATES

IMPORTANT: You must read the following before continuing. The following applies to the offering circular (the "Offering Circular") following this page, and you are therefore advised to read this carefully before reading, accessing or making any other use of the Offering Circular. In accessing the 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 Company (as defined in the Offering Circular) as a result of such access.

NOTHING IN THIS ELECTRONIC TRANSMISSION CONSTITUTES AN OFFER OF THE BONDS (AS DEFINED IN THE OFFERING CIRCULAR) FOR SALE IN THE UNITED STATES OR ANY OTHER JURISDICTION WHERE IT IS UNLAWFUL TO DO SO. THE BONDS HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE UNITED STATES 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 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. ACCORDINGLY, THE BONDS ARE BEING OFFERED, SOLD OR DELIVERED OUTSIDE THE UNITED STATES IN RELIANCE ON REGULATION S UNDER THE SECURITIES ACT ("REGULATION S").

THE FOLLOWING 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 BONDS.

IMPORTANT – PROHIBITION OF SALES TO EEA RETAIL INVESTORS

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

IMPORTANT – PROHIBITION OF SALES TO UK RETAIL INVESTORS

The Bonds are not intended to be offered, sold or otherwise made available to and should not be offered, sold or otherwise made available to any retail investor in the United Kingdom (the "UK"). For these purposes, a retail investor means a person who is one (or more) of: (i) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the European Union (Withdrawal) Act 2018 (the "EUWA"); or (ii) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (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; or (iii) not a "qualified investor" as defined in Article 2 of Regulation (EU) 2017/1129 as it forms part of the 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 Bonds or otherwise making them available to retail investors in the UK has been prepared and, therefore, offering or selling the Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

UNITED KINGDOM – OTHER REGULATORY RESTRICTIONS

This communication of the attached Offering Circular is not being made, and the attached Offering Circular has not been approved, by an authorised person for the purposes of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA"). Accordingly, the attached Offering Circular is not being distributed to, and must not be passed on to, persons within the United Kingdom save in circumstances where section 21(1) of the FSMA does not apply to the Company.

Confirmation of your representation: In order to be eligible to view the Offering Circular or make an investment decision with respect to the Bonds, investors must be outside the United States as defined in Regulation S. The Offering Circular is being sent at your request and by accepting the e-mail and accessing the Offering Circular, you shall be deemed to have represented that (1) you and any customers you represent are outside of the United States, (2) the e-mail address that you provided and to which this e-mail has been delivered is not located in the United States and, to the extent you purchase the Bonds, you will be doing so pursuant to Regulation S and (3) you consent to delivery of the Offering Circular and any amendments and supplements thereto by electronic transmission.

You are reminded that the Offering Circular has been delivered to you on the basis that you are a person into whose possession the Offering Circular may be lawfully delivered in accordance with the laws of jurisdiction in which you are located and you may not, nor are you authorised to, deliver the 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 licensed broker or dealer and UBS AG Hong Kong Branch (the "Manager") or any affiliate of the Manager is a licensed broker or dealer in that jurisdiction, the offering shall be deemed to be made by the Manager or such affiliate on behalf of the Company in such jurisdiction.

The Offering Circular has been sent to you in an electronic form. You are reminded that documents transmitted via this medium may be altered or changed during the process of electronic transmission and consequently none of the Manager, the Trustee (as defined in the Offering Circular) or the Agents (as defined in the Offering Circular) or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them accepts any liability or responsibility whatsoever in respect of any difference between the Offering Circular distributed to you in electronic format and the hard copy version available to you on request from the Manager.

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.

IMPORTANT NOTICE TO PROSPECTIVE INVESTORS

Prospective investors should be aware that certain intermediaries in the context of this offering of the Bonds, including the Manager, are "capital market intermediaries" ("CMIs") subject to Paragraph 21 of the Code of Conduct for Persons Licensed by or Registered with the Securities and Futures Commission (the "Code"). This notice to prospective investors is a summary of certain obligations the 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 Code.

Prospective investors who are the directors, employees or major shareholders of the Company, a CMI or its group companies would be considered under the Code as having an association ("Association") with the Company, the CMI or the relevant group company (as the case may be). Prospective investors associated with the Company or any CMI (including its group companies) should specifically disclose this when placing an order for the Bonds and should disclose, at the same time, if such orders may negatively impact the price discovery process in relation to this offering. Prospective investors who do not disclose their Associations are hereby deemed not to be so associated. Where prospective investors disclose 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 the Manager, such prospective investor should indicate when placing an order if it is for a fund or portfolio where the Manager or its group company has more than 50% interest, in which case it will be classified as a "proprietary order" and subject to appropriate handling by CMIs in accordance with the Code and should disclose, at the same time, if such "proprietary order" may negatively impact the price discovery process in relation to this offering. Prospective investors who do not indicate this information when placing an order are hereby deemed to confirm that their order is not such a "proprietary order". If a prospective investor is otherwise affiliated with the Manager, such that its order may be considered to be a "proprietary order" (pursuant to the Code), such prospective investor should indicate to the Manager when placing such order and such orders will be subject to applicable requirements in accordance with the Code. Prospective investors who do not indicate this information when placing an order are hereby deemed to confirm that their order is not such a "proprietary order". Where prospective investors disclose such information but do not disclose that such "proprietary order" may negatively impact the price discovery process in relation to this offering, such "proprietary order" is hereby deemed not to negatively impact the price discovery process in relation to this offering.

Prospective investors should be aware that certain information may be disclosed by CMIs (including 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 Manager and/or any other third parties as may be required by the Code, including to the Company, any OCs, relevant regulators and/or any other third parties as may be required by the Code, it being understood and agreed that such information shall only be used for the purpose of complying with the Code, during the bookbuilding process for this offering. Failure to provide such information may result in that order being rejected.

Strictly confidential

kakao

Kakao Corp.

(incorporated in the Republic of Korea with limited liability)

U.S.$212,200,000 2.625 per cent. Convertible Bonds due 2029

Issue price: 100.00%

The U.S.$212,200,000 2.625 per cent. convertible bonds due 2029 (the "Bonds") will be issued by us. Each Bond will, at the option of the holder, be convertible (unless previously redeemed, converted or purchased and cancelled) on or after 9 June 2024, up to the close of business on 19 April 2029 into fully paid common shares with a par value of Won 100 each of the Company (the "Shares") at an initial conversion price of Won 63,700 per Share. The Conversion Price (as defined in the terms and conditions of the Bonds (the "Conditions")) is subject to adjustments in the circumstances described under "Terms and Conditions of the Bonds—Conversion—Adjustments to Conversion Price".

The Shares are listed on the KRX KOSPI Market of the Korea Exchange (the "KRX KOSPI Market"). On 22 April 2024, the closing price of the Shares was Won 49,000 per Share.

The Bonds will bear interest at a rate of 2.625 per cent. per annum, payable semi-annually in arrear in equal instalments of U.S.$1,312.50 per Calculation Amount (as defined in the Conditions) on 29 April and 29 October in each year commencing on 29 October 2024.

Unless previously redeemed, converted or purchased and cancelled, the Bonds will be redeemed at their principal amount, together with accrued but unpaid interest, on the Maturity Date (as defined in the Conditions). We may, on giving not less than 30 nor more than 60 days' notice in accordance with the Conditions, redeem the Bonds at their principal amount, together with accrued but unpaid interest to but excluding the date fixed for redemption, in whole but not in part, (i) at any time from and including 13 May 2027 but not less than 30 Business Days (as defined in the Conditions) prior to the Maturity Date, provided that no such redemption may be made unless the Closing Price (as defined in the Conditions) (translated into U.S. dollars at the Prevailing Rate (as defined in the Conditions)) of the Shares for each of 20 Trading Days (as defined in the Conditions) in the period of 30 consecutive Trading Days ending on the Trading Day immediately prior to the date upon which notice of such redemption is given pursuant to the Conditions, was at least 130 per cent. of the prevailing Conversion Price (translated into U.S. dollars at the Fixed Exchange Rate (as defined in the Conditions)); or (ii) at any time if certain changes relating to taxation have occurred; or (iii) at any time in the event that the principal amount of the Bonds outstanding is less than 10 per cent. of the principal amount of the Bonds originally issued (including any Bonds issued pursuant to the further issue provision as set out in the Conditions). Each Bondholder has the right, at such holder's option, to require us to redeem all or a portion of such holder's Bonds at their principal amount, together with accrued but unpaid interest, if any, to but excluding the date fixed for redemption on 29 April 2027. If a Change of Control (as defined in the Conditions) or Delisting (as defined in the Conditions) occurs, each Bondholder will have the right to require us to redeem all or a portion of such holder's Bonds on the Change of Control Put Date or the Delisting Put Date (each as defined in the Conditions) at their principal amount of such Bonds to be redeemed together with accrued but unpaid interest to but excluding the date fixed for redemption. See "Terms and Conditions of the Bonds—Redemption, Purchase and Cancellation".

Approval in-principle has been received from the Singapore Exchange Securities Trading Limited (the "SGX-ST") for the listing and quotation of the Bonds on the SGX-ST. The SGX-ST assumes no responsibility for the correctness of any of the statements made, opinions expressed or reports contained in this Offering Circular. Approval in-principle from, admission to the Official List of, and the listing and quotation of the Bonds on the SGX-ST are not to be taken as an indication of our merits or the merits of the Bonds or our Shares.

Notification under Section 309B(1)(c) of the Securities and Futures Act 2001 of Singapore (the "SFA") – The Company has determined, and hereby notifies all relevant persons (as defined in Section 309A(1) of the SFA), that the Bonds 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).

Investing in the Bonds involves risks. See "Risk factors" beginning on page 9.

The Bonds and the Shares deliverable upon conversion of the Bonds have not been and will not be registered under the U.S. Securities Act of 1933, as amended (the "Securities Act"). The Bonds are being offered and sold only outside the United States in reliance on Regulation S under the Securities Act ("Regulation S"). The Bonds and the Shares deliverable upon conversion of the Bonds are not transferable except in accordance with the restrictions described herein. For a description of certain restrictions on resale or transfer, see "Subscription and Sale".

The Bonds will be represented by a global certificate (the "Global Certificate") without coupons which will be deposited on or about 29 April 2024 with, and registered in the name of a nominee of, the common depositary for Euroclear Bank SA/NV ("Euroclear") and Clearstream Banking S.A. ("Clearstream"). Except as described in the Global Certificate, beneficial interests in the Global Certificate will be shown on, and transfers thereof will be effected only through, records maintained by Euroclear, Clearstream and their respective participants.

Sole Bookrunner and Sole Lead Manager

UBS AG Hong Kong Branch

22 April 2024

Table of Contents

PRESENTATION OF INFORMATION v
FORWARD-LOOKING STATEMENTS vi
OFFERING CIRCULAR SUMMARY 1
RISK FACTORS 9
USE OF PROCEEDS 39
DIVIDENDS 40
MARKET PRICE INFORMATION 41
EXCHANGE RATES 42
CAPITALIZATION 43
SELECTED FINANCIAL AND OTHER DATA 44
THE COMPANY 50
MANAGEMENT 71
SHAREHOLDERS 76
KAKAO GROUP 77
DESCRIPTION OF SHARE CAPITAL 78
TERMS AND CONDITIONS OF THE BONDS 85
THE GLOBAL CERTIFICATE 124
KOREAN FOREIGN EXCHANGE CONTROLS AND SECURITIES REGULATION 125
KOREAN SECURITIES MARKET 132
TAXATION 137
SUBSCRIPTION AND SALE 141
LEGAL MATTERS 147
INDEPENDENT ACCOUNTANTS 148
INDEX TO FINANCIAL STATEMENTS F-1

You should rely only on the information contained in this Offering Circular or to which we have referred you. We have not 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 Bonds. Neither the delivery of this Offering Circular nor any sale made hereunder shall, under any circumstances, constitute a representation or create any implication that there have been no changes in our affairs since the date hereof. This Offering Circular may only be used where it is legal to offer and sell the Bonds. We are not, and UBS AG Hong Kong Branch (the "Manager") is not, making an offer to sell the Bonds in any jurisdiction where the offer or sale is not permitted. You should assume the information in this Offering Circular is accurate only as of the date of this Offering Circular. Our business, prospects, financial condition, results of operations, cash flows and prospects may have changed since that date.

This Offering Circular has been prepared by us solely for use in connection with the proposed offering of the Bonds described in this Offering Circular. This Offering Circular is personal to each offeree and does not constitute an offer to any other person or to the public generally to subscribe for or otherwise acquire the Bonds. Distribution of this Offering Circular to any other person other than the prospective investor and any person retained to advise such prospective investor with respect to its purchase is unauthorized and any disclosure of any of its contents, without our prior written consent, is prohibited. Each prospective investor, by accepting delivery of this Offering Circular, agrees to the foregoing and further agrees not to make any photocopies of this Offering Circular or any documents referred to in this Offering Circular.

Each person receiving this Offering Circular acknowledges that such person has not relied on the Manager, the Trustee (as defined in the Conditions) or the Agents (as defined in the Conditions) or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them in connection with the investigation of the accuracy of any information contained herein or in connection with its investment decisions.

The Bonds have not been recommended by any United States 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, and any representation to the contrary may be a criminal offense.

Any investor who purchases the Bonds will be deemed to have made the acknowledgements, representations, warranties and agreements intended to restrict the resale or other transfer of the Bonds, as set forth under "Subscription and Sale" in this Offering Circular. As a prospective purchaser, you should be aware that you may be required to bear the financial risks of an investment in the Bonds for an indefinite period of time. The Bonds and the Shares deliverable upon conversion of the Bonds are subject to restrictions on transferability and may not be transferred or resold except as permitted under applicable U.S. federal or state securities laws pursuant to a registration statement or an exemption from registration and except as permitted under the applicable laws of other jurisdictions. For a description of these and certain further restrictions on the offer, sale and resale of the Bonds, transfer of the Shares deliverable upon the conversion of the Bonds, and distribution of this Offering Circular, see "Subscription and Sale".

We, having made all reasonable inquiries, confirm that this Offering Circular contains all information with respect to us and the Bonds, which are convertible into our common shares, which is material in the context of the issue and offering of the Bonds, that the information contained in this Offering Circular is true and accurate in all material respects and is not misleading in any material respect, that the opinions and intentions expressed in this Offering Circular are honestly held and have been reached after considering all relevant circumstances and are based on reasonable assumptions, that there are no other facts, the omission of which would, in the context of the issue and offering of the Bonds, make this Offering Circular as a whole or any information or the expression of any opinions or intentions expressed in this Offering Circular misleading in any material respect, and that all reasonable enquiries have been made by us to ascertain such facts and to verify the accuracy of all such information and statements. We accept responsibility accordingly. Statements contained in this Offering Circular as to the contents of any agreement or other document referred to in this Offering Circular may not set forth all of

the terms and conditions of such agreements or other documents, and such statements are qualified by reference to the full text of each such agreement or other document.

This Offering Circular includes information regarding mobile- and Internet-based commerce industries and various markets in which we compete. Where possible, this information is derived from third party sources that we believe are reliable, without any independent investigation by us to confirm or verify such third party information. Information from third party sources contained in this Offering Circular represents their respective estimates or expectations and no representation is made that such information represents facts. In other cases, this information is based on estimates made by our management, based on their industry and market knowledge, which we believe to be reasonable. However, this information is subject to change and cannot be verified with complete certainty due to limits on the availability and reliability of raw data, the voluntary nature of the data gathering process and other limitations and uncertainties inherent in any statistical survey. As a result, you should be aware that market share, estimated sales, ranking, market size and other similar data set forth herein, and estimates and beliefs based on such data, may not be reliable. We do not have any obligation to announce or otherwise make publicly available updates or revisions to these estimates, data and forecasts.

In making an investment decision, prospective investors must rely on their own examination of us, our Shares and the terms of the offering of the Bonds, including the merits and risks involved. We, the Manager, the Trustee and the Agents and each of our and their respective directors, officers, employees, representatives, agents, affiliates and advisers and each person who controls any of them are not making any representation to any purchaser of the Bonds regarding the legality of an investment in the Bonds by such purchaser under any legal investment or similar laws or regulations. Neither this Offering Circular nor any information supplied in connection with the issue of the Bonds should be considered as a recommendation or constituting an invitation or offer by us or the Manager, the Trustee or the Agents or any of our or their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them that any recipient of this Offering Circular should purchase any Bonds. The contents of this Offering Circular should not be construed as providing legal, business, accounting or tax advice. Prospective investors should consult with their own advisors as to the legal, tax, business, financial and related aspects of a purchase of the Bonds.

No person has been or is authorized in connection with any offering of the Bonds to give any information or make any representation other than as contained in this Offering Circular and, if given or made, that information or representation must not be relied upon as having been authorized by us or the Manager, the Trustee or the Agents or any of our or their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them. This Offering Circular does not constitute an offer to sell or a solicitation of an offer to buy any Bonds by any person except in compliance with all applicable laws and regulations. No representation, undertaking or warranty, express or implied, is made by the Manager, the Trustee or the Agents or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them 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 Manager, the Trustee or the Agents or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them. We have furnished the information contained in this Offering Circular. None of the Manager, the Trustee or the Agents or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them has independently verified the information contained herein. Accordingly, no representation, warranty or undertaking, express or implied, is made and no responsibility or liability is accepted by the Manager, the Trustee or the Agents or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them as to the accuracy or completeness of the information contained or incorporated in this Offering Circular or any other information provided by us in connection with the offering of the Bonds. None of the Manager, the Trustee or the Agents or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them accepts any liability in relation to the information contained or incorporated by reference in this Offering Circular or any other information provided by us in connection with the offering of the

Bonds or their distribution. Neither the delivery of this Offering Circular nor any sale made in connection with this Offering Circular shall under any circumstances imply that the information in this Offering Circular is correct as of any date subsequent to the date of this Offering Circular or constitute a representation that there has been no change or development reasonably likely to involve a material adverse change in our affairs since the date of this Offering Circular. The Manager, the Trustee and the Agents and each of their respective directors, officers, employees, representatives, agents, affiliates and advisers and each person who controls any of them expressly do not undertake to review our financial condition or affairs during the life of the Bonds or to advise any investor in the Bonds of any information coming to their attention.

This Offering Circular does not constitute an offer to sell or the solicitation of an offer to buy the Bonds in any jurisdiction to any person to whom it is unlawful to make the offer or solicitation in such jurisdiction. The distribution of this Offering Circular and the offering of the Bonds (or the Shares deliverable upon conversion of the Bonds) in certain jurisdictions may be restricted by law. We, the Manager, the Trustee and the Agents and each of our and their respective directors, officers, employees, representatives, agents, affiliates and advisers and each person who controls any of them do not represent that this Offering Circular may be lawfully distributed, or that the Bonds may be lawfully offered, in compliance with any applicable registration or other requirements in any such jurisdiction, or pursuant to an exemption available thereunder, or assume any responsibility for facilitating any such distribution or offering. It 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. Persons into whose possession this Offering Circular may come are required by us and the Manager to inform themselves about and to observe the relevant restrictions. No action is being taken in any jurisdiction to permit an offering to the general public of the Bonds, or the Shares deliverable upon conversion of the Bonds, or the distribution of this Offering Circular in any jurisdiction where action would be required for those purposes. Accordingly, no Bonds may be offered or sold, directly or indirectly, and neither this Offering Circular nor any advertisement or other offering material may be distributed or published in any jurisdiction, except under circumstances that will result in compliance with any applicable laws and regulations.

We reserve the right to withdraw the offering of the Bonds at any time. We and the Manager also reserve the right to reject any offer to purchase the Bonds in whole or in part for any reason and to allocate to any prospective investor less than the full amount of Bonds sought by such investor.

Any purchase or acquisition of the Bonds is in all respects conditional on the satisfaction of certain conditions set out in the Subscription Agreement (as defined in "Subscription and Sale") and the issue of the Bonds by us to the Manager pursuant to the Subscription Agreement. Any offer, invitation to offer or agreement made in connection with the purchase or acquisition of the Bonds pursuant to this Offering Circular shall (without liability or responsibility on the part of us or the Manager) lapse and cease to have any effect if (for any reason whatsoever) the Bonds are not issued by us to the Manager pursuant to the Subscription Agreement.

IN CONNECTION WITH THE ISSUE OF THE BONDS, UBS AG HONG KONG BRANCH, AS STABILIZING MANAGER (THE "STABILIZING MANAGER") (OR PERSON(S) ACTING ON BEHALF OF THE STABILIZING MANAGER) MAY OVER-ALLOT BONDS OR EFFECT TRANSACTIONS WITH A VIEW TO SUPPORTING THE MARKET PRICE OF THE BONDS AT A LEVEL HIGHER THAN THAT WHICH MIGHT OTHERWISE PREVAIL. HOWEVER, THERE IS NO ASSURANCE THAT THE STABILIZING MANAGER (OR PERSONS ACTING ON BEHALF OF THE STABILIZING MANAGER) WILL UNDERTAKE STABILIZATION ACTION. ANY STABILIZATION ACTION MAY BEGIN ON OR AFTER THE DATE ON WHICH ADEQUATE PUBLIC DISCLOSURE OF THE TERMS OF THE OFFER OF THE BONDS IS MADE AND, IF BEGUN, MAY BE ENDED AT ANY TIME, BUT IT MUST END NO LATER THAN THE EARLIER OF 30 DAYS AFTER THE ISSUE DATE OF THE BONDS AND 60 DAYS AFTER THE DATE OF THE ALLOTMENT OF THE BONDS. ANY STABILIZATION ACTION OR OVER-ALLOTMENT MUST BE CONDUCTED BY THE STABILIZING MANAGER (OR PERSONS ACTING ON BEHALF OF THE STABILIZING MANAGER) IN ACCORDANCE WITH ALL APPLICABLE LAWS AND RULES.

THE BONDS HAVE NOT BEEN AND WILL NOT BE REGISTERED WITH THE FINANCIAL SERVICES COMMISSION OF KOREA UNDER THE FINANCIAL INVESTMENT SERVICES AND CAPITAL MARKETS ACT OF KOREA. ACCORDINGLY, THE BONDS HAVE NOT BEEN AND WILL NOT BE OFFERED, SOLD OR DELIVERED, DIRECTLY OR INDIRECTLY, IN KOREA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY KOREAN RESIDENT (AS SUCH TERM IS DEFINED IN THE FOREIGN EXCHANGE TRANSACTIONS LAW OF KOREA) EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS. FURTHERMORE, ANY BONDS MAY NOT BE TRANSFERRED TO ANY KOREAN RESIDENT FOR A PERIOD OF ONE YEAR FROM THE DATE OF ISSUANCE OF THE BONDS EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS.

PRESENTATION OF INFORMATION

Except as otherwise indicated or required by context, references in this Offering Circular to the "Company", the "Issuer", "Kakao", "we", "us" and "our" refer to Kakao Corp. and its consolidated subsidiaries taken together.

All references to "Kakao Group" are to a group of companies affiliated with Kakao Corp. The Kakao Group is not a legal entity but a reference to a group of such affiliated companies for purposes of the Monopoly Regulation and Fair Trade Act of Korea.

References to "common stock", "common shares" or "Shares" refer to our shares of common stock (including treasury shares held by us), par value Won 100 per share. All references to "Korea" are references to the Republic of Korea. All references to the "government" or the "Government" refer to the government of Korea. All references to "U.S." or the "United States" refer to the United States of America and all references to the "EU" are to the European Union.

Our consolidated financial statements as of and for the years ended 31 December 2021, 2022 and 2023 have been prepared in accordance with the International Financial Reporting Standards as adopted by the Republic of Korea ("K-IFRS"). We have prepared our consolidated financial statements in Won.

In this Offering Circular, all references to "Won", "Korean Won" or "W" are to the lawful currency of Korea and those to "U.S. dollars" or "U.S.$" are to the lawful currency of the United States. For the reader's convenience, certain Won amounts in this Offering Circular have been translated into U.S. dollars at the rate of Won 1,289.4 to U.S.$1.00, the exchange rate based on the basic rate under the market average exchange rate system, provided by Seoul Money Brokerage Services, Ltd. between Won and U.S. dollars (the "Market Average Exchange Rate") in effect on 31 December 2023. For a discussion of historical information regarding the rate of exchange between Won and U.S. dollars, see "Exchange rates". No representation is made that Won or U.S. dollar amounts referred to in this Offering Circular could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate or at all.

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

Any information on http://www.kakaocorp.com or associated websites does not form a part of this Offering Circular.

FORWARD-LOOKING STATEMENTS

This Offering Circular contains "forward-looking statements" that are based on our current expectations, assumptions, estimates and projections about us and our industry. Forward-looking statements are subject to various risks and uncertainties which could cause actual results to differ materially from historical results or those anticipated. Generally, these forward-looking statements can be identified by the use of forward-looking terminology such as "anticipate", "believe", "estimate", "expect", "plan", "intend", "project", "continue", "contemplate", "seek to", "should", and similar words or expressions. Forward-looking statements include, without limitation, the discussions of our business strategy and expectations concerning our market position, future operations, sales, margins, profitability, investments, expenditures and financings.

The forward-looking statements contained herein involve a number of known and unknown risks and uncertainties that could cause our future results, performance or achievements to differ significantly from the results, performance or achievements expressed or implied by such forward-looking statements.

You should understand that many important factors, in addition to those discussed in this Offering Circular, could cause our results, performance or achievements to differ materially from those expressed in the forward-looking statements. Potential factors that could affect our results, performance or achievements include, in addition to others not described in this Offering Circular, those described under "Risk Factors". These are factors that we think could cause our actual results, performance or achievements to differ materially from expected results, performance or achievements. Forward-looking statements speak only as of the date on which they were made and we do not undertake to update or revise any forward-looking statements to reflect new information or future events or circumstances.

OFFERING CIRCULAR SUMMARY

The following summary is qualified in its entirety by, and subject to, the detailed information appearing elsewhere in this Offering Circular. Certain capitalized terms used but not defined in this summary have meanings ascribed to them elsewhere in this Offering Circular.

The Company

The Company operates Korea's leading mobile platform, Kakao Talk, which is used by approximately 86% of Korean population as of 31 December 2023 according to the internal data of the Company, as well as other leading online platforms in Korea, including the Internet portal Daum and the online music platform Melon. The Company utilises these leading platforms, along with its other platforms developed using its major brands, such as Kakao T, Kakao Pay and Kakao Webtoon, to provide users and advertisers with a diverse and extensive array of products and services. The Company provides such products and services through its platform and content operations.

The Company's platform operations allow users to engage in more aspects of their daily affairs using their mobile and other connected devices and PCs at their convenience, while enabling advertisers to access its large and growing user base across the Kakao ecosystem. The Company's platform-related products and services provide users with the ability to communicate, search content, shop and make payments online, as well as use innovative services such as mobile transportation applications, gifting and other e-commerce services, through the Company's platforms. The Company also offers advertisers advertising products and services through its platforms in a variety of online formats that allow advertisers to better target their marketing to their desired audiences. Such platform-based products and services are mainly offered through the Company's (i) Talk Business, which includes the Kakao Talk and Kakao Talk Gift Shop platforms, (ii) Portal Business, which includes the Daum platform, and (iii) Other Platform Business, which includes platforms such as Kakao T, Kakao Pay and Kakao Webtoon.

The Company's content operations enable delivery of original and third party-produced content to users through the Company's platforms. Such content-related products and services are mainly composed of (i) games through the Kakao Games platform, (ii) music through the Melon online music platform, Kakao Entertainment and SM Entertainment, (iii) story contents including web-comics web-novels by the Kakao Piccoma, Kakao Webtoon and Kakao Page platforms and (iv) media contents including video contents development and artist IP management by Kakao Entertainment and SM Entertainment. Leveraging the success of its platform operations and recognition of major brands, including Kakao, Daum and Melon, the Company provides content through platforms that are specifically tailored to optimise user experience.

The integration of the Company's products and services through its platforms aims to provide its users with a smoother and richer connection experience that contributes to higher user loyalty and user base growth, which in turn may enhance the Company's ability to accumulate and analyse substantial amounts of user-related data to better understand user preferences and to improve its product and service offerings, including the effectiveness of online advertising through such platforms. Leveraging its content, its user base and their interconnectivity, the Company's platforms have evolved into diversified online gateways that are fundamentally changing social interactions and lifestyle patterns in Korea. The Company's platforms have become integrated into numerous aspects of its users' daily lives. Users add value to the overall Kakao ecosystem each time they engage with other users, advertisers or content or service providers or engage in other e-commerce activities. Increases in user engagement enable the Company to grow its scale by attracting more users, advertisers and content and service providers. In turn, growth in scale in terms of the number of users, advertisers and content and service providers and the interactions among them enhances the value the Company delivers to all of its constituencies and leads to greater monetisation opportunities.

The Company was formed on 1 October 2014, when the former existing entity of Kakao merged with and into Daum Communications, its predecessor company. Founded in December 2006 as IWILAB Co., Ltd., the Former Kakao launched Kakao Talk and changed its name to Kakao Corp. in 2010. Daum Communications was established in February 1995 and introduced Korea's first free e-mail service in 1997. The Company acquired Melon, an online music platform, in March 2016 through the acquisition of a controlling interest in LOEN Entertainment (now known as Kakao M), a leading music entertainment company in Korea and the former operator of such platform, which was merged with and into the Company in September 2018. Seoul Record, the predecessor company to LOEN Entertainment, was founded in 1978.

The Company generates revenue by leveraging the numerous affiliations and interests that connect the people and entities that constitute its user base and prompting its users to actively and repeatedly engage and interact with a wide variety of products, services and content the Company provides through its online platforms. Its revenue is primarily generated from advertising services, content offerings, and other services, including e-commerce and character merchandising. The Company's operating revenue amounted to Won 5,910.5 billion in 2021, Won 6,798.7 billion in 2022 and Won 7,557.0 billion in 2023. It recorded profit for the year amounting to Won 1,640.5 billion in 2021 and Won 1,067.0 billion in 2022 and loss for the year amounting to Won 1,816.7 billion in 2023. The Company had total assets of Won 25,180.0 billion and total equity of Won 13,858.6 billion as of 31 December 2023.

The Offering

This is a summary of the Conditions. Please refer to "Terms and Conditions of the Bonds" for a detailed description of the Conditions. References to a particular numbered "Condition" is to the corresponding numbered condition of the Conditions. Phrases used in this summary and not otherwise defined shall have the meanings given to them in "Terms and Conditions of the Bonds".

Issuer	Kakao Corp.
LEI	988400FTKUBQXKVZP434
Manager	UBS AG Hong Kong Branch
Issue	U.S.$212,200,000 aggregate principal amount of 2.625 per cent. convertible bonds due 2029. The Bonds are convertible into the Shares.
Shares	Fully paid common shares with a par value of Won 100 each of the Company.
Issue Price	100.00%
Interest	The Bonds will bear interest at the rate of 2.625 per cent. per annum, payable semi-annually in arrear in equal instalments of U.S.$1,312.50 per Calculation Amount (as defined in the Conditions) on 29 April and 29 October of each year commencing on 29 October 2024.
Issue Date	29 April 2024
Maturity Date	29 April 2029
Form and Denomination	The Bonds will be issued in registered form only in the denomination of U.S.$200,000 and integral multiples of U.S.$100,000 in excess thereof. The Bonds will be represented by a global certificate (the "Global Certificate"), which will be deposited with, and registered in the name of a nominee of, a common depositary for Euroclear and Clearstream on or about the Issue Date. The purchase, sale and transfer of the Bonds may only be effected through accounts at Euroclear and Clearstream. The global certificate will be exchangeable for definitive Bonds in the denomination of U.S.$200,000 and integral multiples of U.S.$100,000 in excess thereof in the limited circumstances set out in the Global Certificate. See "The Global Certificate".
Status of the Bonds	The Bonds will constitute direct, unsubordinated, unconditional and (subject to the provisions of Condition 4) unsecured obligations of the Company and will rank *pari passu*, without any preference or priority among themselves. The payment obligations of the Company under the Bonds will, save for such exceptions as may be provided by mandatory provisions of applicable law and subject to Condition 4, at all times rank at least equally with all of the Company's other present and future direct, unsubordinated, unconditional and unsecured obligations.

Negative Pledge	The Bonds will contain a negative pledge provision as relating to International Investment Securities as further described in "Terms and Conditions of the Bonds—Negative Pledge".
Conversion Period for the Bonds	On or after 9 June 2024, up to the close of business (at the place where the Certificate representing such Bonds is deposited for conversion) on 19 April 2029 (or if such day is not a business day, then up to the close of business on the immediately preceding business day), or, if the Bonds shall have been called for redemption before the Maturity Date, then up to the close of business on a date no later than 10 calendar days prior to the date fixed for redemption thereof.
Conversion Price	Won 63,700 per Share which will be subject to adjustments in the manner provided in the Conditions. See "Terms and Conditions of the Bonds—Conversion—Adjustments to Conversion Price".
Conversion Price Adjustment	If the Company shall (a) make a free distribution of Shares (other than by way of a dividend in Shares), (b) make a bonus issue of its Shares, (c) sub-divide its outstanding Shares, (d) consolidate its outstanding Shares into a smaller number of Shares or (e) re-classify any of its Shares into other securities of the Company, then the Conversion Price shall be adjusted as set out in the Conditions so that the holder of any Bond shall be entitled to receive the number of Shares and/or other securities of the Company which such holder would have held or have been entitled to receive after the occurrence of any of the events described above had such Bond been converted immediately prior to the occurrence of such event. See "Terms and Conditions of the Bonds – Conversion – Adjustments to Conversion Price."
Final Redemption	Unless previously redeemed, converted or purchased and cancelled in the circumstances referred to in the Conditions, the Bonds will be redeemed on 29 April 2029, the Maturity Date, at their principal amount together with accrued but unpaid interest.
Redemption by the Company	The Company may, at its option at any time on or after 13 May 2027, until 30 Business Days (as defined in the Conditions) prior to the Maturity Date, redeem the Bonds, in whole but not in part, at their principal amount, together with accrued but unpaid interest to but excluding the date fixed for redemption, if the Closing Price of a Share (translated into U.S. dollars at the Prevailing Rate (as defined in the Conditions)) for each of 20 Trading Days in the period of 30 consecutive Trading Days ending on the Trading Day immediately prior to the date of the Company's redemption notice is at least 130 per cent. of the prevailing Conversion Price (translated into U.S. dollars at the Fixed Exchange Rate (as defined in the Conditions)). In addition, in the event that at least 90 per cent. of the initial principal amount of the Bonds has been redeemed, repurchased and cancelled, or converted, the Company may, prior to their maturity,

	redeem, in whole but not in part, the remaining outstanding Bonds at their principal amount, together with accrued but unpaid interest to but excluding the date fixed for redemption. See "Terms and Conditions of the Bonds – Redemption, Purchase and Cancellation – Redemption at the Option of the Company."
Redemption for Taxation Reasons	The Company may, at its option, redeem the Bonds in whole but not in part at their principal amount, together with accrued but unpaid interest to but excluding the date fixed for redemption, in the event of certain changes affecting taxes in Korea or any political subdivision or any authority thereof or therein having power to tax which take effect on or after 22 April 2024. If the Company elects to redeem the Bonds for taxation reasons, each Bondholder will have the right to elect that all or a portion of such Bondholder's Bond(s) shall not be redeemed and that the provisions of Condition 9 regarding the payments of additional amounts shall not apply in respect of any payment of principal or interest to be made in respect of such Bond(s) which falls due after the relevant Tax Redemption Date (as defined in the Conditions). See "Terms and Conditions of the Bonds— Redemption, Purchase and Cancellation–-Redemption for Taxation Reasons".
Redemption at the Option of the Bondholders	On 29 April 2027, each Bondholder will have the right, at such Bondholder's option, to require the Company to redeem all or some of such Bondholder's Bonds (provided that the remaining portion is in an Authorised Denomination (as defined in the Conditions)) at their principal amount, together with accrued but unpaid interest to but excluding the date fixed for redemption. See "Terms and Conditions of the Bonds— Redemption, Purchase and Cancellation— Redemption at the Option of the Bondholders".
Redemption upon Delisting or Change of Control	Following the occurrence of a Change of Control or Delisting (each as defined in the Conditions), each Bondholder will have the right at such holder's option to require the Company to redeem all or some of such Bondholder's Bonds on the Change of Control Put Date (as defined in the Conditions) or, as the case may be, the Delisting Put Date (as defined in the Conditions), at their principal amount, together with accrued but unpaid interest to but excluding the date fixed for redemption. A Delisting occurs when the Shares cease to be listed or admitted to trading or are suspended for trading for a period equal to or exceeding 30 consecutive Trading Days on the KRX KOSPI Market and a Change of Control is defined in the Conditions. See "Terms and Conditions of the Bonds— Redemption, Purchase and Cancellation—Redemption for Change of Control" and "Terms and Conditions of the Bonds Redemption, Purchase and Cancellation—Delisting Put Rights".

Taxation	All payments of principal and interest in respect of the Bonds by the Company will be made free from any restriction or condition and be made without deduction or withholding for or on account of any present or future taxes, duties, assessments or governmental charges of whatever nature imposed or levied by or on behalf of Korea or any authority thereof or therein having power to tax, unless deduction or withholding of such taxes, duties, assessments or governmental charges is compelled by law. In such event, the Company will pay such additional amounts as will result in the receipt by the Bondholders of the net amounts after such deduction or withholding equal to the amounts which would otherwise have been receivable by them in respect of the Bonds had no such deduction or withholding been required, except in certain circumstances. See "Terms and Conditions of the Bonds—Taxation".
Further Issues	The Company may from time to time, without the consent of the Bondholders, create and issue further bonds having the same terms and conditions as the Bonds in all respects (or in all respects except for the issue date and the first payment of interest on them) and so that such further issue shall be consolidated and form a single series with the Bonds. Such further bonds shall be constituted by a deed supplemental to the Trust Deed. See "Terms and Conditions of the Bonds—Further Issues".
Governing Law	The Bonds and any non-contractual obligations arising out of or in connection with the Bonds will be governed by and construed in accordance with English law.
Trustee	Citicorp International Limited
Principal Agent	Citibank, N.A., London Branch
Registrar	Citicorp International Limited
Listing and Trading	Approval in-principle has been received from the SGX-ST for the listing and quotation of the Bonds 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 the listing and quotation of the Bonds on the SGX-ST are not to be taken as an indication of the merits of the Company, the Bonds or our Shares. For so long as the Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, the Bonds, if traded on the SGX-ST, will be traded in a minimum board lot size of S$200,000 (or its equivalent in foreign currencies). Accordingly, the Bonds, if traded on the SGX-ST, will be traded in a minimum board lot size of U.S.$200,000. For so long as the Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, the Company shall appoint and maintain a paying agent in Singapore, where the Bonds may be presented or

	surrendered for payment or redemption, in the event that the Global Certificate is exchanged for definitive Bonds. In addition, in the event that the Global Certificate is exchanged for definitive Bonds, an announcement of such exchange shall be made by or on behalf of the Company through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Bonds, including details of the paying agent in Singapore.
Use of Proceeds	The aggregate proceeds from the offering of the Bonds after deducting underwriting commissions but prior to deducting expenses relating to the offering will be approximately U.S.$210,078,000 (the "Net Proceeds"). We intend to use the Net Proceeds from this offering primarily for acquisitions of, and investments in, other companies or businesses in the technology industry, as well as for general corporate purposes. See "Use of Proceeds".
Selling Restrictions	The Bonds have not been and will not be registered under the Securities Act and, subject to certain exceptions, may not be offered or sold within the United States. The Bonds may be sold in other jurisdictions only in compliance with applicable laws and regulations. See "Subscription and sale".
ISIN	XS2802119821
Common Code	280211982
Lock-up Agreement	Subject to certain exceptions, the Company has undertaken to the Manager that neither it nor any person acting on its behalf will, beginning from the date of the Subscription Agreement up to 90 days after the Closing Date, without the prior written consent of the Manager, (a) issue, offer, sell, pledge, contract to sell or otherwise dispose of or grant options, issue warrants or offer rights entitling persons to subscribe for or purchase any interest in, or any securities convertible into, exchangeable for or which carry rights to subscribe for or purchase, the Shares or securities of the same class as the Shares or other instruments representing interests in the Shares or other securities of the same class as them (collectively, the "**Securities**"), (b) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of the ownership of the Shares, whether any such transaction of the kind described in (a) or (b) is to be settled by delivery of Shares or other securities, in cash or otherwise, (c) enter into any transaction with the same economic effect as, or which is designed to, or which may reasonably be expected to result in, or agree to do, any of the foregoing, whether any such transaction of the kind described in (a), (b) or (c) is settled by delivery of Shares or other securities or (d) announce or otherwise make public an intention to do any of the foregoing, in any such case without the prior written consent of the Manager, between the date hereof and the date which is 90 days after the Closing Date; except for (i) the Conversion Shares delivered on

conversion of the Bonds, (ii) any offer, sale and pledge of, contract to sell or other disposal of, any Securities to any of its subsidiaries or affiliates (as defined in Rule 501(b) of Regulation D under the Securities Act) ("Affiliates"), so long as the subsidiary or Affiliate agrees in writing to be bound by the restrictions on the Securities for the remainder of the 90 day period in the same manner as set out herein, (iii) issuance of Securities in connection with granting of stock options to the Company's directors, officers or employees, and (iv) any public announcement of an intention to effect any transaction described in (i) through (iii) above.

RISK FACTORS

Our business, prospects, operations and financial condition are subject to various risks. Some of these risks are described below, and you should take these risks into account in evaluating us or any investment decision involving us or in deciding whether to participate in the purchase of the Bonds proposed in this Offering Circular. This section does not describe all risks applicable to us, our industry, our business, the Bonds or our Shares and it is intended only as a summary of certain material factors.

RISKS RELATING TO THE COMPANY'S BUSINESS

If the Company fails to retain existing users, add new users or maintain or increase the level of engagement of the user base of its platform and contents businesses, its business and performance may be adversely affected.

The Company's business is dependent on its ability to attract and retain active users and to derive revenue from user traffic, and the size of its active user base and the level of the users' engagement are critical to its success. The Company currently generates a substantial majority of its revenue in Korea and will likely continue to do so in the foreseeable future. Accordingly, the Company's financial performance has been and will continue to be significantly determined by its success in securing and engaging active users in Korea. A number of providers of Internet portal services, mobile applications and online services that achieved early popularity have seen the size of their user bases or levels of engagement subsequently decline, in some cases precipitously. If the Company fails to develop or provide products and services that are compatible with current and future mobile devices and technologies popular in Korea, or if the products and services it develops or provides are not widely accepted and used by Korean mobile or Internet users, the Company may not be able to attract or retain users or otherwise maintain or increase the frequency, duration or level of their engagement, which may render its products and services less attractive.

The Company's user retention, growth or engagement levels could also be negatively affected if:

- it is unable to continue providing a compelling, convenient and intuitive user experience and environment, particularly relating to the quality, volume, design and layout of the content that it offers through its platforms;
- it is unable to make new or upgraded products and services available in a timely and reliable manner;
- it fails to provide adequate and satisfactory customer service to users or advertisers or maintain relationships with key business partners such as mobile and PC game developers and publishers, content providers and brands and online retailers;
- adverse changes to its products or services are mandated by legislation, regulatory authorities or legal proceedings;
- user concerns increase in relation to privacy and information sharing, safety or security;
- technical or other problems prevent it from delivering its products and services in a rapid and reliable manner or otherwise negatively affect user experience;
- users increasingly engage with other competing products or services, particularly alternative communication tools or information or entertainment channels; or
- it fails to maintain its brand image or its reputation is damaged.

If the Company fails to retain existing users, add new users or maintain or increase the level of engagement of the user base of its platform and contents businesses, its business, financial condition and results of operations may be adversely affected.

The Company operates in a rapidly evolving environment and may not be able to launch new products and services in a timely and cost-effective manner, and any new products and services it develops or provides may expose it to new risks.

The Company operates in highly competitive industries characterised by rapidly changing consumer demand, evolving industry and regulatory standards and continual improvements in product and service features. Rapidly evolving user preferences may lead to certain products and services becoming less competitive, or even obsolete. Accordingly, the Company's success depends greatly on its ability to anticipate and respond to emerging user demand and market trends by ensuring continuing and timely development of new, as well as enhancements to the quality and user experience of existing, products and services. For example, users' preference in terms of accessing online services and content, including games, music, videos, shopping and news, has shifted from PCs to mobile and other connected devices, leading to declining user growth and traffic for PC-based services and the need to develop increasingly sophisticated services and content, advertising models and payment systems for mobile applications. In order to respond to changes in market preferences and demands, the Company may develop and introduce new products and services, including in areas where it has little or no prior development or operating experience. The Company may continue to invest in product and service development and enhancement, but there is no guarantee that these efforts will be operationally or financially successful.

Some of the Company's strategic initiatives may not immediately generate revenue but may enhance its attractiveness to users, advertisers and business partners as well as contribute to increasing engagement of its user base. The Company's new products and services may bring it into contact, directly or indirectly, with entities that are not within its traditional customer or supplier base or result in competition with entities that are its existing business partners. Such business activities may expose the Company to new risks, including additional regulatory scrutiny as well as credit-related and other operational risks. There can be no assurance that the Company will succeed in developing new or enhanced products and services that eventually become widely accepted, or that it will be able to timely release products and services that are commercially viable. The Company's inability to do so would have an adverse impact on its business, financial condition and results of operations.

The Company operates in a highly competitive market, and its failure to compete successfully could adversely affect its business and performance.

The Company faces significant competition in almost every aspect of its business. The Company primarily competes for the time, attention and spending of its users with providers of other forms of mobile, online and in-home communication, entertainment and information services. The Company faces competition from mobile telecommunications companies, game companies, e-commerce companies, music and video service companies, financial service companies and other Internet-related companies that offer products and services that may compete with specific features of the Company's products and services available through the Company's platforms and contents brands. In particular, the Company competes directly with other major Korean Internet portal services, such as Naver, to provide comprehensive mobile and online services to users. In addition, the Company competes with international competitors, such as Meta and Google (including YouTube), which offer a wide range of information, media contents and communication services and products as well as online advertising services. Furthermore, the Company competes with offline and online media and advertising businesses for a share of advertisers' budgets and in the development of tools and systems for managing and optimising advertising campaigns.

The principal competitors in each of the Company's main business areas include the following:

- **Platform business**

  (1) *Talk Business*: Although the Company operates the leading mobile messaging service, Kakao Talk, in Korea, the mobile messaging markets outside Korea are dominated by various other companies, many of which have greater financial resources and substantially larger user bases.

Kakao Talkfaces competition from other well-established mobile messaging services, such as Meta's WhatsApp, Instagram and "Messenger" app, Tencent's WeChat, Naver's LINE Messenger and Telegram. As Kakao Talk serves as the central entry point through which the Company introduces many of its users to its service offerings, a decline in the popularity of Kakao Talk (and the related strength of the "Kakao" brand) due to competition from other mobile messaging service providers may adversely affect the competitiveness of its platforms as well as other products and services, as well as its overall competitive position in Korea and elsewhere. In addition, the Company's Kakao Friends merchandising business also faces fierce competition from other companies that own and utilise popular character intellectual property based in Korea as well as overseas.

(2) *Portal Business*: There is intense competition for users, traffic and advertisers in the Korean market for Internet portals and related services, as a result of which the Company has historically experienced, and may continue to experience, difficulty in maintaining or increasing the market share and revenue of its portal-related services from Daum.

(3) *Other Platforms*: Competition relating to the Company's fintech and mobility services is also intense as a growing number of new and existing companies seek to enter or expand into such areas. The principal competitors of the Company's Kakao Pay include Samsung Pay, Naver Pay, Apple Pay and Toss, while the principal competitors of the Company's Kakao T include UT.

- **Contents business**

(4) *Game*: Competition in the mobile game market in Korea is also intense, and it may become more challenging for the Company to retain existing users and attract new users as competition from other online game operators, based in Korea as well as overseas, is likely to increase in the future. The principal competitors of the Company's Kakao Games include NCSoft, Nexon and Netmarble.

(5) *Music*: In the Company's music business, the Company's online music distribution platform, Melon, faces competition from YouTube Music, Genie, FLO, Bugs! and VIBE. Melon also competes with illegal online music content channels, such as unauthorised peer-to-peer file-sharing websites. In addition, Kakao Entertainment and SM Entertainment also face competition from HYBE, JYP and YG Entertainment in signing and managing recording artists.

(6) *Story Contents*: In the Company's story content production business, the Company's Kakao Webtoon and Kakao Page face competition mainly from other story content production companies and platforms in Korea such as Naver Webtoon. Piccoma, a story content service provider in Japan, competes with Line Manga in Japan.

(7) *Media Contents*: In the Company's media contents business, its production companies compete mainly with other production companies in Korea, such as Studio Dragon, SBS Contents Hub, Chorokbaem Media and NEW, in signing and managing actors and other entertainment industry personnel, and in producing and marketing video content to distributors.

The Company's competitors in each of its business areas may develop products or services that are similar to the Company's or that achieve greater market acceptance, may undertake more far-reaching and successful product or service development efforts or marketing campaigns, or may adopt more aggressive pricing policies. Global scale, financial or technological strength, business affiliations or other advantages may allow the Company's competitors to respond more effectively than it to the rapidly evolving environment in the mobile and Internet industries, including industry consolidation that may result in enhanced capabilities of its competitors. In addition, the Company's business partners that are also its competitors may use information shared by its users through its platforms, including Kakao Talk, in order to develop products or services that compete with the Company's. Certain of the Company's competitors could also use strong positions in one or more segments or markets to gain competitive advantages over it in areas where the Company operates, by integrating competing

mobile applications or features into products or services they control such as social networking services or mobile operating systems for smartphones and tablets; by making strategic acquisitions; or by making access to the Company's products and services more difficult. Furthermore, as the Company introduces new products and services and its existing offerings evolve, and as other companies introduce new products and services, the Company may become subject to additional competition. If the Company fails to compete successfully, its user numbers, traffic and revenue could decrease, which may negatively affect its business, financial condition and results of operations.

The Company's financial results may be subject to significant fluctuations and may not meet its or market expectations.

The Company's financial results have fluctuated in the past and are likely to fluctuate in the future. As a result, you should not rely upon the Company's past financial results as indicators of future performance. You should also take into account the risks and uncertainties frequently encountered by companies in rapidly evolving high-technology industries. The Company's financial results in any given quarter or fiscal period can be influenced by numerous factors occurring in a particular period, many of which are difficult to predict or are outside of its control, including:

- its ability to attract and retain users, advertisers and business partners;
- the development and introduction of new products or services by the Company or its competitors;
- changes in revenue sources as well as adjustments in pricing models and fees charged to users and advertisers;
- increases in marketing, sales and other operating expenses that the Company may incur to grow and expand its operations and to remain competitive;
- seasonal fluctuations in spending by its advertisers, especially in Korea where advertising spending is traditionally stronger in the second and fourth quarters;
- impairment and write-offs of intangible assets, including goodwill, as well as its investments;
- non-recurring transactions, including mergers, acquisitions, investments and divestments, and related accounting and tax implications therefrom;
- unforeseen contingencies, such as adverse litigation judgments, settlements or other litigation-related costs, as well as regulatory penalties;
- fluctuations in currency exchange rates and changes in the proportion of the Company's revenue and expenses denominated in foreign currencies; and
- changes in business or macroeconomic conditions.

The Company may not be able to effectively manage its growth, which would harm its business and profitability.

The Company continues to experience rapid growth in its operations, both organically and through acquisitions, which will continue to place significant demands on its management and operational and financial infrastructure. The Company faces significant competition for talent, particularly software and systems engineers, developers and designers, from other Internet and high-growth technology companies as well as music entertainment companies, and it may not be able to hire new employees quickly enough to meet its needs. As the Company continues to grow, it is subject to the risks of over-hiring, overcompensating employees and over-expanding its operating infrastructure, and to the challenges of integrating, developing and motivating a rapidly growing employee base in Korea and elsewhere. As the organisation continues to grow and it is required to implement more complex organisational management structures, the Company may find it increasingly difficult to maintain the strengths of its corporate culture, including its ability to innovate and quickly develop and launch new

products and services. If the Company fails to effectively manage its hiring needs and successfully integrate its new hires, its employee morale, productivity and retention could suffer.

The Company may also continue to invest in infrastructure in order to enable it to provide its products and services rapidly and reliably to users around the world, including in countries where the Company may not achieve significant near-term monetisation. Continued growth could strain the Company's ability to maintain reliable service levels for its users, advertisers and business partners, develop and improve operational, financial, legal and management controls, and enhance reporting systems and procedures. Managing growth will require significant expenditures and allocation of valuable management resources. If the Company fails to achieve and maintain the necessary level of efficiency and productivity in its organisation as it grows, its business, financial condition and results of operations could be harmed.

The Company is subject to contingent liabilities, including those associated with litigation, regulatory proceedings and other disputes.

During the course of normal operations, the Company may become involved in legal and regulatory proceedings. Some of the legal and regulatory proceedings that the Company is currently involved with include accounting treatment issue of Kakao Mobility, allegations of market manipulation and collusion in share acquisition of SM Entertainment and accusation of acquiring drama production at an overvalued price. See "The Company – Legal and Regulatory Proceedings." The Company is subject to claims and actions from its customers, business partners, employees, regulatory authorities and other third parties, alleging operational concerns, nuisance, negligence or failure to comply with applicable laws and regulations. These claims, even if successfully disposed of without direct financial consequences, could have a material adverse effect on the Company's reputation and divert its management resources from more beneficial uses. While the final outcome of any of the claims or actions to which the Company is currently subject may not have a material adverse effect on it, there is no guarantee that this will be the case or that it will not be subject to significant future claims. Successful claims against the Company may result in substantial costs and business disruptions and adversely affect its business, financial condition and results of operations.

In addition, the Company is exposed to other contingent liabilities, such as those pursuant to payment and performance guarantees it has provided to creditors and other third parties on behalf of its affiliates and business partners in the ordinary course of business. For a further description of the Company's commitments and contingencies, see Note 38 of the notes to its annual consolidated financial statements appearing elsewhere in this Offering Circular. If such contingent liabilities materialise, the Company's business, financial condition and results of operations could be adversely affected.

The Company may fail to fully realise the anticipated benefits of its mergers, acquisitions, investments or other strategic alliances.

From time to time, the Company strategically acquires or invests in, or merges with, companies in relevant industries to capitalise on the combined strengths of its existing business and those of the target entities, including in terms of technologies, user base and cost efficiencies, as well as expand into new businesses or markets. For example, the Company acquired SM Entertainment in March 2023 as part of its efforts to expand its presence in the global entertainment market leveraging the competitiveness of K-pop. The Company also makes investments in strategically important new businesses. For example, the Company's subsidiary, Kakao Healthcare, acquired Linewalks in January 2023 as part of its strategy to obtain key technologies to expand into the healthcare market. The Company continually evaluates opportunities for, and engages in discussions with counterparties with respect to, potential merger, acquisition and investment transactions, and may announce or enter into significant transactions in the future.

The success of the Company's mergers, acquisitions, investments and strategic alliances will depend, in part, on its ability to identify and evaluate any material risks involved in any particular transaction and realise the

potential growth opportunities and anticipated synergies therefrom. The realisation of anticipated benefits from such transactions may be impeded, delayed or reduced as a result of numerous factors, some of which are outside the Company's control, including the following:

- inability to maintain existing users, customers or suppliers of the merged, acquired or invested entity;
- difficulties in managing the integration of the merged, acquired or invested entity, including the harmonisation of information technology systems and corporate cultures, as well as in the implementation of a coordinated business plan, including challenges associated with the integration of product and service development and sales and marketing functions;
- inability to eliminate overlapping or redundant businesses, operations, systems, assets and personnel;
- unforeseen or latent risks or liabilities in the operations of the merged, acquired or invested entity;
- diversion of management time and focus from operating its business in order to address merger, acquisition, investment and integration challenges;
- difficulties in integrating management teams and retaining key personnel;
- the possibility of labour unrest;
- unanticipated write-offs or charges; and
- litigation or other claims arising in connection with the transaction, including claims from terminated employees, customers, suppliers, former shareholders or other third parties.

The Company carries significant amounts of intangible assets on its statement of financial position as a result of mergers, acquisitions and other investments that it has pursued in the past, including goodwill of Won 4,065.6 billion in connection with its non-financial services businesses and Won 12.6 billion in connection with its financial services businesses as of 31 December 2023. Under K-IFRS, goodwill and other intangible assets that have indefinite useful lives are tested for impairment annually by comparing their recoverable amount to their carrying amount. The Company also accounts for certain investments under the equity method and regularly evaluates its investment portfolio to test for impairment of its investments.

If the Company faces difficulties in integrating or managing its merged, acquired or invested entities, it may not achieve the anticipated benefits in connection with the mergers, acquisitions or investments, and may recognise impairment charges. For example, the Company recorded impairment losses of Won 256.6 billion in 2021, Won 667.7 billion in 2022 and Won 459.8 billion in 2023, which were related to, among others, the acquisition of Tapas and Radish in 2021.

If the Company fails to achieve the anticipated benefits, or if the costs of achieving them are substantially greater than it anticipates, its business, financial condition and results of operations may be adversely affected.

If the Company is not able to maintain and enhance its brands, or if events occur that damage its reputation and brands, relationships with its users, advertisers and business partners may be harmed.

The Company's brands, including Kakao, Melon and Daum, are well recognised in Korea, and its Kakao Friends character business has earned significant brand recognition. The Company's new users are often referred by existing users, and maintaining and enhancing the Company's brands is critical to expanding its user base and obtaining new advertisers and business partners. Maintaining and enhancing the Company's brands will depend largely on its ability to continue to provide engaging and entertaining products and services, which it may not do successfully. The Company may introduce new products and services and changes to its existing products and services that users do not welcome, including new revenue generation models, which may negatively affect its brands.

The Company has in the past experienced, and may continue to experience, media, legislative or regulatory scrutiny of its decisions regarding user and data privacy or other issues, including its measures to protect minors, which may adversely affect its reputation and brands. The Company may also fail to provide adequate customer service, which could erode confidence in its brands. The Company's brands may also be adversely affected by negative campaigns from its competitors, by negative publicity about the actions of users that are deemed to be hostile, illegal or inappropriate to other users, by third-party content providers acting inappropriately with respect to the Company's products and services, by users acting under false identities, by any regulatory developments designed to address such risks, or due to legal proceedings. Maintaining and enhancing the Company's brands may require it to make substantial investments, and these investments may not be successful. If the Company fails to successfully promote and maintain its brands or if it incurs excessive expenses in this effort, its business, financial condition and results of operations may be adversely affected.

The Company generates a significant portion of its revenue from advertising products and services, and the loss of advertisers, a reduction in spending by advertisers or failure to achieve market acceptance of new advertising products and services could adversely affect its business and performance.

A significant portion of the Company's revenue is generated from advertising products and services offered to clients through the Company's platform operations, including Kakao Talk and Daum. Demand for the Company's advertising products and services is primarily driven by the advertising spending levels of advertising clients in Korea, which are influenced by the level of overall economic activity and business cycles in Korea. Economic uncertainty, volatility in the financial markets or a contraction in the availability of credit may make it more difficult for businesses to meet their working capital requirements and could lead them to seek to change their commercial relationships with their vendors, including the Company. In the past, some advertisers have responded to weak economic and financial market conditions by reducing their advertising budgets, which include discretionary components that are relatively easier to reduce in the short term than other operating expenses. For instance, the unfavourable economic conditions in Korea caused by the global proliferation of the COVID-19 pandemic had a negative impact on the general advertising spending level of Korean companies in 2022 and 2023.

Furthermore, advertising services involving the Internet and mobile media, which are subject to continual development and integration of interactive media technologies, are relatively nascent and continue to evolve. As a result, the Company may need to incur significant development and acquisition costs or hire new personnel in order to keep pace with new technology and market trends in Internet and mobile advertising. In addition, some advertisers may view the Company's existing or new advertising products and services as experimental or unproven. If the Company fails to develop and introduce compelling new advertising products and services on a timely and cost-effective basis, the market acceptance of its advertising products and services may decrease and the Company may not be able to attract advertisers.

As is customary in the industry, the Company generally does not have exclusive or long-term agreements with its advertisers. Many of its advertisers spend only a relatively small portion of their overall advertising budget with the Company. Advertisers may reduce or discontinue their use of the Company's advertising products and services, or they may reduce the prices they are willing to pay for such products and services, if the Company does not deliver advertisements and other commercial content in an effective manner, or if they do not believe that their investment in the Company's advertising products and services will generate a sufficient return relative to alternative methods of advertising. The attractiveness of the Company's advertising products and services may decline due to a variety of factors, including:

- decreases in the number of its active users and their engagement levels;
- its inability to improve analytics and measurement solutions that demonstrate the value of advertising through the Company's platforms;
- its inability to adapt to the evolving online and mobile advertising market and create new products or services that sustain or increase the value of advertising with the Company;

- product or service changes it may make that reduce the frequency or relative prominence of advertisements and other commercial content delivered through its advertising products and services;
- its inability to increase the relevance or delivery of targeted ads to users;
- the degree to which users decline or opt out of certain types of targeted ads;
- the impact of new technologies that could block or obscure the display of some types of advertisements and other commercial content;
- loss of advertising market share to its competitors;
- adverse regulatory developments relating to online or mobile advertising;
- changes in the way it prices its advertising products and services; and
- unfavourable macroeconomic conditions or conditions in the advertising industry in general.

These or other developments could result in reduced demand for and revenue from the Company's advertising products and services, which may negatively affect its business, financial condition and results of operations.

The Company relies on a variety of third-party content providers for its content operation business.

The Company aims to provide its users with an extensive array of products and services that enhance their quality of life by enabling them to conduct more aspects of their daily affairs online, including by using their mobile and other connected devices and PCs at their convenience. Among other things, the Company offers users the ability to access entertainment, search content and shop online, and the breadth and variety of the digital content offered through its platforms are key elements in maintaining and increasing the size and level of engagement of its user base. The Company relies on a number of third-party content providers to supply a substantial amount of the digital content and products offered through its platforms. For example:

- third-party game developers and publishers supply some of the games through the Kakao Games and Daum Game platforms;
- third-party content providers, such as music production companies, and recording and other artists supply music contents through Melon, Kakao Entertainment, and SM Entertainment;
- third-party content providers supply story contents, such as web-comics and web-novels, through the Kakao Page, Kakao Webtoon and Piccoma platforms and media contents, such as video contents, through the Kakao Entertainment, SM Entertainment and Kakao TV platforms; and
- online retailers and other merchants supply products through the Kakao Talk Gift Shop, Kakao Talk Store, Kakao Makers, Kakao Style and Shopping How platforms.

Accordingly, the Company's business is dependent upon its commercial relationships with business partners, and the loss of key relationships could result in the loss of its exclusive and non-exclusive rights to distribute content or products through its platforms. There can be no assurance that the Company's existing relationships with its business partners will result in successful service offerings with high user traffic on its platforms, that the Company will be able to sustain such relationships in the long term, or that it will be able to enter into new relationships with additional third-party business partners, on commercially acceptable terms, or at all. For example, certain leading third-party mobile game publishers in Korea that previously relied on the Company to distribute their games through the Kakao Games platform have decreased their reliance in recent years and started to distribute and market many of their popular games directly to end-users. In addition, a substantial majority of the content and products supplied to the Company by its third-party business partners are supplied on a non-exclusive basis and are also available to other mobile and Internet service providers. If such other service providers offer the same or similar content or products in a superior manner, the user base and traffic on the Company's platforms could decrease.

The Company's ability to enter into additional business relationships will depend on the availability of suitable business partners on commercially acceptable terms and its ability to attract these partners. The benefits of a business relationship may take considerable time to realise, and the Company cannot be certain that any particular relationship will produce its intended benefits. The Company's products and services resulting from such business relationships may fail to gain acceptance among users, and the Company may not be able to maintain satisfactory relationships with its partners. Any of such developments could adversely affect the Company's business, financial condition and results of operations.

For additional details about the Company's reliance on third parties for its music and media contents businesses, see "–The Company relies on third parties for various aspects of its music and media contents businesses".

The continued success of the Company's online games business depends to a large extent on its ability to continue to develop, publish and offer new games and enhance its existing games that attract and retain a significant number of players.

The Company operates its mobile and PC games business through its subsidiary Kakao Games, in which it owned a 41.3% interest as of 31 December 2023. See "The Company – Products and Services – Content Operations– Game Business". The Company's games span a variety of genres, including action role-playing games ("RPGs"), strategy role-playing games, massively multiplayer online role-playing games ("MMORPGs"), casual games, shooting games, simulation games and miscellaneous other games.

The continued success of the Company's games business depends to a large extent on its ability to maintain a robust pipeline of new games and game updates, including the internal development or procurement from third-party game developers of entertaining and engaging new online games for publishing in appropriate markets, and to launch them in a timely manner so that they achieve significant popularity. It is difficult to anticipate player preferences or demand, particularly as the Company launches new online games in emerging genres or previously untapped markets. The Company may not be able to anticipate changing consumer tastes and preferences, adopt new technologies, attract, retain and motivate talented online game developers and effectively execute its games business strategy. The launch and continued publishing of a new game often require significant acquisition or development fees for third-party developers, marketing and sales expenses and server hosting-related fees. In addition, it is possible that players could lose interest in the types of online games published by the Company over time due to a variety of reasons, including the emergence of new formats that players find more engaging, changes in player tastes and preferences, increased popularity of other game titles, lack of sustained interest or loss of interest in particular games or genres of games and the failure to introduce successful enhancements on an ongoing basis. The Company's newly-launched games could also cause its players to reduce their playing time and purchases of in-game items in existing games. If the Company fails to offer attractive in-game items, make unpopular changes to existing in-game items or offer games that do not encourage purchases of in-game items or upgrades of game versions, or if the Company fails to successfully launch and publish new games that attract and retain a significant number of players, the Company's games revenue will decrease, and its business, financial condition and results of operations could be materially harmed.

The Company relies on third parties for various aspects of its music and media contents businesses.

Through its online music platform, Melon, Kakao Entertainment and SM Entertainment, the Company offers a wide range of services that cover key components of the music and media contents industry value chains, including online music services, media content development and distribution and artist management. The Company relies on music and media content providers and other third parties for various aspects of its music and media contents businesses, and its failure to maintain or expand business relationships with such third parties may adversely impact its business, financial condition and results of operations.

With respect to Melon, the breadth and variety of Melon's music content offerings are critical to maintaining and increasing the size and level of engagement of the Melon online music platform user base. The Company relies

on a number of third parties (in addition to its music content distribution operations) to supply music content in order to make the Melon online music service more attractive to users. There is no guarantee that the Company's existing relationships with third-party music content providers will be maintained or result in sustainable business partnerships, successful service offerings and an acceptable level of user traffic on the Melon online music platform. Furthermore, most of such third-party music content is also supplied by these music content providers to, and available from, other music streaming and downloading service companies. If other online music streaming and downloading service providers present the same or similar content in a superior manner, the Company's user base and traffic for the Melon online music platform could decrease.

With respect to the music content production business carried through Kakao Entertainment and SM Entertainment, the Company's business is dependent on identifying promising recording artists and entering into management contracts with them for their training and development, collaborating with such artists to produce audio and video recordings of their work, and marketing and selling such recordings to music distributors. The Company also provides general management services for recording and other artists, including in respect of advertising, merchandising, sponsorships, concerts, films, television and other promotional activities. Accordingly, the Company's competitive position as a music producer is dependent on its ability to continue to attract and develop artists whose work can achieve a high degree of mass appeal. The Company's music content production business may be adversely affected if it is unable to identify and retain such artists under terms that are economically attractive to it.

There is no guarantee that the Company's revenue from the sales of an artist's recordings and its management activities with respect to the artist will be sufficient to cover the various costs incurred by the Company with respect to the artist, even if the artist is successful. In addition, the Company's expected revenue stream with respect to an artist it has identified and trained may be cut short as a result of a sudden decline in the artist's popularity, an interruption to his or her career due to unforeseen circumstances or the termination by the artist of his or her contract prior to its expiration.

Also, the event planning and production aspects of the Company's music business require event and concert venues from time to time for the events and/or concerts which it promotes. In the event that the Company is unable to lease or acquire such venues at its required dates and on terms favourable, revenue generated from those events and/or concerts that it organizes may not generate sufficient revenue to cover its costs from organizing such events and/or concerts.

If scheduled events and/or concerts are cancelled or postponed, the Company's reputation may be adversely affected. Poor weather adversely affects attendance at its concerts and events, which could negatively impact the financial performance of the Company from period to period. Accidents or mishaps may occur at the Company's events or concerts despite safety measures.

The Company incurs a significant amount of upfront costs such as marketing and related costs when it plans and prepares for a concert or event. Accordingly, if a planned concert or event is cancelled, especially if the cancellation is close to the date of the planned concert or event, the Company would lose a substantial amount of sunk costs, fail to generate the anticipated revenue and may be forced to issue refunds for tickets sold. If a planned concert or event is postponed, the Company would incur substantial additional costs in connection with having to stage the concert or event on an alternative date and possibly, at an alternative venue as well, which may negatively impact the attendance as well as concession and merchandise sales. Further, the Company may, in certain situations, have to refund the cost of the tickets to ticket holders who are not available on the alternative date. The cancellation or postponement of an event and/or concert may have an adverse impact on, and there can be no assurance that any future cancellations or postponements will not have a material adverse impact on, the reputation, business, financial condition, results of operations and prospects of the Company.

Also, poor weather conditions surrounding these concerts and events may affect sales of tickets, concessions and merchandise, among other things. Due to weather conditions, the Company may be required to cancel or

reschedule an event to another available day or a different venue, which would increase its costs for the event and could negatively impact the attendance at the event and adversely affect its business, financial condition, results of operations and prospects. Furthermore, accidents or mishaps may occur at the events or concerts organized by the Company even though the Company has put in place certain safety measures. Such accidents or mishaps may severely disrupt the events or concerts and may expose the Company to personal injury litigation as well as damage its reputation. In such event, its business, financial condition, results of operations and prospects may be adversely affected.

The Company may continue to expand its operations geographically into markets in which it has limited or no operating experience, which may expose it to new or increased risks.

The Company has a sizeable user base for certain mobile-based content platform and distribution services, including web-comics and games, in certain overseas markets, including Japan, Southeast Asia, China, Europe and the United States. The Company may continue to expand its operations geographically into markets outside of Korea, including by making some of its mobile service offerings available in different languages. However, the expansion of operations abroad may be difficult due to the presence of established competitors in such markets. In addition, overseas expansion and managing operations on a global scale will require considerable management resources and attention and will be subject to the particular challenges of supporting a growing business in an environment of multiple languages, cultures, customs, legal and regulatory systems and commercial markets. Global expansion may require the Company to make significant expenditures for research and development and marketing and sales, and there can be no assurance that it will successfully achieve its overseas growth objectives.

Operating globally will subject the Company to new risks and may increase risks that it currently faces, including those associated with:

- providing an engaging user experience while operating in different languages and cultures, and localising products, services, content and features to ensure that they are culturally attuned to the markets where they are offered;
- increased competition from mobile and Internet services and music entertainment companies that have strong positions globally or in particular markets and may continue to seek to expand their geographic footprint;
- different and potentially lower levels of user growth, user engagement and demand for online advertising in new and emerging geographies, resulting in greater difficulty in monetising products and services;
- recruiting and retaining talented and capable employees in foreign countries and maintaining corporate culture across all offices;
- different levels of telecommunications infrastructure and technological standards in developing countries that may create challenges in offering products and services;
- developing or integrating local payment processing systems;
- compliance with applicable foreign laws and regulations, including laws and regulations with respect to economic sanctions and export controls, anti-bribery, privacy and consumer protection, as well as Korean laws and regulations that may conflict with local customs and practices in some jurisdictions in which the Company operates, and the risk of penalties if its practices are deemed not to be in compliance;
- political, social and economic instability in some countries;
- double taxation of overseas earnings and potentially adverse tax consequences due to the tax laws of Korea or other jurisdictions in which the Company operates; and
- higher costs of conducting business globally, including increased labour, accounting, travel, infrastructure and legal compliance costs.

It is also possible that governments or relevant regulators of one or more countries may seek to censor content offered through the Company's platforms in their country, restrict access to products and services in their country entirely, or impose other restrictions that may affect the accessibility of products and services in their country for an extended period of time or indefinitely. In the event that access to the Company's products and services is restricted, in whole or in part, in one or more countries, the Company's ability to increase its user base and user engagement may be adversely affected and it may not be able to grow its revenue as anticipated in such country. If the Company is unable to manage the complexity of its increasingly global operations successfully, its business, financial condition and results of operations could be adversely affected.

The Company's intellectual property rights are valuable, and its inability to protect them could reduce the value of its products, services and brands.

The Company's trade secrets, trademarks, copyrights, patents and other intellectual property rights are important assets. The Company relies on a combination of confidentiality and license agreements with its employees, consultants and third parties with whom it has relationships, as well as trademark, trade dress, domain name, copyright, trade secret and patent laws, to protect its brands and other intellectual property rights. However, various events outside of its control may pose a threat to the Company's intellectual property rights, as well as to its products, services and technologies. For example, the Company may fail to obtain effective intellectual property protection, or effective intellectual property protection may not be available, in every country in which its products and services are available. Also, the efforts the Company has taken to protect its intellectual property rights may not be sufficient or effective, and any of its intellectual property rights may be challenged, which could result in them being narrowed in scope or declared invalid or unenforceable. There can be no assurance that the Company's intellectual property rights will be sufficient to protect against others offering products or services that are substantially similar to the Company's and compete with its business.

The Company also relies on non-patented proprietary information and technology, such as trade secrets, confidential information, know-how and technical information. While in certain cases the Company has agreements in place with employees and third parties that place restrictions on the use and disclosure of such intellectual property, these agreements may be breached, or such intellectual property may otherwise be disclosed or become known to its competitors, which could cause the Company to lose competitive advantages resulting from such intellectual property. The Company also pursues registration of trademarks and domain names in Korea and in many jurisdictions outside of Korea. Effective protection of trademarks, domain names and other intellectual property is expensive and difficult to maintain, both in terms of application and registration costs as well as the costs of defending and enforcing those rights.

The Company is party to numerous agreements that grant licenses to third parties to use its intellectual property, including trademarks. For example, many third parties distribute their content through the Company's products and services, embed the Company's content in their products and services or make use of its trademarks in connection with their products and services. If the licensees of the Company's trademarks are not using them properly, the Company's ability to protect its trademarks may become limited and such trademarks could ultimately be declared invalid or unenforceable. There can be no assurance that the Company will be able to protect against the unauthorised use of its brands, trademarks or other intellectual property. There is also a risk that one or more of its trademarks could become generic, which could result in them being declared invalid or unenforceable.

The Company also seeks to obtain patent protection for some of its technology and has filed various applications in Korea and elsewhere for protection of certain aspects of its intellectual property and currently holds a number of issued patents in multiple jurisdictions. The Company may be unable to obtain patent or trademark protection for its technologies and brands, and its existing patents and trademarks, and any patents or trademarks that may be issued in the future, may not provide it with competitive advantages or distinguish its products and services from those of its competitors. In addition, any patents and trademarks may be contested, circumvented, or found unenforceable or invalid, and the Company may not be able to prevent third parties from infringing, diluting or

otherwise violating them. Significant infringements of the Company's intellectual property rights, and limitations on its ability to assert its intellectual property rights against others, could harm its ability to compete and its business, financial condition and results of operations could be adversely affected.

If the Company's security measures are breached, or if its products and services are subject to attacks that disrupt or deny the ability of users to access its products and services, its reputation, business and performance may be harmed.

The Company's products and services involve the storage and transmission of large amounts of users' and advertisers' confidential information, including credit card, bank account and other financial information, and security breaches expose it to a risk of loss of such information, which may lead to improper use or disclosure of such information, ensuing litigation and regulatory investigations, potential liability and regulatory penalties, any of which could harm its reputation and adversely affect its business. The Company has from time to time been subject to some minor instances where an unauthorised party was able to obtain access to the Company's data or its users' or advertisers' data, and there can be no assurance that it will not be vulnerable to cyberattacks in the future. The Company's security measures may also be breached due to employee error, malfeasance or other reasons. Given the rapid development and scope of the products and services the Company offers, including those developed in conjunction with third parties, instituting appropriate access controls and safeguards across all its offerings is challenging. Furthermore, outside parties may attempt to fraudulently induce employees, users or advertisers to disclose sensitive information in order to gain access to the Company's data or its users' or advertisers' data or accounts, or may otherwise obtain access to such data or accounts. In addition, the Company's business partners may store information provided by the Company's users in the course of using its products and services. If these third parties fail to adopt or adhere to adequate data security practices or fail to comply with the Company's terms and policies, or in the event of a breach of their networks, its users' data may be improperly accessed or disclosed.

Since the Company's users and advertisers may use their accounts to establish and maintain online identities, unauthorised communication from users' accounts that have been compromised may damage their reputation and brands as well as the Company's. Any such breach or unauthorised access could result in significant legal and financial exposure, damage to the Company's reputation and a loss of confidence in the security of its products and services. Because the techniques used to obtain unauthorised access, disable or degrade service or sabotage systems change frequently and often are not recognised until launched against a target, the Company may be unable to anticipate these techniques or to implement adequate preventive measures. If an actual or perceived breach of the Company's security occurs or the market perception of the effectiveness of its security measures is harmed, the Company could lose users and advertisers and may incur significant financial exposure, including legal claims and regulatory penalties, which could have an adverse effect on its business, financial condition and results of operations.

Privacy concerns relating to the Company's technology could damage its reputation and deter current and potential users from using its products and services.

From time to time, concerns have been expressed about whether the Company's products and services or processes compromise the privacy of users and others. Concerns about its practices with regard to the collection, use, disclosure or security of personal information or other privacy related matters, even if unfounded, could damage the Company's reputation and adversely affect its operating results. Regulatory authorities around the world are considering a number of legislative and regulatory proposals concerning data protection, including measures to ensure that the Company's encryption of users' data does not hinder law enforcement agencies' access to that data. In addition, the interpretation and application of consumer and data protection laws in Korea and elsewhere are often uncertain and subject to change. It is possible that these laws may be interpreted and applied in a manner that is inconsistent with the Company's data practices. If so, in addition to the possibility of regulatory penalties, this could result in an order requiring that the Company change its data practices, which

could have an adverse effect on its business, financial condition and results of operations. Complying with these various laws could cause the Company to incur substantial costs or require it to change its business practices in a manner adverse to its business.

The Company may become party to intellectual property rights claims in the future that may be expensive and time consuming to defend, and such claims, if resolved adversely, could have a significant impact on its business.

Technology companies own large numbers of patents, copyrights, trademarks, licenses and trade secrets, and frequently enter into litigation based on allegations of infringement, misappropriation or other violations of intellectual property or other rights. Many such companies, including many of the Company's competitors, have substantially larger intellectual property portfolios than it does, which could make the Company a target for litigation, as it may not be able to assert counterclaims against parties that sue it for intellectual property infringement. In addition, various "non-practicing entities" that own intellectual property rights often attempt to aggressively assert claims in order to extract payments from companies like the Company. From time to time, the Company has received, and may receive in the future, claims from third parties which allege that it has infringed upon their intellectual property rights. Furthermore, from time to time, the Company may introduce or acquire new products, services or content, including in areas where it currently does not compete, which could increase its exposure to intellectual property claims from competitors and non-practicing entities. Some of the Company's agreements with advertisers and business partners require it to indemnify them for certain intellectual property claims against them, which could require it to incur considerable costs in defending such claims, and may require it to pay significant damages in the event of an adverse ruling or settlement. Such advertisers and business partners may also discontinue use of the Company's products, services and technologies as a result of injunctions or other reasons, which could result in loss of revenue and adversely impact its business.

As the Company faces increasing competition and gains an increasingly high profile, the number and scope of intellectual property claims against it may grow. There may be intellectual property or other rights held by others, including issued or pending patents, that cover significant aspects of its products and services, and the Company cannot be certain that it is not infringing or violating, and has not infringed or violated, any third-party intellectual property rights or that it will not be held to have done so or be accused of doing so in the future. Any claim or litigation alleging that the Company has infringed or otherwise violated intellectual property or other rights of third parties, with or without merit, and whether or not settled out of court or determined in its favour, could be time consuming and costly to address and resolve, and could divert the time and attention of its management and technical personnel. Some of the Company's competitors have substantially greater resources than it does and are able to sustain the costs of complex intellectual property litigation to a greater degree and for longer periods of time than it may be able to. The outcome of any litigation is inherently uncertain, and there can be no assurance that favourable final outcomes will be obtained. In addition, plaintiffs may seek, and the Company may become subject to, preliminary or provisional rulings in the course of any such litigation, including potential preliminary injunctions requiring it to cease some or all of its operations. If any litigation to which the Company is a party is resolved adversely, it may be subject to an unfavourable judgment that may not be reversed upon appeal. The terms of any such judgment or any settlement may require the Company to cease some or all of its operations, pay substantial amounts to the other party or seek licensing arrangements. If the Company is required or chooses to enter into royalty or licensing arrangements, such arrangements may not be available on commercially reasonable terms, or at all, and may significantly increase its operating costs and expenses. The development or procurement of alternative non-infringing technology could require significant effort and expense or may not be feasible. Accordingly, an unfavourable resolution of any intellectual property rights claims could adversely affect the Company's business, financial condition and results of operations.

The Company's business and performance may be harmed by a disruption in its services due to failures in or changes to its systems or those of third parties, or by its failure to timely and effectively expand and upgrade its technology and infrastructure.

The Company's reputation and ability to attract, retain, and serve its users, advertisers and business partners are dependent in large part upon the reliable performance of its products and services and the underlying technical infrastructure. The Company's systems may not be adequately designed with the necessary reliability and redundancy to avoid performance delays or outages that could be harmful to its business. The Company has experienced, and may in the future experience, service disruptions, outages and other performance problems due to a variety of factors, including infrastructure changes, human or software errors, hardware failure, capacity constraints due to an overwhelming number of people accessing its products and services simultaneously, computer viruses, denial of service, fraud and security attacks. The Company's technical infrastructure is also vulnerable to the risk of damage from natural and other disasters, such as floods, fires, earthquakes and typhoons, as well as from acts of terrorism and other criminal acts. For instance, in October 2022, due to the fire at SK C&C located in Pangyo, which houses data centres for the Company, nearly all online services provided by the Company, ranging from the online messenger KakaoTalk to mobility service app Kakao T, suffered a massive malfunction and server outages. The Company's products and services also incorporate software that is highly technical and complex. The Company's software has in the past contained, and may currently or in the future contain, undetected errors, bugs or vulnerabilities. Some errors in the Company's software code may only be discovered after the relevant product or service has been released.

As the number of the Company's users increases and as its users access, download, generate and transmit increasing volumes of content, including music, photos and videos, the Company may be required to expand and upgrade its technology and infrastructure to continue to reliably store, deliver and service such content. It may become increasingly difficult to maintain and improve the performance of the Company's products and services, especially during peak usage times, as its products and services become more complex and its user traffic increases. In addition, the Company cannot provide assurance that it will be able to expand and upgrade its technology and infrastructure to meet user demand in a timely manner, or on favourable economic terms. If its users are unable to readily access its products and services or access is disrupted, users may seek other service providers instead, and may not return to the Company's products and services or use its products and services as often in the future. This would negatively impact the Company's ability to attract users, advertisers and business partners as well as increase engagement of its users. The Company may continue to make significant investments to maintain and improve the capacity, capability and reliability of its technology and infrastructure. To the extent that the Company does not effectively address capacity constraints, upgrade its systems as needed or continually develop its technology and infrastructure to accommodate actual and anticipated changes in its users' needs, its business, financial condition and results of operations may be harmed.

In addition, the Company's products and services offered through its platforms depend on the ability of users to access mobile telecommunications services and the Internet. Currently, this access is provided by companies that have significant market power in the mobile and Internet access marketplaces, including mobile telecommunications companies, telephone, cable and broadband companies, government-owned service providers, device manufacturers and operating system providers, any of which could take actions that degrade, disrupt or increase the cost of user access to the Company's services, which would, in turn, negatively impact its business. Furthermore, the infrastructure, systems and services of these companies are subject to disruption or failure due to technical issues, capacity constraints, natural disasters and other events. As mobile devices and the Internet continue to experience growth in the number of users, frequency of use and amount of data transmitted, the mobile telecommunications and Internet infrastructure that its users rely on may be unable to support the demands placed upon them. The disruption or failure of the operations of mobile telecommunications, Internet and other service providers that the Company's users rely on to access its products and services, even for a short period of time, could undermine users' confidence in and dependence on such products and services and, if prolonged, could adversely affect its business, financial condition and results of operations.

The Company's user growth and engagement on mobile and other connected devices and PCs, which are required to access and use most of its products and services, depend upon their effective operation with third-party mobile operating systems and web browsers.

The Company is dependent on the interoperability of its mobile and Internet applications with popular mobile operating systems, such as Android and iOS, as well as web browsers, such as those for Windows and Mac OS, that are developed and supplied by third parties. Any changes in such operating systems or web browsers that degrade the functionality of the Company's products or services or give preferential treatment to its competitors' products or services could adversely affect usage of such products and services. In addition, an expansion in the number of operating systems for which the Company is required to develop its products or services may result in an increase in its operating expenses. In order to deliver high quality products and services, it is important that the Company's products and services work well with a range of widely used mobile operating systems and web browsers provided by third parties.

The Company may not be successful in developing or maintaining relationships with key participants in the information technology and mobile telecommunications industries or in developing products or services that operate effectively with mobile operating systems, web browsers, networks or standards. In the event that it becomes more difficult for users to access and use the Company's products and services, particularly on their mobile devices, the Company's user growth and user engagement could be harmed, and its business, financial condition and results of operations could be adversely affected.

The Company relies primarily on Apple App Store and Google Play as the channels for downloads of its mobile applications as well as processing of certain payments, and any deterioration in the Company's relationship with either of them may negatively impact its business.

The Company relies primarily on Apple App Store and Google Play as the channels for downloads of its mobile applications as well as the processing of payments for certain products and services offered through its platforms and will most likely continue to do so. Accordingly, maintaining good business relationships with Apple and Google is expected to be critical to the Company's continued success.

The operating policies of Apple and Google have an impact on the accessibility of the Company's mobile applications. In addition, the Company's pricing strategy for certain products and services is impacted by changes in the payment processing fees charged by Apple and Google. If the Company fails to maintain cooperative relationships with Apple or Google, its ability to continue to offer mobile applications or effect payment processing for certain products and services may be negatively impacted, which in turn could have an adverse effect on its business, financial condition and results of operations.

The listing or sale by merchants using the Company's e-commerce services of goods and services that allegedly infringe the intellectual property rights of rights owners, including pirated or counterfeit items, may harm its business.

The listing or sale through the Company's e-commerce services, including by online retailers or other merchants through platform such as Kakao Talk Gift Shop, Kakao Talk Store, Kakao Makers, Kakao Style and Shopping How, of unlawful, counterfeit or stolen goods or unlawful services, or the sale of products or services in an unlawful manner, may result in allegations of civil or criminal liabilities for unlawful activities against the Company. Any such allegations relating to infringement of intellectual property rights, including but not limited to counterfeit items, may result in threatened and actual litigation from time to time by rights owners, and the Company may be required to pay substantial amounts in connection with resolving trademark and copyright claims. Such legal proceedings may also force the Company to modify its business practices in a manner that increases costs, lowers revenue, makes its products and services less convenient for users or requires it to spend substantial resources to take additional protective measures or discontinue certain service offerings in order to combat these practices. In addition, the Company may receive significant media attention relating to the listing or

sale of illegal or counterfeit items, which could damage its reputation, diminish the value of its brands or make users reluctant to use its products and services.

Certain of the Company's user metrics are subject to inherent uncertainties in measurement, and real or perceived inaccuracies in such metrics may harm its reputation and negatively affect its business.

The Company uses internal data to calculate Kakao Talk's daily active users and Melon's monthly paying subscribers. These figures are based on the Company's estimates of its active user and paying subscriber base for the applicable period of measurement, and there are inherent challenges in measuring usage of its products and services across a large and growing mobile and online user base, which may impose certain limitations on the process of data compilation and verification processes.

The Company regularly reviews and may adjust its processes for calculating its internal metrics to improve their accuracy. Its measures of user growth and user engagement may differ from estimates published by third parties or from similarly titled metrics of its competitors due to differences in calculation methodology. If advertisers, business partners or prospective investors do not perceive the Company's user metrics to be accurate representations of its user base or user engagement, or if material inaccuracies in the Company's user metrics are discovered, its reputation may be harmed, and business partners and advertisers may be less willing to allocate their budgets or resources to the Company's products and services.

Some of the products and services that the Company currently offers are free, and the Company may not be successful in its efforts to monetise its products and services.

The Company's ability to successfully monetise its user base and its user base's engagement is critical to its business and financial performance. Many of the products and services that the Company currently offers are free. For example, the mobile messaging services of Kakao Talk, certain taxi services of Kakao T, the Company's mobile transportation application, as well as a majority of the portal-related services from Daum, can currently be used free of charge by users. In addition, most of the mobile games that the Company currently offers are free to play, and for such games, the Company is only able to generate revenue when players purchase in-game items that enhance or accelerate game play or augment or customise a particular player's experience. Such item-based revenue model for mobile games requires the Company to design and introduce games and ongoing enhancements that incentivise players not only to spend time playing its games, but also to purchase in-game items. A relatively small portion of players account for a large portion of the Company's mobile games revenue. Accordingly, the Company must constantly seek new ways to convert non-paying players into paying players and attract and retain paying players.

The Company may also seek to increase revenue by selectively introducing commissions and other charges and adding advertising channels with respect to its existing products and services that are currently offered for free, as well as develop new revenue-generating products and services. However, there is no guarantee that the Company's efforts to further monetise its products and services will be successful in generating significant new revenue or profits. Furthermore, the Company's monetisation efforts could have a negative effect on user engagement and user base growth if such efforts discourage users from using its products and services. In addition, the Company's competitors may introduce new revenue models in the future, and if such new revenue models are perceived as offering a better value proposition to users than the models that the Company currently uses or implements in the future, customers may switch to competitors' products and services. The Company may be required to expend significant time and resources to develop and launch new revenue models, and it may be unable to launch them in a timely or cost-effective manner, or at all. If the Company's monetisation efforts are not as successful as it anticipates, the Company may not be able to maintain or grow its revenue, and its business, financial condition and results of operations could be adversely affected.

The COVID-19 pandemic and similar health epidemics, contagious disease outbreaks and public perception thereof could disrupt the Company's operations and adversely affect its business, results of operations, cash flows or financial condition.

The outbreak of communicable diseases such as COVID-19, the H7N9 strain of flu, the H1N1 virus and MERS on a global scale and other public health crises outside of the Company's control could have a negative impact on the business of the Company.

In particular, the recent global outbreak of COVID-19 has resulted in changes in consumer behaviour, and the implementation of restrictions intended to slow the spread of COVID-19, including quarantines, government-mandated actions, stay-at-home orders, restrictions on travel and public transport, prolonged closures of workplaces and other restrictions, has negatively impacted the global economy. Since 2021, the Korean and global economies have showed signs of recovery from the pandemic recession in 2020, due largely to aggressive fiscal and monetary measures implemented by the governments. In addition, the Government and other governmental authorities across the world lifted most of the restrictions put in place to slow the spread of COVID-19 and, in May 2023, the World Health Organization declared that the COVID-19 pandemic was still ongoing but no longer represented a public health emergency. However, the risk remains that circumstances could deteriorate, for instance, with the spread of a new COVID-19 variant.

In addition, health epidemics could adversely affect the health of the Company's employees, or otherwise disrupt the productivity of its employees, third-party organizations with which the Company partners, or regulatory agencies it relies on, which may prevent the Company from delivering contents in a timely manner or otherwise executing its business strategies.

Labour disruptions could affect the Company's results of operations.

The Company has a labour union which was formed in 2018. From time to time, the union and the Company's management negotiate and enter into a new collective bargaining agreement, which was last entered into in December 2023 when a wage rate increase was negotiated. The Company has not experienced any work slowdowns, work stoppages or strikes. However, there can be no assurance that a work slowdown, work stoppage or strike will not occur, in particular prior to or upon the expiration of the Company's labour agreements. Work slowdowns, stoppages or other labour-related developments affecting the Company could have a material adverse effect on its business, financial condition and results of operations.

RISKS RELATING TO REGULATORY MATTERS

The Company's business is subject to complex and evolving laws and regulations.

The Company is subject to a variety of laws and regulations in Korea and elsewhere that involve matters central to its business, including privacy and data protection, rights of publicity, content and pricing regulation, advertising, protection of personal information, intellectual property, protection of minors, consumer protection, competition and taxation. For example, the Company is subject to regulation in Korea as an additional communications service provider under the Telecommunications Business Act, as a location-based service provider under the Act on Protection and Utilization of Location Information and as an electronic financial business operator under the Electronic Financial Transactions Act, while its advertising services are subject to regulation under the Act on Fair Labeling and Advertising. In addition, aspects of the Company's online music services are subject to regulation by the Ministry of Culture, Sports and Tourism, which establishes regulatory guidelines with respect to payments by online music service providers to music distributors (for the benefit of artists, producers and other music industry participants) of specified minimum royalty fees and profit-sharing fees for music downloaded or streamed by subscribers. See "Regulation – Regulation of the Company" for a summary of certain laws and regulations in Korea that are applicable to the Company.

Existing and new laws and regulations in Korea and elsewhere can be costly to comply with and can delay or impede the development of new products and services, result in negative publicity, significantly increase the Company's operating costs, require significant time and attention of management and technical personnel and subject it to inquiries or investigations, claims or other remedies, including fines and demands that the Company modify or cease existing business practices. In addition, many of these laws and regulations are still evolving and could be interpreted or applied in ways that could limit the Company's business, particularly in the new and rapidly evolving industries in which it operates. The introduction of new services or products in Korea and the expansion of the Company's business to other countries may subject the Company to additional laws and regulations. For example, in February 2020, Kakao Pay expanded its services to include consumer and corporate investment services through its consolidated subsidiary Kakao Pay Securities, which subjects the Company to the Financial Investment Services and Capital Markets Act (the "FSCMA"). In addition, in September 2021, as Kakao Pay expanded its services to include insurance, Kakaopay Insurance Corp became subject to and regulated by the Korean Insurance Business Act. Continually seeking ways to improve the Company's products and services may from time to time involve upgrades or changes in the technology and infrastructure supporting such products and services and could also result in greater regulation. If the Company is required to comply with amended, new or additional laws and regulations in Korea or elsewhere, its business could be affected in many ways and areas, including the following:

- the cost and general impact of compliance could be substantial, may require significant investments and organisational changes and may erode or eliminate the Company's pricing advantage over competitors and, potentially, its ability to compete effectively;
- compliance may require the Company to make certain fundamental and potentially detrimental changes to the products and services it offers and the way it conducts business in certain areas, including ceasing particular businesses or withdrawing from markets; and
- the Company may need to terminate or restructure partnerships and other commercial agreements.

From time to time, the Company receives formal and informal inquiries from governmental authorities and regulators regarding its compliance with laws and regulations. The Company has become, and may continue to become, subject to investigations, inquiries, actions and audits in Korea and other jurisdictions, including in connection with its strategic acquisitions and investments, as it continues to grow and expand its operations. Orders issued by, or inquiries or enforcement actions initiated by, governmental or regulatory authorities could cause it to incur substantial costs, expose it to unanticipated civil and criminal liability or regulatory penalties (including substantial monetary fines), or require it to change its business practices in a manner materially adverse to its business, or result in imprisonment of its executives or officers. Additionally, if third parties the Company works with, such as advertisers and business partners, violate applicable laws or the Company's policies, such violations may result in joint or secondary liability for it. Due to these and other factors, there is no guarantee that the laws and regulations to which the Company is or becomes subject will not have a material adverse effect on its business, financial condition or results of operations.

In addition, the Company's business may be affected from time to time by changes in laws and regulations applicable to operators of the telecommunications and Internet infrastructure through which users access the Company's products and services, including mobile telecommunications companies, telephone, cable and broadband companies and other Internet service providers. For example, in December 2017, the U.S. Federal Communications Commission issued a ruling and order reversing the "net neutrality" standards adopted in 2015 that were intended to prevent differential treatment of online content providers, in terms of access to service, access speeds and charging for preferential service, by Internet service providers in the United States. In the event that the Government were to similarly scale back or weaken the net neutrality standards currently applicable in Korea, Internet service providers may seek to block access to, or slow down access speeds for, the Company's products and services in favour of those of its competitors, or may seek to charge fees to it or its users for providing preferential access to its products and services, which could hurt its competitive position, reduce user demand for its products and services, increase its costs and adversely affect its business, financial condition and results of operations.

The Company, its affiliate Kakao Entertainment and OneAsia Partners are currently under an investigation by the FSS in an alleged attempt to act in collusion to interfere with HYBE's tender offer and manipulate the market through the purchase of SM Entertainment's shares, the result of which may subject the Company to penalties and/or fines and may have an adverse impact on the Company's business and financial results.

The Financial Supervisory Service (the "FSS") and the prosecutors' office recently launched an investigation into allegations of the Company, Kakao Entertainment, and OneAsia Partners' acting in collusion to interfere with HYBE's tender offer and manipulate the market through the purchase of SM Entertainment's shares. Following the investigation of the Company, Kakao Entertainment and their officers and employees in connection with such allegation, the Company's then Chief Investment Officer and the Company were indicted in November 2023. As of the date of this Offering Circular, it is difficult to predict whether the Company will face criminal or other penalties, and if so, what those penalties will be. See "The Company – Legal and Regulatory Proceedings".

Kakao Mobility, a consolidated subsidiary of the Company, is subject to deliberation of penalties by the FSS and the SFC for its accounting treatment under the gross-up method, which may subject the Company to more intensified reviews by various regulatory bodies in the future and adversely affect the reputation and brand image of the Kakao Group as a whole.

Since 2020, Kakao Mobility has accounted for (i) royalties equivalent to 20% of fare revenue under the franchise agreement (the "Franchise Agreement") entered between its subsidiary, KM Solution, and transportation service operators as revenue and (ii) partnership fees equivalent to 16% to 17% of fare revenue under the business partnership agreement (the "Business Partnership Agreement") entered with taxi operators as expenses in its consolidated financial statements (referred to as the "gross-up method") given that Kakao Mobility considered the Franchise Agreement and the Business Partnership Agreement to be separate contracts with different substance.

However, in 2023, the FSS announced that, according to its interpretation of the K-IFRS No. 1115, only 3 to 4% of the fare revenue should be accounted for as revenue after offsetting royalties received under the Franchise Agreement and partnership fees paid under the Business Partnership Agreement (referred to as the "net amount method"), and determined that Kakao Mobility inflated its revenue by approximately Won 300 billion in 2022 by using the gross-up method when it should have used the net amount method.

The FSS made a preliminary determination that Kakao Mobility's accounting treatment under the gross-up method amounted to the highest level of violation, considering the motive as intentional and the materiality as level 1. Consequently, the FSS moved to impose the highest level of penalties, including administrative penalties of around Won 8 billion, referral of Kakao Mobility to the prosecutors' office, administrative penalties and dismissal recommendations for the CEO and the auditor of Kakao Mobility, and administrative penalties and suspension recommendations for the former CFO of Kakao Mobility. As of the date of this Offering Circular, the final imposition of these planned penalties by the FSS is subject to uncertainties as these are subject to the deliberations of the Securities and Futures Commission (the "SFC") as well as interpretation and determination of the courts.

As Kakao Mobility is a consolidated subsidiary of the Company, its revenue and expenses are reflected in the Company's consolidated financial statements. Recently, Kakao Mobility decided to change its accounting treatment for royalties received under the Franchise Agreement and partnership fees paid under the Business Partnership Agreement from the gross-up method to the net amount method to respect the interpretation of accounting standards of the FSS, which is the competent authority on accounting standards, and to avoid unnecessary confusion for users of accounting information, which will result in a decrease in the Company's consolidated revenue.

While there is no impact of such change on the Company's consolidated profit and the sanctions against Kakao Mobility are subject to further deliberation by the Korean financial regulators, the implication of its consolidated

subsidiary in a proceeding related to accounting method may also subject the Company to more intensified reviews by various regulatory bodies in the future and adversely affect the reputation and brand image of the Kakao Group as a whole.

Transactions with the Company's subsidiaries, affiliates and other member companies of the Kakao Group are restricted under Korean fair trade regulations.

The Company and a group of companies affiliated with it were designated as a large business group on 1 April 2016 and as a business group subject to limitations on cross shareholding on 16 May 2019 by the Korea Fair Trade Commission (the "KFTC"). As a result, the Company's business relationships and transactions with its subsidiaries and affiliates within the Kakao Group are subject to ongoing scrutiny by the KFTC as to, among other things, whether such relationships and transactions constitute undue financial support among companies of the same business group. The Company is also subject to fair trade regulations limiting cross-guarantees of debt and cross-shareholdings among member companies of the Kakao Group. See "Regulation – Regulation of the Company – Regulations under the Monopoly Regulation and Fair Trade Act". In addition, the Company's material business transactions with its subsidiaries and affiliates within the Kakao Group are subject to approval by its board of directors and require more stringent and expedited public disclosure. Any future determinations by the KFTC that the Company has engaged in transactions that violate Korean fair trade laws and regulations may result in fines or other punitive measures and may have a material adverse effect on its reputation and its business.

The Company's transactions with related parties are subject to close scrutiny by the Korean tax authorities.

Under Korean tax law, there is an inherent risk that the Company's transactions with its subsidiaries, affiliates or any other person or company that is related to it may be challenged by the Korean tax authorities if such transactions are viewed as having been made on terms that were not on an arm's-length basis. If the Korean tax authorities determine that any of the Company's transactions with related parties was not on an arm's-length basis, the Company would not be permitted to deduct as expenses, or would be required to include as taxable income, the amount equivalent to such undue financial support, which may have adverse tax consequences for it.

RISKS RELATING TO KOREA

If economic conditions in Korea deteriorate, the Company's current business and future growth could be materially and adversely affected.

The Company is incorporated in Korea and a substantial majority of its operations are located in Korea. As a result, the Company is subject to political, economic, legal and regulatory risks specific to Korea. The economic indicators in Korea in recent years have shown mixed signs of growth and uncertainty, and future growth of the Korean economy is subject to many factors beyond the Company's control, including developments in the global economy. Any future deterioration of the Korean economy, as a result of unfavourable global economic conditions or otherwise, could adversely affect the business, financial condition and results of operations of the Company and the market price of its common shares.

In recent years, adverse conditions and volatility in the worldwide financial markets, fluctuations in oil and commodity prices and the general weakness of the global economy, mainly due to the COVID-19 pandemic and more recently due to Russia's invasion of Ukraine and ensuing sanctions against Russia and the escalating conflicts between Israel and Hamas, have contributed to the uncertainty of global economic prospects in general and have adversely affected, and may continue to adversely affect, the Korean economy. The value of Won relative to major foreign currencies in general and U.S. dollars in particular has also fluctuated. Furthermore, as a result of adverse global and Korean economic conditions, there has been volatility in the stock prices of Korean companies in recent years. Future declines in the Korea Composite Stock Price Index ("KOSPI") 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 Won, the foreign currency reserves held by financial institutions in Korea, and the ability of Korean companies to raise capital. Any future deterioration of the Korean or global economy could adversely affect the business, financial condition and results of operations of the Company.

Other developments that could have an adverse impact on the Korean economy include:

- declines in consumer confidence and a slowdown in consumer spending in the Korean or global economy;
- adverse conditions or developments in the economies of countries and regions that are important export markets for Korea, such as the United States, Europe, Latin America, Japan and China, or in emerging market economies in Asia or elsewhere, including as a result of the COVID-19 pandemic, deteriorating relations between the United States and China, continuing geopolitical and social instability in various parts of the Middle East and in the former republics of the Soviet Union and military conflicts between Russia and Ukraine;
- 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;
- the occurrence of additional severe health epidemics;
- adverse changes or volatility in foreign currency reserve levels, commodity prices (including oil prices), exchange rates (including fluctuation of the U.S. dollar, the Euro or the Japanese yen exchange rates or revaluation of the Chinese Renminbi), interest rates, inflation rates or stock markets;
- increased sovereign default risk in select countries and the resulting adverse effects on the global financial markets;
- a deterioration in the financial condition or performance of small- and medium-sized enterprises and other companies in Korea due to the Government's policies to increase minimum wages and limit working hours of employees;
- investigations of large Korean business groups and their senior management for possible misconduct;
- 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;
- 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) and the resulting adverse effects on the global supply of oil and other natural resources and the global financial markets;
- social and labour unrest;
- the economic impact of any pending or future free trade agreements or changes in existing free trade agreements;
- substantial fluctuations in the market prices of Korean real estate;
- a decrease in tax revenue or a substantial increase in the Government's expenditures for fiscal stimulus measures, unemployment compensation and other economic and social programs, which, together, would likely lead to a national budget deficit as well as an increase in the Government's debt;
- financial problems or lack of progress in the restructuring of Korean business groups, other large troubled companies, their suppliers or the financial sector;
- loss of investor confidence arising from corporate accounting irregularities or corporate governance issues concerning 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;

- geo-political uncertainty and risk of further attacks by terrorist groups around the world;
- natural or man-made disasters that have a significant adverse economic or other impact on Korea or its major trading partners;
- political uncertainty or increasing strife among or within political parties in Korea;
- hostilities or political or social tensions involving countries in the Middle East (including escalating conflicts between Israel and Hamas), Russia and North Africa and any material disruption in the global supply of oil or sudden increase 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.

Escalations in tensions with North Korea could have an adverse effect on the Company and the market value of the Company's securities, including the Shares and the Bonds.

Relations between Korea and North Korea have been tense throughout Korea's modern history. The level of tension between the two Koreas has fluctuated and may increase abruptly as a result of current and future events. In particular, there have been heightened security concerns in recent years stemming from North Korea's nuclear weapon and ballistic missile programs as well as its hostile military actions against Korea. Some of the significant incidents in recent years include the following:

- North Korea renounced its obligations under the Nuclear Non-Proliferation Treaty in January 2003 and conducted six rounds of nuclear tests since October 2006, including claimed detonations of hydrogen bombs and warheads that can be mounted on ballistic missiles. Over the years, North Korea has continued to conduct a series of missile tests, including ballistic missiles launched from submarines and intercontinental ballistic missiles that it claims can reach the United States mainland. North Korea has increased the frequency of such activities since the beginning of 2022, firing numerous ballistic missiles, including intercontinental ballistic missiles, and in November 2023, successfully launched its first spy satellite. In response, the Government has repeatedly condemned the provocations and flagrant violations of relevant United Nations Security Council resolutions. In February 2016, the Government also closed the inter-Korea Gaesong Industrial Complex in response to North Korea's fourth nuclear test in January 2016. Internationally, the United Nations Security Council has passed a series of resolutions condemning North Korea's actions and significantly expanding the scope of sanctions applicable to North Korea. Over the years, the United States and the European Union have also expanded their sanctions applicable to North Korea.
- 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.
- In August 2015, two Korean soldiers were injured in a landmine explosion near the Korean demilitarized zone. Claiming that the landmines were set by North Koreans, the Korean army re-initiated its propaganda program toward North Korea utilising loudspeakers near the demilitarized zone. In retaliation, the North Korean army fired artillery rounds on the loudspeakers, resulting in the highest level of military readiness for both Koreas.

North Korea's economy also faces severe challenges, which may further aggravate social and political pressures within North Korea.

Since April 2018, North Korea has held a series of bilateral summit meetings with Korea and the United States to discuss peace and denuclearization of the Korean peninsula. At the end of July 2021, inter-Korean communication lines were restored for the first time since June 2020, when North Korea severed all inter-Korean governmental communication, but days later, North Korea stopped answering routine calls from Korea in apparent protest of the joint U.S.-Korea military exercises scheduled for August 2021. Although in October 2021, North Korea began answering military and liaison office communication lines again, there can be no assurance that the level of tensions affecting the Korean peninsula will not escalate in the future. Any further increase in tensions, which may occur, for example, if North Korea experiences a leadership crisis, high-level contacts between Korea or the United States and North Korea break down or further military hostilities occur, could have a material adverse effect on the Korean economy and on our business, financial condition and results of operations and the market value of our common stock.

Class action lawsuits related to securities transactions may expose the Company to additional litigation risk.

The Securities-related Class Action Act of Korea permits class action lawsuits to be instituted by one or more representative plaintiffs on behalf of 50 or more persons who collectively hold 0.01% or more shares of a listed company in Korea and who claim to have been damaged in a capital markets transaction involving securities issued by the company. Applicable causes of action with respect to such lawsuits include, among others, claims for damages caused by misleading information contained in a securities registration statement or prospectus, the filing of a misleading business report, insider trading or market manipulation and claims instituted against auditors for damages caused by accounting irregularities. There can be no assurance that the Company will not become subject to class action lawsuits in the future. If such class action suits are instituted against the Company, it could result in substantial costs and divert the management's attention and resources from the Company's core business.

There are special risks involved with investing in securities of Korean companies, including the possibility of restrictions being imposed by the Government in emergency circumstances as well as accounting and corporate disclosure standards that differ from those in other jurisdictions.

You should carefully consider the risk factors listed in this section, together with all of the other information included in this Offering Circular, before you decide to purchase the Bonds. As the Company is a Korean company, there are risks associated with investing in its securities, including the Shares, that are not typical for investments in securities of U.S. or European companies. As a Korean company, the Company operates in a business and cultural environment that is different from that of other countries.

Under the Korean Foreign Exchange Transaction Law, if the Government determines that certain emergency circumstances, including sudden fluctuations in interest rates or exchange rates, extreme difficulty in stabilising the balance of payments or substantial disturbance in the Korean financial and capital markets, are likely to occur, it may impose any necessary restriction such as requiring Korean or foreign investors to obtain prior approval from the Minister of Economy and Finance for the acquisition of Korean securities or for the repatriation of interest, dividends or sales proceeds arising from Korean securities or from disposition of such securities or other transactions involving foreign exchange.

In addition, the Company prepares and presents its financial statements in accordance with K-IFRS, which differ in many material respects from accounting principles applicable to companies in certain other countries. The Company also makes public disclosures regarding other aspects of its business in accordance with the rules and regulations of the Korea Exchange and accepted practice in Korea. These disclosure rules and practices differ in many material respects from those applicable to companies in certain other countries. There may also be less publicly available information about Korean companies, such as the Company, than is regularly made available by public or non-public companies in other countries. In making an investment decision, investors must rely upon their own examination of the Company, the terms of the offering and the financial information contained in this Offering Circular.

The Company is incorporated in Korea, and it may be more difficult to enforce judgments obtained in courts outside Korea.

The Company is incorporated in Korea. All of its directors are non-U.S. residents, and a significant portion of the personal assets of its directors and executive officers and a substantial majority of the Company's assets are located outside the United States. As a result, when compared to a U.S. company, it may be more difficult for investors to effect service of process in the United States upon the Company or to enforce against it, its directors or executive officers, judgments obtained in U.S. courts predicated upon civil liability provisions of the federal or state securities laws of the United States or similar judgments obtained in other courts outside Korea. There is doubt as to the enforceability in Korean courts, in original actions or in actions for enforcement of judgments of U.S. courts, of civil liabilities predicated solely upon the federal and state securities laws of the United States.

RISKS RELATING TO THE BONDS AND THE SHARES

Bondholders will bear the risk of fluctuations in the price of the Shares.

The market price of the Bonds will be affected by, among other things, fluctuations in the trading price of the Shares. No assurance can be given as to the future trading price of the Shares or the Bonds. The trading price of the Shares will be influenced by, among other things, the Company's results of operations and sales of additional Shares or securities convertible into Shares, as well as political, economic, financial and other factors in the Korean market. Any future sales of a significant number of Shares by the Company or shareholders of the Company, or the perception that these events may occur, could cause the trading price of the Shares to decrease or to be lower than it might be in the absence of these events or perceptions.

In addition, on 13 March 2020, the Financial Services Commission (the "FSC") announced a temporary six-month ban on short selling of listed stocks and other listed products on the Korea Exchange until 15 September 2020. At that time, the FSC had also announced that the ban may be extended depending on future conditions. On 27 August 2020, the FSC announced that the short selling ban was being extended for an additional six months (until 15 March 2021) due to rising volatility in the market and the continuing impacts of COVID-19. Subsequently, the FSC decided to resume short selling for KOSPI 200 and KOSDAQ 150 stocks starting from 3 May 2021, considering that global markets had stabilized overall. However, on 6 November 2023, due to continued high-interest rates and increased volatility in the domestic market, the FSC decided to once again prohibit short selling for partially allowed KOSPI 200 and KOSDAQ 150 stocks until the end of June 2024, extending the ban to all stocks in the domestic market. The FSC may extend the ban further depending on future market conditions. Any further extension of the short selling ban or any other restrictions introduced by the FSC could limit the options that Bondholders will have to hedge their exposure, or enter into derivatives, in relation to the Shares.

Furthermore, stock markets, including the KRX KOSPI Market on which the Shares are traded, have from time to time experienced significant price and volume fluctuations that have affected the market prices of securities. These fluctuations often have been unrelated or disproportionate to the operating performance of publicly traded companies.

Bondholders will have no rights as holders of the Shares until the conversion of the Bonds for Shares.

Unless and until the Bondholders acquire Shares upon conversion of the Bonds, the Bondholders will have no rights with respect to the Shares, including any voting rights or rights to receive any dividends or other distributions with respect to the Shares. Holders who convert the Bonds for Shares will be entitled to exercise the rights as holders of the Shares only as to actions for which the applicable record date occurs after the date of the conversion.

Bondholders will have no security interest in the Shares.

The Bonds will not create any security interest in favour of Bondholders either to secure the payment obligations arising under the Bonds or to secure the obligation to deliver Shares upon exercise of the Conversion Rights thereunder. However, pursuant to Korean law, the Shares to be delivered upon exercise of the Conversion Rights under the Bonds must be registered with the Korea Securities Depository (the "KSD") for the term of the Bonds and the KSD will hold the Shares as trust property.

Fluctuations in the exchange rate between Won and U.S. dollars may have a material adverse effect on the market price of the Shares in U.S. dollar terms.

The Shares are traded and quoted in Won on the KRX KOSPI Market. In addition, cash dividends, if any, in respect of the Shares will be paid in Won. As a result, fluctuations in the exchange rate between Won and U.S. dollars will affect, among other things, the market price of the Shares in U.S. dollar terms and the U.S. dollar value of any cash dividends paid in respect of the Shares.

If the Government believes that serious difficulties exist or are expected in relation to the international balance of payments or that the movement of capital between Korea and elsewhere in the world poses serious obstacles in carrying out its currency, exchange rate and other macroeconomic policies, it may take measures to require any person who intends to perform capital transactions to obtain the permission of or to require any person who performs capital transactions to deposit part of the payment acquired in such transactions with certain Korean governmental agencies or financial institutions. See "Korean Foreign Exchange and Securities Regulations". Any of the foregoing events could adversely affect the price of the Bonds and the market price of the Shares.

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

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

- have sufficient knowledge and experience to make a meaningful evaluation of the Bonds, the merits and risks of investing in the Bonds and the information contained in this Offering Circular;
- have access to, and knowledge of, appropriate analytical tools to evaluate, in the context of its particular financial situation, an investment in the Bonds and the impact such investment will have on its overall investment portfolio;
- have sufficient financial resources and liquidity to bear all of the risks of an investment in the Bonds, including where the currency for principal payments is different from the potential investor's market currency;
- understand thoroughly the terms of the Bonds and be familiar with the behaviour of any relevant indices and financial markets; and
- be able to evaluate (either alone or with the help of a financial adviser) possible scenarios for economic, interest rate and other factors that may affect its investment and its ability to bear the applicable risks.

A potential investor should not invest in the Bonds unless it has the expertise (either alone or with the help of a financial adviser) to evaluate how the Bonds will perform under changing conditions, the resulting effects on the value of such Bonds and the impact this investment will have on the potential investor's overall investment portfolio.

Additionally, the investment activities of certain investors may be subject to legal investment laws and regulations, or review or regulation by certain authorities. Each potential investor should consult its legal advisers to determine whether and to what extent: (i) the Bonds are legal investments for it; (ii) the Bonds can be used as collateral for various types of borrowing; and (iii) other restrictions apply to its purchase of any Bonds.

Financial institutions should consult their legal advisers or the appropriate regulators to determine the appropriate treatment of Bonds under any applicable risk-based capital or similar rules.

There are limitations on the ability of Bondholders to exercise Conversion Rights.

The Bonds will be convertible into Shares at the option of a Bondholder pursuant to the Conditions. A Bondholder will be able to exercise its Conversion Right only within the conversion period specified in the Conditions and will not be able to exercise its Conversion Right during the Closed Period (as defined in the Conditions). See "Terms and Conditions of the Bonds—Conversion". As such, the ability of a Bondholder to exercise Conversion Rights will be restricted during these periods.

Certain transactions may dilute the potential ownership interest in the Shares to which the Bondholders are entitled.

The number of Shares that Bondholders will be entitled to receive when they convert their Bonds is subject to adjustment for certain events, including but not limited to a free distribution, bonus issue or subdivision, consolidation or re-classification of the Shares, an issuance of options, rights or warrants to purchase Shares, a distribution of cash, assets, evidences of indebtedness and share or cash dividends and other similar dilutive actions that the Company may undertake to modify its capital structure. However, the number of Shares to be received will not be adjusted for other events, such as certain offerings or issuances of options, warrants, rights or certain other securities to the Company's directors, officers or employees, that may adversely affect the market price of the Shares and therefore the secondary market price of the Bonds. See "Terms and Conditions of the Bonds – Conversion – Adjustments to Conversion Price." The Company cannot give any assurance that it will not take any of the foregoing actions in the future.

The Bonds and any Shares deliverable upon conversion will be subject to transfer restrictions.

The Bonds will be subject to restrictions on transfer as described under "Subscription and Sale – Transfer Restrictions." Among other things, the Bonds may not be offered, sold or otherwise transferred to a Korean resident on or prior to 29 April 2025, being the first anniversary of the Closing Date. These transfer restrictions may adversely affect the liquidity of the Bonds. In addition, Bondholders seeking to exercise their conversion rights and acquire Shares may be required to file an over-the-counter transaction report of the acquisition with the Governor of the FSS without delay. Unless specifically exempted, any trading of the Shares by a non-Korean resident or a non-Korean corporation is required to be made on the KRX KOSPI Market through a broker-dealer licensed to do business in Korea. Such requirements may further affect the liquidity of the Bonds, and may limit a Bondholder's ability to take advantage of short-term increases in the market price of the Shares.

As the Global Certificate is held by or on behalf of Euroclear and Clearstream, investors will have to rely on their procedures for transfer, payment and communication with the Company.

The Bonds will be represented by the Global Certificate. The Global Certificate will be deposited with, and registered in the name of a nominee for, a common depositary for Euroclear and Clearstream. Investors will not be entitled to receive Certificates except in the limited circumstances described in the Global Certificate. Euroclear and Clearstream will maintain records of the beneficial interests in the Global Certificate.

While the Bonds are represented by the Global Certificate, investors will be able to trade their beneficial interests only through Euroclear and Clearstream. The Company will discharge its payment obligations under the Bonds by making payments to or to the order of the common depositary for Euroclear and Clearstream for distribution to their accountholders. A holder of a beneficial interest in the Global Certificate must rely on the procedures of Euroclear and Clearstream to receive payments under the Bonds.

None of the Company, the Trustee or the Agents or any of their respective directors, officers, employees, representatives, agents, affiliates or advisers or any person who controls any of them has any responsibility or

liability for the records relating to, or payments made in respect of, beneficial interests in the Global Certificate. Holders of beneficial interests in the Global Certificate will not have a direct right to vote in respect of the Bonds. Instead, such holders will be permitted to act only to the extent that they are enabled by Euroclear and Clearstream to appoint appropriate proxies.

Similarly, holders of beneficial interests in the Global Certificate will not have a direct right under the Global Certificate to take enforcement action against the Company in the event of default under the Bonds but will have to rely upon the Trustee to enforce their rights under the Trust Deed and the Bonds.

There is no existing trading market for the Bonds and, therefore, the Bonds offer limited liquidity.

The Bonds will constitute a new issue of securities for which there is no existing market. Approval in-principle has been received from the SGX-ST for the listing and quotation of the Bonds on the SGX-ST. The offer and sale of the Bonds is not conditioned on obtaining a listing of the Bonds on the SGX-ST or any other exchange. Although the Manager has advised the Company that it currently intends to make a market in the Bonds, it is not obligated to do so, and any market-making activity with respect to the Bonds, if commenced, may be discontinued at any time without notice at its sole discretion. See "Subscription and Sale".

No assurance can be given as to the liquidity of, or the development and continuation of an active trading market for, the Bonds. If an active trading market for the Bonds does not develop or is not maintained, the liquidity and market price of the Bonds may be adversely affected. If such a market were to develop, the Bonds could trade at prices that may be higher or lower than the price at which the Bonds are issued depending on many factors, including:

- prevailing interest rates;
- the results of operations and financial condition of the Company;
- the price and volatility of the Shares and the Korean stock market;
- political and economic developments in and affecting Korea, the United States, the European Union and China;
- the market conditions for similar securities; and
- the financial condition and stability of the financial and information technology sectors in Korea and other parts of the world.

Future sales of Shares may adversely affect the price of the Shares and the Bonds.

The Company has agreed with the Manager that it will not, without the prior written consent of the Manager, until 90 days following the Closing Date, issue, offer, sell, pledge, contract to sell or otherwise dispose of any Shares or any securities convertible into or exchangeable for the Shares, subject to certain exceptions. However, once these lock-up restrictions expire, terminate or are waived, there is no restriction on the Company's ability to sell or issue Shares. Future issuances or sales of substantial amounts of Shares in the public market after the completion of this offering, or the perception that substantial issuances or sales could occur, could have a material adverse effect on the market price of the Shares and, in turn, the Bonds.

Conversion of the Bonds for Shares may be deemed a taxable event of the Bondholders for capital gains tax purposes.

It is unclear under Korean tax law whether the conversion of the Bonds into Shares would constitute a taxable event for the Bondholders for Korean capital gains tax purposes. In case the conversion of the Bonds is deemed to be a taxable event, the Bondholders will be subject to Korean withholding tax and will not be entitled to receive Additional Amounts (as described in "Terms and Conditions of the Bonds – Taxation") in respect of such

withholding tax. It is uncertain how the amount subject to such tax would be calculated. Such tax may be exempted or reduced under applicable tax treaties or under Korean tax law, depending on the classification of the income arising from such conversion. See "Taxation."

Bondholders will be bound by decisions of defined majorities in respect of any modification, waiver and substitution relating to the Bonds.

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

The Conditions will also provide that the Trustee may, without the consent of Bondholders, (but shall not be obliged to) agree: (i) to any modification (subject to certain exceptions as set out in the Conditions and the Trust Deed) of the Conditions, the Trust Deed or the Agency Agreement if such modification will not be materially prejudicial to the interests of Bondholders; and (ii) to any modification of the Bonds, the Conditions, the Trust Deed or the Agency Agreement which is of a formal, minor or technical nature or is to correct a manifest error or which is necessary to comply with mandatory provisions of law.

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

In certain circumstances, the Trustee may (at its sole discretion) request Bondholders to provide an indemnity and/or security and/or pre-funding to its satisfaction before it takes any action and/or steps and/or institutes any proceedings on behalf of Bondholders. The Trustee will not be obliged to take any such actions and/or steps and/or to institute any such proceedings if not indemnified and/or secured and/or pre-funded to its satisfaction. Negotiating and agreeing to any indemnity and/or security and/or pre-funding can be a lengthy process and may have an impact on when such actions can be taken. The Trustee may not be able to take actions and/or steps and/or to institute any such proceedings, notwithstanding the provision of an indemnity or security or pre-funding to it, in breach of the terms of the Trust Deed or the Conditions and in such circumstances, or where there is uncertainty or a dispute as to the applicable laws or regulations, to the extent permitted by the Trust Deed, the Conditions and applicable laws and regulations, it will be for the Bondholders to take such actions directly.

RISKS RELATING TO FORWARD-LOOKING STATEMENTS

This Offering Circular contains forward-looking statements that are the Company's present expectations of future events and are subject to certain factors and uncertainties that could cause actual results to differ materially from those described in the forward-looking statements.

In addition to the risks, uncertainties and assumptions discussed above, additional factors could adversely impact the business and financial performance of the Company. The forward-looking statements contained in this Offering Circular involve known and unknown risks, uncertainties and other factors that may cause the Company's actual results, performance or achievements to be materially different from those expressed or implied by the forward-looking statements. Such factors include:

- its ability to attract and retain users and increase the level of engagement of users;
- its ability to further monetise products and services;
- its ability to attract advertisers and increase the amount that advertisers spend with it;
- its ability to successfully enter new markets and manage business expansion;
- its ability to compete in the mobile and portal-related services and contents industries in Korea and elsewhere;

- its ability to develop or acquire new products and services, improve existing products and services and increase the value of products and services in a timely and cost-effective manner;
- its ability to maintain good relationships with business partners and attract new partners;
- its ability to increase revenue and revenue growth rate;
- its ability to timely and effectively scale and adapt existing technology and network infrastructure;
- its ability to successfully acquire and integrate companies and assets;
- its future business development, results of operations and financial condition; and
- the regulatory environment in which it operates.

The Company has based the forward-looking statements contained in this Offering Circular largely on its current expectations and projections about future events and financial trends that it believes may affect its financial condition, results of operations, business strategy and financial needs. New risk factors and uncertainties may emerge from time to time and it is not possible for the Company to predict all risk factors and uncertainties, nor can it assess the impact of all factors on its or the Company's business or the extent to which any factor, or combination of factors, may cause actual results to differ materially from those contained in any forward-looking statements.

The Company cautions you not to place undue reliance on the forward-looking statements, which speak only as of the date of this Offering Circular. Except as required by law, the Company is not under any obligation, and expressly disclaims any obligation, to update or alter any forward-looking statements, whether as a result of new information, future events or other reasons. All subsequent forward-looking statements attributable to the Company or any person acting on its behalf are expressly qualified in their entirety by the cautionary statements contained or referred to in this section.

USE OF PROCEEDS

The aggregate proceeds from the offering of the Bonds after deducting underwriting commissions but prior to deducting expenses relating to the offering will be approximately U.S.$210,078,000.

We intend to use the Net Proceeds from this offering primarily for general corporate purposes and acquisitions of, and investments in, other companies or businesses in the technology industry.

DIVIDENDS

The following table sets forth dividends declared and paid on the outstanding common shares to our shareholders of record in respect of the periods indicated, as well as the number of outstanding common shares entitled to such dividends. The dividends set forth for each of the years below were paid in the immediately following year.

	As of and for the Year Ended 31 December		
	2021	2022	2023
Number of outstanding common shares[(1)]	433,766,900	436,699,062	438,206,095
Dividends per common share (in Won)	₩ 53	₩ 60	₩ 61
Total amount of dividends declared and paid in the following year (in millions of Won)	₩ 22,990	₩ 26,202	₩ 26,740

(1) Excludes 12,139,090 shares, 8,724,627 shares, and 6,643,783 shares we held as treasury shares for 2021, 2022 and 2023, respectively.

Our dividend policy is to declare annual dividends, if any, in amounts that take into consideration various factors, including our profitability and financial condition, as well as legal requirements for such declaration. Annual dividends, if any, on the common shares are recommended by our board of directors and must be approved at our annual general meeting of shareholders. This meeting is generally held within three months after 31 December and the annual dividend is generally paid shortly thereafter to the shareholders or registered pledgees of record as of the date determined by our board of directors. We may distribute annual dividends in cash or in shares.

We may also pay interim dividends to shareholders or registered pledgees of record as of the date determined by our board of directors during a given fiscal year. Interim dividends, if any, must be approved by a resolution of our board of directors. We have not declared any interim dividends to date.

Under the Korean Commercial Code, we may pay dividends only out of the excess of our net assets, on a separate basis, over the sum of (i) our stated capital, (ii) the total amount of our capital surplus reserve and earned surplus reserve accumulated up to the end of the relevant dividend period, (iii) the earned surplus reserve required to be set aside for the relevant dividend period and (iv) the unrealized gain equivalent to the increased net assets on our balance sheet, based on our evaluation of assets and liabilities, that are not subject to set-off against unrealized losses. The declaration of annual dividends is subject to the discretion of our board of directors and our shareholders. The declaration of interim dividends is subject to the discretion of our board of directors. Consequently, no assurance can be given as to the amount of future dividends on the common shares or that any such dividends will be declared.

MARKET PRICE INFORMATION

Our common shares were listed on the KRX KOSPI Market on 10 July 2017. Prior to such date, our common shares were listed on the KRX KOSDAQ Market of the Korea Exchange ("KRX KOSDAQ Market"). The following table sets forth the high and low closing prices and the average daily volume of trading activity on the KRX KOSPI Market for our common shares for the periods indicated.

Period	Closing Price		Average Daily Trading Volume
	High	Low	
	(in Won)		(Number of shares)
2019	₩157,500	₩ 95,600	475,205
2020	412,000	134,000	953,074
2021	558,000	109,000	2,875,593
2022	114,500	47,300	2,184,237
2023	70,900	37,600	1,784,134
First Quarter	70,900	52,700	2,239,213
January	64,700	52,700	2,155,676
February	70,900	61,800	2,569,594
March	63,600	58,100	2,014,809
Second Quarter	60,700	49,000	1,526,677
April	60,700	55,800	1,694,789
May	58,500	56,000	1,305,369
June	57,400	49,000	1,577,341
Third Quarter	54,900	43,750	1,688,381
July	52,800	47,800	1,895,683
August	54,900	48,000	1,823,726
September	49,100	43,750	1,302,544
Fourth Quarter	54,900	37,600	1,674,577
October	43,650	37,650	1,625,566
November	51,100	37,600	1,939,247
December	54,900	49,700	1,417,127
2024 (through 22 April)	61,100	46,750	1,665,463
January	61,100	52,500	2,074,161
February	59,200	52,700	1,918,617
March	55,800	51,700	1,174,746
April	53,800	46,750	1,399,669

Source: The Korea Exchange

The trading price and the daily closing price of the common shares are available on the Korea Exchange's website at http://eng.krx.co.kr. For the avoidance of doubt, none of the information contained on the Korea Exchange's website is incorporated by reference into this Offering Circular and should not be considered a part of this Offering Circular.

EXCHANGE RATES

The table below sets forth, for the periods and dates indicated, information concerning the Market Average Exchange Rate for translations of Won amounts into U.S. dollars, rounded down to the nearest tenth of one Won. On 22 April 2024, the Market Average Exchange Rate was Won 1,385.0 to U.S.$1.00, and the closing rate at 3:30 p.m. (Seoul time) as announced by Seoul Money Brokerage Services, Ltd. was Won 1,380.60 to U.S.$1.00. We do not intend to imply that Won or U.S. dollar amounts referred to herein could have been or could be converted into U.S. dollars or Won, as the case may be, at any particular rate, or at all.

Period	At end of period	Average rate[1]	High	Low
		(Won per U.S.$1.00)		
2019	₩1,157.8	₩1,165.7	₩1,218.9	₩1,111.6
2020	1,088.0	1,180.1	1,280.1	1,082.7
2021	1,185.5	1,144.4	1,199.1	1,083.1
2022	1,267.3	1,292.0	1,436.6	1,185.5
2023	1,289.4	1,305.4	1,360.6	1,219.3
October	1,352.8	1,350.7	1,360.6	1,339.6
November	1,289.0	1,310.4	1,356.9	1,287.7
December	1,289.4	1,304.0	1,322.7	1,289.4
2024 (through 22 April)	1,385.0	1,335.5	1,395.3	1,289.4
January	1,330.6	1,323.6	1,343.2	1,289.4
February	1,334.0	1,331.7	1,337.9	1,325.1
March	1,346.8	1,330.7	1,346.8	1,311.1
April (through 22 April)	1,385.0	1,364.3	1,395.3	1,346.8

Source: Seoul Money Brokerage Services, Ltd.

(1) The average of the daily Market Average Exchange Rates for the periods indicated.

CAPITALIZATION

The following table sets forth our consolidated capitalization as of 31 December 2023, on an actual basis and as adjusted to reflect the application of the total proceeds from the offering of the Bonds. You should read the information set forth below in conjunction with our consolidated financial statements and related notes thereto included elsewhere in this Offering Circular.

There have been no other material changes to our consolidated capitalization since 31 December 2023.

	As of 31 December 2023	
	Actual	As Adjusted
	(in billions of Won)	
Short-term financial liabilities:		
Short-term borrowings	₩ 1,629.5	₩ 1,629.5
Other current financial liabilities	1,556.3	1,556.3
Derivative financial liabilities	8.2	8.2
Total short-term financial liabilities	3,193.9	3,193.9
Long-term financial liabilities:		
Bonds offered hereby[1]	—	273.6
Long-term borrowings	845.6	845.6
Other non-current financial liabilities	161.8	161.8
Total long-term financial liabilities	1,007.4	1,281.0
Equity:		
Share capital[2]	44.5	44.5
Share premium	8,839.9	8,839.9
Other components of equity	7.6	7.6
Accumulated other comprehensive income (loss)	(1,050.4)	(1,050.4)
Retained earnings	1,922.1	1,922.1
Non-controlling interests	4,094.9	4,094.9
Total equity	13,858.6	13,858.6
Total capitalization[3]	₩18,059.9	₩18,333.5

(1) Reflects the principal amount of the Bonds not reduced by underwriting commissions or other offering-related expenses and adjustments. The exchange rate used to convert U.S. dollars into Won in the case of the Bonds offered hereby is Won 1,289.4 to U.S.$1.00, the Market Average Exchange Rate in effect on 31 December 2023. Such translation should not be construed as a representation that any or all of the amounts shown could be converted into Won or U.S. dollars at this or any other rate. Convertible bonds and capital share premium are subject to change according to market interest rates and exchange rates at the Closing Date.

(2) Consists of 444,849,878 issued common shares, of which 6,643,783 shares were held by us as treasury shares.

(3) Sum of short-term financial liabilities, long-term financial liabilities and equity.

SELECTED FINANCIAL AND OTHER DATA

The following tables set forth our selected financial data and certain other data. Our selected financial data as of and for the years ended 31 December 2021, 2022 and 2023, set forth below has been derived from our audited consolidated financial statements and related notes included elsewhere in this Offering Circular.

Our consolidated financial statements as of and for the years ended 31 December 2021, 2022 and 2023 have been prepared in accordance with K-IFRS.

The selected financial data set forth below should be read in conjunction with our consolidated financial statements and related notes and other historical financial information included elsewhere in this Offering Circular.

Consolidated Statements of Comprehensive Income Data

	For the Year Ended 31 December		
	2021[1]	2022[1], [2]	2023
	(In billions of Won, except for share amounts)		
Revenue	₩5,910.5	₩ 6,798.7	₩ 7,557.0
Operating expenses	5,322.6	6,229.4	7,096.1
Operating profit	587.8	569.4	460.9
Other non-operating income	1,733.4	2,013.5	192.3
Other non-operating expenses	407.2	1,111.5	2,314.4
Finance income	177.8	342.8	317.4
Finance costs	315.3	487.7	308.4
Gain of associates and joint ventures accounted for using equity method	596.4	100.3	122.2
Loss of associates and joint ventures accounted for using equity method	86.3	157.9	118.2
Profit (loss) before tax	2,286.7	1,268.9	(1,648.2)
Income tax expense	646.2	201.9	168.4
Profit (loss) for the year	1,640.5	1,067.0	(1,816.7)
Profit (loss) attributable to:			
Equity holders of the Parent Company	1,387.3	1,358.0	(1,012.6)
Non-controlling Interests	253.2	(291.0)	(804.1)
Other comprehensive income (loss) for the year, net of tax	431.8	(1,729.8)	102.1
Total comprehensive income (loss) for the year	₩2,072.3	₩ (662.8)	₩(1,714.5)
Basic earnings (losses) per share	3,210	3,118	(2,315)
Diluted earnings (losses) per share	3,135	3,066	(2,315)

(1) Our financial statements as of and for the years ended 31 December 2021 and 2022 have been restated due to error correction in 2021 and 2022 and the change in accounting treatment in 2022 regarding the recognition of fee income and expenses from the taxi franchise business.

(2) Our financial statements as of and for the year ended 31 December 2022 have been restated due to the retroactive application to the fiscal year of 2022 of the accounting standards (K-IFRS1117) newly adopted in 2023, as shown in the following table:

	For the Year Ended 31 December		
	2022 (before adjustment)	Adjustment	2022 (after adjustment)
	(In billions of Won, except for share amounts)		
Revenue	₩ 6,799.0	₩(0.3)	₩ 6,798.7
Operating expenses	6,229.7	(0.3)	6,229.4
Operating profit	569.4	0.0	569.4
Other non-operating income	2,013.5	—	2,013.5
Other non-operating expenses	1,111.5	—	1,111.5
Finance income	342.8	—	342.8
Finance costs	487.7	—	487.7
Gain of associates and joint ventures accounted for using equity method	100.3	—	100.3
Loss of associates and joint ventures accounted for using equity method	157.9	—	157.9
Profit (loss) before tax	1,268.9	0.0	1,268.9
Income tax expense	201.9	—	201.9
Profit (loss) for the year	1,067.0	0.0	1,067.0
Profit (loss) attributable to:			
Equity holders of the Parent Company	1,358.0	0.0	1,358.0
Non-controlling Interests	(291.0)	0.0	(291.0)
Other comprehensive income (loss) for the year, net of tax	(1,729.8)	—	(1,729.8)
Total comprehensive income (loss) for the year	₩ (662.8)	₩ 0.0	₩ (662.8)
Basic earnings (losses) per share	3,118	—	3,118
Diluted earnings (losses) per share	3,066	—	3,066

Consolidated Statements of Financial Position Data

	As of 31 December		
	2021[1]	2022[1], [2]	2023
	(In billions of Won)		
Assets			
Current assets			
Cash and cash equivalents	₩ 5,231.5	₩ 4,780.2	₩ 5,268.8
Short-term financial instruments	1,573.6	1,210.2	1,661.5
Financial assets at fair value through profit or loss	305.1	565.6	154.7
Derivative financial assets	0.4	0.4	0.2
Trade receivables	398.1	440.9	622.0
Other current financial assets	319.1	361.9	575.5
Income tax receivable	—	—	4.3
Inventories	91.8	160.3	138.6
Other current assets	182.7	236.2	468.1
Assets held for sale	—	—	49.5
	8,102.2	7,755.7	8,943.3
Non-current assets			
Long-term financial instruments	10.1	10.1	13.0
Financial assets at fair value through profit or loss	302.2	502.1	484.8
Financial assets at fair value through other comprehensive income	1,219.2	1,449.6	1,658.9
Non-current derivative financial assets	—	6.2	12.3
Investments in associates and joint ventures	3,215.8	2,651.9	2,941.2
Other non-current financial assets	144.0	269.8	289.5
Property and equipment	554.9	885.4	1,322.1
Intangible assets	6,347.8	6,022.4	5,688.5
Investment property	101.3	20.9	73.8
Right-of-use assets	1,399.2	1,715.6	1,770.9
Net defined benefit assets	6.3	69.4	60.4
Other non-current assets	339.2	353.8	255.7
Deferred income tax assets	76.9	494.0	519.1
	13,717.0	14,451.1	15,090.2
Assets of financial services business			
Cash and cash equivalents	94.2	55.7	120.4
Deposits	247.8	66.5	108.8
Financial assets at fair value through profit or loss	496.0	496.6	677.9
Financial assets at amortized cost	—	16.2	67.4
Property and equipment	11.8	15.0	14.9
Intangible assets	33.2	70.6	80.4
Right-of-use assets	11.2	3.1	2.3
Net defined benefit assets	—	0.3	1.2
Reinsurance assets	—	—	0.2
Other financial assets	30.5	15.6	71.1
Other assets	40.8	17.2	2.1
	965.4	756.7	1,146.5
Total Assets	₩22,784.6	₩22,963.5	₩25,180.0

	As of 31 December		
	2021[1]	2022[1], [2]	2023
	(In billions of Won)		
Liabilities			
Current liabilities			
Trade and other payables	₩ 1,231.0	₩ 1,374.0	₩ 1,799.2
Short-term borrowings	1,258.8	1,096.9	1,629.5
Deposits received	384.2	442.3	521.7
Other current financial liabilities	653.7	38.6	1,556.3
Income tax payable	188.9	157.7	144.4
Provisions	11.2	20.6	20.7
Derivative financial liabilities	11.9	34.1	8.2
Short-term lease liabilities	169.5	244.4	284.6
Other current liabilities	1,748.0	1,801.7	802.2
	5,657.2	5,210.2	6,766.8
Non-current liabilities			
Non-current trade and other payables	63.7	110.6	67.7
Long-term borrowings	553.1	1,176.2	845.6
Non-current provisions	51.9	70.2	81.0
Long-term lease liabilities	1,318.2	1,643.4	1,730.9
Net defined benefit liabilities	—	18.5	22.5
Other long-term employee benefits liabilities	67.9	73.2	70.0
Non-current derivative financial liabilities	—	3.5	—
Deferred income tax liabilities	756.5	606.6	719.2
Other non-current financial liabilities	43.0	25.6	161.8
Other non-current liabilities	30.5	70.1	38.6
	2,884.8	3,797.9	3,737.2
Liabilities of financial services businesses			
Deposits received	598.3	394.3	714.9
Net defined benefit liabilities	0.3	—	—
Other long-term employee benefits liabilities	1.0	2.8	4.5
Provisions	1.2	1.1	0.8
Insurance contract liabilities	—	0.2	2.8
Lease liabilities	10.3	2.3	1.7
Other financial liabilities	49.1	33.1	88.0
Other liabilities	14.1	5.9	4.7
	674.2	439.7	817.4
Total Liabilities	₩ 9,216.2	₩ 9,447.8	₩11,321.4
Equity			
Equity attributable to owners of the Parent Company			
Share capital	₩ 44.6	₩ 44.6	₩ 44.5
Share premium	7,781.6	8,116.4	8,839.9
Other components of equity	77.1	41.0	7.6
Accumulated other comprehensive income (loss)	371.8	(1,249.7)	(1,050.4)
Retained earnings	1,689.4	3,031.4	1,922.1
Non-controlling interests	3,603.7	3,532.0	4,094.9
Total Equity	13,568.3	13,515.7	13,858.6
Total Equity and Liabilities	₩22,784.6	₩22,963.5	₩25,180.0

(1) Our financial statements as of and for the years ended 31 December 2021 and 2022 have been restated due to error correction in 2021 and 2022 and the change in accounting treatment in 2022 regarding the recognition of fee income and expenses from the taxi franchise business.

(2) Our financial statements as of and for the year ended 31 December 2022 have been restated due to the retroactive application to the fiscal year of 2022 of the accounting standards (K-IFRS1117) newly adopted in 2023, as shown in the following table:

	As of 31 December		
	2022 (before adjustment)	Adjustment	2022 (after adjustment)
	(In billions of Won)		
Assets			
Current assets			
Cash and cash equivalents	₩ 4,780.2	₩—	₩ 4,780.2
Short-term financial instruments	1,210.2	—	1,210.2
Financial assets at fair value through profit or loss	565.6	—	565.6
Derivative financial assets	0.4	—	0.4
Trade receivables	440.9	—	440.9
Other current financial assets	361.9	—	361.9
Income tax receivable	—	—	—
Inventories	160.3	—	160.3
Other current assets	236.2	—	236.2
Assets held for sale	—	—	—
	7,755.7	—	7,755.7
Non-current assets			
Long-term financial instruments	10.1	—	10.1
Financial assets at fair value through profit or loss	502.1	—	502.1
Financial assets at fair value through other comprehensive income	1,449.6	—	1,449.6
Non-current derivative financial assets	6.2	—	6.2
Investments in associates and joint ventures	2,651.9	—	2,651.9
Other non-current financial assets	269.8	—	269.8
Property and equipment	885.4	—	885.4
Intangible assets	6,022.4	—	6,022.4
Investment property	20.9	—	20.9
Right-of-use assets	1,715.6	—	1,715.6
Net defined benefit assets	69.4	—	69.4
Other non-current assets	353.8	—	353.8
Deferred income tax assets	494.0	—	494.0
	14,451.1	—	14,451.1
Assets of financial services business			
Cash and cash equivalents	55.7	—	55.7
Deposits	66.5	—	66.5
Financial assets at fair value through profit or loss	496.6	—	496.6
Financial assets at amortized cost	16.2	—	16.2
Property and equipment	15.0	—	15.0
Intangible assets	70.6	—	70.6
Right-of-use assets	3.1	—	3.1
Net defined benefit assets	0.3	—	0.3
Reinsurance assets	0.1	(0.1)	—
Other financial assets	15.6	—	15.6
Other assets	17.2	—	17.2
	756.8	(0.1)	756.7
Total Assets	₩22,963.6	₩(0.1)	₩22,963.5

	As of 31 December		
	2022 (before adjustment)	Adjustment	2022 (after adjustment)
	(In billions of Won)		
Liabilities			
Current liabilities			
Trade and other payables	₩ 1,374.0	₩—	₩ 1,374.0
Short-term borrowings	1,096.9	—	1,096.9
Deposits received	442.3	—	442.3
Other current financial liabilities	38.6	—	38.6
Income tax payable	157.7	—	157.7
Provisions	20.6	—	20.6
Derivative financial liabilities	34.1	—	34.1
Short-term lease liabilities	244.4	—	244.4
Other current liabilities	1,801.7	—	1,801.7
	5,210.2	—	5,210.2
Non-current liabilities			
Non-current trade and other payables	110.6	—	110.6
Long-term borrowings	1,176.2	—	1,176.2
Non-current provisions	70.2	—	70.2
Long-term lease liabilities	1,643.4	—	1,643.4
Net defined benefit liabilities	18.5	—	18.5
Other long-term employee benefits liabilities	73.2	—	73.2
Non-current derivative financial liabilities	3.5	—	3.5
Deferred income tax liabilities	606.6	—	606.6
Other non-current financial liabilities	25.6	—	25.6
Other non-current liabilities	70.1	—	70.1
	3,797.9	—	3,797.9
Liabilities of financial services businesses			
Deposits received	394.3	—	394.3
Net defined benefit liabilities	—	—	—
Other long-term employee benefits liabilities	2.8	—	2.8
Provisions	1.1	—	1.1
Insurance contract liabilities	0.2	(0.0)	0.2
Lease liabilities	2.3	—	2.3
Other financial liabilities	33.2	(0.1)	33.1
Other liabilities	5.9	—	5.9
	439.9	(0.2)	439.7
Total Liabilities	₩ 9,448.0	₩(0.2)	₩ 9,447.8
Equity			
Equity attributable to owners of the Parent Company			
Share capital	₩ 44.6	₩—	₩ 44.6
Share premium	8,116.4	—	8,116.4
Other components of equity	41.0	—	41.0
Accumulated other comprehensive income (loss)	(1,249.7)	—	(1,249.7)
Retained earnings	3,031.4	0.0	3,031.4
Non-controlling interests	3,532.0	0.0	3,532.0
Total Equity	13,515.7	0.0	13,515.7
Total Equity and Liabilities	₩22,963.6	₩(0.1)	₩22,963.5

THE COMPANY

OVERVIEW

The Company operates Korea's leading mobile platform, Kakao Talk, which is used by approximately 86% of Korean population as of 31 December 2023 according to the internal data of the Company, as well as other leading online platforms in Korea, including the Internet portal Daum and the online music platform Melon. The Company utilises these leading platforms, along with its other platforms developed using its major brands, such as Kakao T, Kakao Pay and Kakao Webtoon, to provide users and advertisers with a diverse and extensive array of products and services. The Company provides such products and services through its platform and content operations.

The Company's platform operations allow users to engage in more aspects of their daily affairs using their mobile and other connected devices and PCs at their convenience, while enabling advertisers to access its large and growing user base across the Kakao ecosystem. The Company's platform-related products and services provide users with the ability to communicate, search content, shop and make payments online, as well as use innovative services such as mobile transportation applications, gifting and other e-commerce services, through the Company's platforms. The Company also offers advertisers advertising products and services through its platforms in a variety of online formats that allow advertisers to better target their marketing to their desired audiences. Such platform-based products and services are mainly offered through the Company's (i) Talk Business, which includes the Kakao Talk and Kakao Talk Gift Shop platforms, (ii) Portal Business, which includes the Daum platform, and (iii) Other Platform Business, which includes platforms such as Kakao T, Kakao Pay and Kakao Webtoon.

The Company's content operations enable delivery of original and third party-produced content to users through the Company's platforms. Such content-related products and services are mainly composed of (i) games through the Kakao Games platform, (ii) music through the Melon online music platform, Kakao Entertainment and SM Entertainment, (iii) story contents including web-comics web-novels by the Kakao Piccoma, Kakao Webtoon and Kakao Page platforms and (iv) media contents including video contents development and artist IP management by Kakao Entertainment and SM Entertainment. Leveraging the success of its platform operations and recognition of major brands, including Kakao, Daum and Melon, the Company provides content through platforms that are specifically tailored to optimise user experience.

The integration of the Company's products and services through its platforms aims to provide its users with a smoother and richer connection experience that contributes to higher user loyalty and user base growth, which in turn may enhance the Company's ability to accumulate and analyse substantial amounts of user-related data to better understand user preferences and to improve its product and service offerings, including the effectiveness of online advertising through such platforms. Leveraging its content, its user base and their interconnectivity, the Company's platforms have evolved into diversified online gateways that are fundamentally changing social interactions and lifestyle patterns in Korea. The Company's platforms have become integrated into numerous aspects of its users' daily lives. Users add value to the overall Kakao ecosystem each time they engage with other users, advertisers or content or service providers or engage in other e-commerce activities. Increases in user engagement enable the Company to grow its scale by attracting more users, advertisers and content and service providers. In turn, growth in scale in terms of the number of users, advertisers and content and service providers and the interactions among them enhances the value the Company delivers to all of its constituencies and leads to greater monetisation opportunities.

The Company was formed on 1 October 2014, when the former existing entity of Kakao merged with and into Daum Communications, its predecessor company. Founded in December 2006 as IWILAB Co., Ltd., the Former Kakao launched Kakao Talk and changed its name to Kakao Corp. in 2010. Daum Communications was established in February 1995 and introduced Korea's first free e-mail service in 1997. The Company acquired Melon, an online music platform, in March 2016 through the acquisition of a controlling interest in LOEN

Entertainment (now known as Kakao M), a leading music entertainment company in Korea and the former operator of such platform, which was merged with and into the Company in September 2018. Seoul Record, the predecessor company to LOEN Entertainment, was founded in 1978.

The Company generates revenue by leveraging the numerous affiliations and interests that connect the people and entities that constitute its user base and prompting its users to actively and repeatedly engage and interact with a wide variety of products, services and content the Company provides through its online platforms. Its revenue is primarily generated from advertising services, content offerings, and other services, including e-commerce and character merchandising. The Company's operating revenue amounted to Won 5,910.5 billion in 2021, Won 6,798.7 billion in 2022 and Won 7,557.0 billion in 2023. It recorded profit for the year amounting to Won 1,640.5 billion in 2021 and Won 1,067.0 billion in 2022 and loss for the year amounting to Won 1,816.7 billion in 2023. The Company had total assets of Won 25,180.0 billion and total equity of Won 13,858.6 billion as of 31 December 2023.

MAJOR BRANDS

The Company's major brands include Kakao, Daum and Melon, each of which has origins in a leading service offered by the Company. Leveraging such brands, the Company provides a diverse and extensive array of products and services through its platform and content operations.

- **Kakao**. The Kakao brand originated with Kakao Talk, the Company's free instant messaging service, which continues to serve as the central entry point through which it introduces many of its users to its other mobile service offerings. See "– Products and Services – Platform Operations – Talk Business – Communication and Search – Messaging." Kakao Talk is Korea's leading mobile instant messaging service with approximately 44 million of monthly active user base in Korea, representing a substantial majority of the Korean population, in 2023**,** according to Nielsen Koreanclick. In 2023, Kakao Talk had approximately 52 million of average monthly active users globally, according to our internal data. Monthly active users of Kakao Talk refer to the number of user accounts that logged into and accessed the Kakao Talk application from a mobile device or PC at least once during such month.
- **Daum**. The Daum brand originated with Daum, one of Korea's leading Internet portal sites, which serves as a platform for a variety of services, including web-based searching, news, e-mail and online communities. See "– Products and Services – Platform Operations – Portal Business – Search and Communication." Daum.net was the second most accessed website in Korea with approximately 10 million of unique visitors per month in 2023 according to Nielsen Koreanclick.
- **Melon**. The Melon brand originated with the Melon online music service, which provides subscription-based access to music and related content. See "– Products and Services – Content Operations – Music Business – Melon". Melon is Korea's leading online music service with approximately 7.3 million of unique application visitors per month in 2023 according to Nielsen Koreanclick. As of 31 December 2023, Melon had over 4.2 million paying subscribers, which refer to the number of user accounts subscribing to Melon's music service.

PRODUCTS AND SERVICES

Platform Operations

The Company's platform operations comprise its Talk Business, Portal Business and Other Platform Business, which generally provide users with the ability to communicate, search content, shop and make payments online, as well as use innovative services such as mobile transportation applications, through the Company's platforms. Such services to users also provide abundant and unique advertising opportunities to advertisers through the Company's platforms.

Talk Business

The Company's Talk Business generally refers to products and services that are offered through its Kakao Talk platform and relate to communication and search, e-commerce and advertising, among others. Kakao Talk provides application-based instant messaging services on mobile and other connected devices and PCs and serves as the central entry point through which the Company introduces many of its users to its other mobile service offerings. Launched in March 2010 as a mobile instant messaging service, Kakao Talk is now available for downloading in over 230 countries in over 16 languages.

At registration, user accounts are connected to a user's mobile phone number. Registered users are able to use their Kakao accounts to seamlessly access substantially all of the products and services the Company offers through its various platforms, including Daum PC and mobile services, Kakao T mobility services and Melon online music services, as well as a growing number of partner applications and websites. By providing its users with differentiated services, Kakao Talk acts as a centralised mobile communications channel that conveniently integrates multiple functions.

Communication and Search

Messaging. Kakao Talk's messaging service provides users a free, efficient and reliable tool for communicating with each other individually or in group chats. Users selectively manage their own closed group of "friends" with whom they want to communicate, which typically consists primarily of other individual users but may also be expanded to businesses, organisations and celebrities using the Channel function, an advertising product through which advertisers connect to Kakao Talk users. See "– Advertising – Kakao Talk Channel". Users are also able to initiate chats with others by providing a link, forgoing the step of adding them to such users' friends list and sharing personal information. Users can customise how messages appear and how they are alerted of new received messages by choosing from a wide selection of background themes and alerts or by importing their own images and sounds. In addition to text messages, users can also send Emoticons, images, videos, documents, voice messages, location information and gift vouchers using Kakao Talk.

Open Chatting Tab. The Open Chatting Tab function within the Kakao Talk application is a mobile social hub that connects users interested in different topics and also suggests a variety of trending topics that users might be interested in, such as entertainment, sports, fashion and beauty, that are curated from the Company's own proprietary content as well as hosted content. Users are able to create and join Open Chatting rooms using their "multi-profiles" so that they can communicate with people who are not necessarily registered as their Kakao Talk friends. Such function of Open Chatting Tab as a channel of communication without many restrictions has played an important role in attracting more users to the Kakao platform.

Sharp (#) Search. The Sharp (#) Search function is an in-chat search function available to Kakao Talk application users. Users may initiate a search within a chat room by tapping on a sharp (#) symbol and then typing in their queries. Sharp (#) Search query results are customised to the mobile environment and can be shared with other chat room participants. The Company offers its search advertising products and services to advertisers through the Sharp (#) Search function. See "– Portal Business – Advertising – Search Advertising" for additional information on the Company's search advertising products and services.

Voice Talk, Face Talk, Group Call and AI Talk. In addition to messaging, users can communicate with each other through voice calls (Voice Talk) and video calls (Face Talk) made using the Kakao Talk application. Users can also initiate multi-party Group Calls from within a group chat room. Calls can be connected to other Kakao Talk users worldwide through mobile and other connected devices as well as PCs. Although launched in the form of beta testing as of the date of this Offering Circular, the Company also introduced AI Talk function within the Kakao Talk application, which allows users to receive a summary of unread messages within a few seconds, and change the tone or style of their messages, among others.

Advertising

Kakao Biz Board. Kakao Biz Board offers advertisers access to the Company's Kakao Talk user base with prominent display ad placements on the main chat function of the Kakao Talk application. See "– Portal Business – Advertising – Display Advertising" for additional information on the Company's display advertising products and services. Advertisers can access one of the largest user bases in Korea through the Company's Kakao Talk platform, which is Korea's leading mobile instant messaging service based on active users. In addition, as one of the most heavily accessed displays within Kakao Talk, placement of advertising on the main chat function presents a unique opportunity for advertisers. Such display ads on Kakao Biz Board can also be linked to e-commerce services offered on Kakao Talk, such as Kakao Talk Gift Shop, so that advertisers can seamlessly convert the advertisement into a purchasing experience for users, and users can conveniently conduct all steps from viewing the advertisement of the product to ordering the product for delivery within the Kakao ecosystem.

Kakao Talk Channel. The Channel function within the Kakao Talk application enables users to connect with advertisers, such as businesses, organisations and celebrities, through the creation of an advertiser's Channel, or business profile similar to that of a Kakao Talk user profile, which may contain, among others, additional information on the company, a link to the business' official website and/or its Talk Store. See "– E-commerce – Talk Store". Kakao Talk users can add such Channels to their Kakao Talk friend list, allowing such advertisers to send messages directly to such users. Through the Kakao Talk Channel function, users can easily stay apprised of the latest news and information regarding the advertisers that interest them. On the other hand, Kakao Talk Channel provides advertisers with a mode of communication that aims to promote their products, services and content more efficiently and relevantly than other advertising channels, through direct messaging to their respective target audiences. The Company charges advertisers fees based on a combination of factors, such as the number of times the advertiser is featured as a recommended friend on Kakao Talk and the number of messages sent by the advertiser to Kakao Talk users.

Brand Emoticons. Emoticons are pictorial icons depicting feelings, expressions or actions, often using the persona of proprietary characters, other fictional characters created by third-parties, or real life celebrities. Users can enrich text-based communications by inserting Emoticons into their messages sent through the Company's platforms, including Kakao Talk and Daum. Emoticons can also be used to convey a message quickly when typing out a message may be inconvenient. While Emoticons are generally offered to users for purchase through the Kakao Talk application typically at a price of Won 2,500 per set, Brand Emoticons are offered by advertisers to their target audience through Kakao Talk as a method of advertising. Brand Emoticons may be designed to highlight the products, services and brands of a particular advertiser. The Company charges advertisers fees based on a combination of factors, including the number of Brand Emoticons offered by the advertiser, the period the Brand Emoticons offered by the advertiser is available to users and the method by which the Brand Emoticons are provided to users (e.g., by adding the advertiser's Channel, downloading the advertiser's mobile application, or using a specific feature of the advertiser's product or service).

E-commerce

Kakao Talk Gift Shop. Through Kakao Talk Gift Shop, which is offered on the Kakao Talk application, the Company offers its users a distinctive gifting feature that allows them to purchase and send gifts from leading online retailers and service providers in Korea that register as sellers with the Company. Such gifts may take the form of a mobile coupon sent via a Kakao Talk notification, which the recipient can show at a participating seller's offline store to collect the gift. For physical gifts that are directly delivered to the recipient, the delivery details are provided by the intended recipient of the gift upon receipt of a Kakao Talk notification so that an order may be placed by a Kakao Talk user without the recipient's delivery address or phone number. Users have one-stop access to products and services that are also available on each participating seller's website. However, instead of linking such services to the sellers' own websites, the Company stores the database for their products and services on its own servers. Maintaining the database on its own servers allows it to keep better records of

users' purchasing patterns and preferences, to present all the products and services to its users in a consistent format and to address quickly any technical problems on Kakao Talk Gift Shop without having to rely on the sellers to resolve such problems.

When users purchase a product or service through Kakao Talk Gift Shop, the Company is responsible for collecting payment for the product or service purchased, while the sellers are responsible for packaging, delivery and customer service. The Company retains a commission from the purchase price and remits the balance to the seller. Users can pay for their purchases through a variety of methods, including Kakao Pay or credit cards. See "– Other Platform Business – Fintech – Kakao Pay". From time to time, the Company also acts as a principal to directly offer and sell merchandise in various product categories through Kakao Talk Gift Shop. To enhance customer loyalty and promote shopping activities, the Company has partnered with certain merchandisers to offer reward programs and promotional discounts.

Mostly recently in June 2023, the Company introduced Lux Tab within Kakao Talk Gift Shop, which specializes in the offerings of more than 100 luxury brands such as Gucci, Tiffany & Co., etc. The sales of these luxury products generate higher profit margins relative to the sales of other non-luxury items, which have played a key role in contributing to the accelerated growth of the Company's Kakao Talk Gift Shop business and the overall profitability.

Kakao Makers. Accessible within the Kakao Talk application and as a standalone mobile application, Kakao Makers connects merchants and users to provide a collective purchasing experience to users. Users can choose from a diverse selection of products that are manufactured only when orders fulfilling a specified quantity of units of a certain product are placed. Such purchase may also be made as a gift, in which case the delivery details are provided by the intended recipient in a format analogous to that of Kakao Talk Gift Shop. Other features of Kakao Talk Gift Shop, including the database and payment method, are similarly implemented in the Kakao Makers platform. By allowing merchants to begin production only after orders for a certain number of units are placed, Kakao Makers lowers the risk for new or small merchants attempting to enter the market and provides a platform for merchants to offer experimental or unique products.

Talk Store. Kakao Talk's Talk Stores enable merchants to offer their products to Kakao Talk users through the specific merchant's Talk Store. Such Talk Store is displayed on the Kakao Talk profile of the merchant and can be directly accessed by Kakao Talk users to purchase the merchant's goods, communicate with the merchant through Kakao Talk, make payments for the merchandise through Kakao Pay and receive news and information regarding the merchant through the Channel function. See "– Advertising – Kakao Talk Channel". Adding the merchant's Channel to the user's Kakao Talk friend list also provides additional benefits to the Kakao Talk user in the form of discounts, coupons and free shipping, among others.

Talk Deal. Talk Deals are unique shopping opportunities offered to Kakao Talk users within the Kakao Talk application as part of the Shopping function. New Talk Deals encompassing a variety of products and price points are posted at a specific time every day at discounted prices by merchants with existing Talk Stores. When a product is offered as a Talk Deal, Kakao Talk users may take advantage of the two options of purchasing the product – either as an "immediate purchase" at the regular price or as a Talk Deal at a discounted price, the latter of which the user chooses to purchase the product in a pair with another purchaser. Talk Deal purchasers can either "open" a deal by originating the purchase or participate in the purchase as the second purchaser by joining the originator. The originator can recommend the product to Kakao Talk friends or alternatively wait for another Kakao Talk user to participate in the transaction as links with "opened" deals are available for other users to join on the relevant Talk Deal page. Once a deal is "opened," other users can participate in the purchase for 24 hours. Depending on the method of participation, the purchaser may be subject to different amounts of points that can be used as cash on the Kakao Talk platform.

Portal Business

The Company's Portal Business generally refers to products and services that are offered by the Company through its Daum platform and relate to search and communication and advertising, among others. The Daum webpage, www.daum.net, and the Daum mobile application serve as a platform for a variety of portal-related online services optimised for PCs and mobile devices, respectively. Daum provides comprehensive access to its search engine, online communities, e-mail accounts, online content and online shopping services. The layouts of the Daum webpage and Daum mobile application are intended to facilitate users' navigation through service offerings, while allowing the achievement of persistent branding by featuring the Daum logo prominently on every page. Such portal-related services from Daum are also accessible through mobile web browsers on mobile devices. In addition, certain services are accessible through standalone mobile applications, such as the Daum Café mobile application.

Search and Communication

Search Engine. The Daum search engine helps users locate and access the information and services they want quickly and easily. The search engine sorts through a vast and growing amount of information to deliver relevant and useful search results in response to user queries. Search results for a particular item not only include applicable websites but also related images, videos, maps, media articles, blogs, Q&A postings by users on Daum, links to advertisers' websites and links to relevant items currently being sold on its online shopping mall, Shopping How. Users may also elect to conduct searches limited to certain categories, websites or time periods. The Company makes investments in research and development as well as information technology infrastructure to improve the accuracy of the Daum search engine's search results and provide more targeted and context-specific information to its users.

Online Communities. Launched in May 1999, the Company's online communities, which are called Daum Cafés, have become one of the most popular features on Daum. Users generally create online communities around a common hobby or topic of interest, such as sports, cinema, relationships, music, politics, religion, academic affiliations or geographic background. Users can create communities that are open to the public or communities where access is restricted to a closed group of users. Members of an online community can post messages for general viewing, and users who are not registered with a particular community can also access the message boards to learn about a community and determine whether to join. In addition to using the message board, community members can host or join real-time chats in one-on-one or group settings. Registered users can also become bloggers on Daum by posting writings periodically on the blogs they create. Registered users can subscribe to these blogs and add their comments to the blogs.

E-mail Accounts. Daum offers free, personalised e-mail accounts, known as daum.net or hanmail accounts, to users who register with it. Such e-mail service is a core feature of Daum which has been integrated with other services. For example, an e-mail is sent to users to let them know that a new article has been posted on the blog they subscribe to and to alert them about upcoming events planned by the online communities to which they belong.

Advertising

On Daum as well as through other platforms and mediums, including Kakao Talk, the Company offers a broad range of advertising products and services in a variety of online formats, including search advertising and display advertising (such as advertising on its website pages, mobile applications and online video content), which may also incorporate targeting and interactive functions. Advertisers use such advertising products and services to promote their brands, products and services and better target their marketing for a more productive connection with their desired audiences from among the Company's user base. Advertisers can choose to subscribe to a single product or service or take advantage of the Company's packaged advertising model, which gives them access to multiple products and services across its platforms. The Company's advertising clients include companies from a variety of industries, including food and beverage, entertainment, retail and online services.

Search Advertising. The Company's search advertising products and services, offered mainly through the Daum search engine and the Sharp (#) Search function of the Kakao Talk application, enable advertisers to present ads to users at the precise moment those users are looking for information related to what the advertiser has to offer. The Company's search advertising model encompasses both cost per click and cost per time products to attract advertisers that are seeking to efficiently obtain high levels of exposure with their advertising budgets.

The Company's flagship search advertising product applies a cost per click pricing model, where an advertiser competes against other advertisers in an auction and bids for a given advertisement spot, typically based on a search keyword. Advertisers can add or delete search keywords, increase or decrease bids for keywords and initiate or discontinue advertisements at any time. Advertisements are ranked for display based on a combination of the maximum cost per click set by the advertiser, click-through rates and other factors used to determine the relevance of the advertisement. This favours advertisements that are the most relevant to users, improving the experience for both users looking for information and advertisers looking for interested customers. If an advertisement does not attract sufficient user clicks, it moves to a less prominent position on the page, even if the advertiser offers to pay a higher amount. The Company generates revenue only when users click on the advertisement.

Display Advertising. The Company's display advertising products and services enable advertisers to display their ads through its platforms services, including, but not limited, to the Daum platform and Kakao Biz Board on the Kakao Talk platform. See "– Talk Business – Advertising – Kakao Biz Board".

Display advertisements are typically visually engaging and designed to reach a large number of consumers within a particular user segment. The Company's display advertising products are charged at either cost per time or per impression, with pricing differentiated based on placement, or at cost per click through a bidding system similar to that for its flagship search advertising product. The Company's targeting algorithm enables advertisers to select ad placements based on their desired audiences among its user base.

Shopping How. Through its portal platform Daum, the Company operates a comprehensive online shopping mall, called Shopping How, in association with leading online retailers and service providers in Korea. In Shopping How, users are able to compare the products and services that are available on each participating retailer's website in a consistent format, and then click through to the applicable retailer's website for purchases. The Company receives a commission based on the purchase price for sales that originate from Shopping How.

Other Platform Business

Other Platform Business refers to a new group of innovative products and services that are offered through platforms generally using the Kakao brand in areas including mobility, fintech and artificial intelligence.

Mobility

Through its subsidiary Kakao Mobility Corporation, in which the Company owned a 57.3% interest as of 31 December 2023, the Company offers a mobile transportation application, Kakao T, which was launched in October 2017. The Company, through the Kakao T platform, offers a variety of transportation-related services that were previously offered through standalone mobile applications that originated with the Kakao taxi service launched in March 2015, and generally receives a commission based on fees generated from the services. Kakao Mobility Corporation was established in June 2017 and received a series of equity investments totalling Won 450 billion from a consortium of investors including TPG Capital and Orix Corporation for a minority interest in the company.

Taxi. Kakao T's taxi service is the leading mobile taxi application in Korea servicing both taxi drivers and taxi passengers. On mobile devices, users are able to enter their current location (through text search, location pin on a map or GPS location service) and an intended destination (through text search or location pin on a map) to search for and hail the nearest available taxi. Users can send pick-up time and location, drop-off location, vehicle

and estimated ride time information as Kakao Talk notifications to friends. In order to improve service quality, taxi drivers and customers are asked to mutually rate each other at the end of each trip. Taxi fares can be processed through Kakao Pay or are paid directly to the taxi driver by the passenger. Kakao T's taxi service offers users a variety of options, including "Smart Call" which allows for the faster matching of a taxi for an additional fee, "Black" which is a premium service that connects passengers with luxury car drivers and "Blue" which directly connects passengers to the Company's own taxi operations conducted through subsidiaries of Kakao Mobility Corporation. Kakao T Blue was launched in November 2019 in select cities in Korea and is expanding its service nationally.

Designated Driver. Kakao T's designated driver service enables users to locate the nearest available designated drivers for their vehicles. On mobile devices, users enter their current location (through text search, location pin on a map or GPS location service) and intended destination (through text search or location pin on a map) and have the option to search for designated drivers based on the user's proposed fee amount or a fee amount to be calculated based on the time and length of the trip. Payments for Kakao T's designated driver service are automatically processed through Kakao Pay or paid directly to the driver in cash at the end of a trip. Kakao T's designated driver service offers multiple options, including "Premium" which provides premium service through uniformed drivers selected according to predetermined criteria.

Parking. The Company launched a mobile parking service in October 2017, which is offered through Kakao T. On mobile devices, users can search for parking lots near their destination, obtain information on the specific availability of spaces and parking fees, reserve spaces prior to their arrival and pay their parking fees through Kakao Pay upon exit.

Navigation. Kakao T incorporates a mobile navigation service that provides point-to-point driving directions with estimates for driving time based on real-time traffic conditions.

Fintech

Kakao Pay. Kakao Pay is a mobile payment service that simplifies the payment process by enabling users to store their credit card or bank account information and make online payments by entering a six digit Kakao Pay password and offline payments by scanning a QR code. The Company has partnered with 9 Korean credit card companies, including all of the major credit card companies in Korea, for online credit card payments using Kakao Pay and is expanding the number of online and offline retailers accepting Kakao Pay as a form of payment. As of 31 December 2023, Kakao Pay had over 42 million users that were registered as members. that the services of Kakao Pay are also provided through the Company's Kakao Talk application.

The Company operates Kakao Pay through its subsidiary Kakao Pay Corp., in which the Company owned a 46.4% interest as of 31 December 2023. In November 2021, Kakao Pay conducted an initial public offering of common shares and listed its common shares on the KRX KOSPI Market on 3 November 2021. Kakao Pay remains a consolidated subsidiary of the Company as of the date of this Offering Circular.

In February 2020, the Company acquired a 60% equity interest in Kakao Pay Securities (formerly known as Baro Investment & Securities Co.), which became the Company's consolidated subsidiary. Kakao Pay Securities offers consumer and corporate investment services on the Company's Kakao Pay platform.

In September 2021, together with Kakao Pay, the Company also contributed capital to the establishment of Kakao Pay Insurance. Kakao Pay Insurance provides a variety of insurance products and services including overseas travel insurance, mobile phone insurance and drivers insurance. Particularly, within four months of its launch, Kakao Pay Insurance recorded the largest number of subscribers to its overseas travel insurance product among Korean insurance company according to the internal data of the Company. In July 2023, Kakao Pay Insurance purchased all shares previously held by the Company and became a wholly-owned subsidiary of Kakao Pay.

Artificial Intelligence

In December 2023, the Company introduced AI Talk function within the Kakao Talk application, which allows users to receive a summary of unread messages within a few seconds, and change the tone or style of their messages, among others. The Company plans to keep developing and introducing new AI-based functions that could work synergistically with its existing Kakao platform.

In addition, through business partnerships with third parties, the Company provides "Kakao i", which can be utilised to enable users to control certain elements in homes and home appliances, such as thermostats and lighting, via voice commands, through the Company's Kakao Home platform. Companies with products that utilise Kakao Home include leading construction companies for residences, such as GS E&C Corp., Samsung C&T Corporation and POSCO Engineering & Construction Co., as well as leading home appliance brands, such as Philips and Coway.

Content Operations

The Company's content operations comprise its Game Business, Music Business, Story Content Business and Media Content Business, offering access to a wide range of digital content supplied by Korea's leading content providers through various platforms such as Kakao, Daum and Melon. The Company develops and sources new and compelling content to attract new users and increase user engagement through the development of platforms that optimise the users' experience with such content.

Game Business

The Company is one of the global pioneers in social mobile gaming, and it operates its mobile and PC games business through its subsidiary Kakao Games, in which it owned a 41.3% interest as of 31 December 2023. In September 2020, Kakao Games conducted an initial public offering of common shares and listed its common shares on the KRX KOSDAQ Market on 10 September 2020. Kakao Games remains a consolidated subsidiary of the Company as of the date of this Offering Circular.

As of 31 December 2023, the Company offered over 1,100 mobile and PC games globally through its game platforms, Kakao Game and Daum Game. The Company's mobile and PC games are designed to appeal to a broad base of players across demographics and geographies and span a variety of genres, including action role-playing games, strategy role-playing games, MMORPGs, casual games, shooting games, simulation games and miscellaneous other games. The Company also has operations relating to golf and screen golf through Kakao VX, a subsidiary of Kakao Games.

Mobile Games. With advancements in smartphone technology and telecommunications infrastructure, it has become possible to play mobile games almost anywhere at any time, including during commutes, office breaks and other situations where such games were previously inaccessible. Leveraging the user base of Kakao Talk, players of the Company's mobile games are able to invite their Kakao Talk friends to play and compete against them. Players can see and compare how their scores for a particular game rank against those of any of their Kakao Talk friends who have also played such game, and players can interact with each other by sending and requesting in-game items. Combined with the relatively short and simple gameplay on entry-level games optimised for mobile devices, these social features of the Company's mobile games have created an organically growing and loyal user base that is increasingly shifting to more advanced high-engagement games.

The Company's mobile games typically can be downloaded and played for free, and such games generate revenue when players purchase in-game items that enhance, prolong or accelerate game play or augment or customise a particular player's experience. These items enable players to enhance their gaming experience by improving game character performance and skills and making more game features accessible. In 2021, the Company launched Odin: Valhalla Rising, which ranked number one in gross revenue among mobile games in

Korea for 18 consecutive weeks since its launch according to Mobile Index, surpassing Won 100 billion in cumulative gross revenue after the first 19 days of launch. Leveraging its exclusive rights for gamification of Kakao Friends IP, the Company has also developed and serviced various Kakao Friends IP-based mobile games, such as Friends Pop and Friend Popcorn, among others, which collectively recorded more than 50 million cumulative number of downloads as of 31 December 2023.

PC Games. The Company's PC games can be downloaded onto a PC or played directly in the web browser of a PC and are either free to play, similar to its mobile games, or are subscription-based. In-game items for purchase may be offered in both free-to-play games and subscription-based games. Users can use their Kakao accounts to log on and play games. Certain of the Company's PC games, including the shooting game PlayerUnknown's Battlegrounds developed by Krafton Inc. (formerly known as Bluehole Studio Inc.), are also available through retail distribution channels.

While the wide adoption of mobile devices globally and the free-to-play business model for mobile games platforms has increased demand for such games, revenue from PC games continues to constitute a significant portion of the Company's game revenue. The MMORPG Black Desert has continued to attract players globally, including in Europe and North America, since 2015, and the globally popular action RPG Path of Exile was launched in Korea by the Company in June 2019.

Golf. Through Kakao VX, the Company conducts its golf-related operations, including (i) Kakao Golf Reservation, a mobile application for tee time reservations at golf courses in Korea, (ii) Kakao Friends Golf, a golf merchandising platform that uses Kakao Friends characters, and (iii) Friend Screen (formerly known as Gswing), a leading screen golf system. The Company also operates indoor screen golf rooms using Friend Screen. Screen golf is a virtual reality golf game in which players play a virtual version of a round of golf in an indoor room equipped with a large screen at which players hit their balls with golf clubs. Famous golf courses in Korea and around the world are simulated on the screen for players to experience via virtual reality.

Music Business

The Company offers users access to music and related content, including online music streaming and downloading service, through platforms using its brands such as Melon, Kakao Entertainment, SM Entertainment,.

Melon

The Company utilises its online music platform, Melon, for music-related content as well as subscription-based access to online music streaming and downloading services. Melon currently offers a variety of music-related content, including the Melon Top 100 chart, which ranks the most frequently played songs of online music subscribers of Melon on a real-time basis, as well as a selection of more than 47 million songs and possesses one of the largest active user bases among online music services in Korea. As of 31 December 2023, Melon had over 4.2 million paying subscribers.

The Company offers Melon in various formats that are specifically designed for mobile and other connected devices, PCs and televisions. Melon online music subscribers can also stream music through the music player within the Kakao Talk application, offering convenient access to users of the Kakao Talk platform.

Melon offers a broad selection of Korean and international music, both in streaming and download formats, as well as a variety of features designed to enhance the experience of users. For example, users of streaming services are able to indicate "like" with respect to a song as it is being played, and Melon makes music recommendations based on data collected from users. Melon also highlights the latest music releases by popular artists in Korea and around the world.

Such features offered through the Melon online music platform enable the Company to accumulate user information, including their preference for music genres and artists as well as their purchasing patterns. The Company continually monitors and analyses such data to better understand demand trends for various user segments. The Company also develops analytical models based on such customer data to identify and recommend songs of a particular genre or artist to users who are likely to make additional purchases. Through such analyses, the Company is also able to identify the types of offers and promotions to which select users will likely respond, which enables it to more effectively design and target its marketing activities. The Company obtains music content for its Melon online music service both internally from its content distribution business as well as from third-party music distributors in Korea and around the world, and pay fees for such content based on its sales. See "– Music Content Distribution".

The Company offers a wide range of payment plans that seek to address the individual needs of Melon's users. For downloading digital music and music videos, the Company charges for each download based on the file format and offers an option to purchase monthly subscription packages that provide a discount for higher-volume downloads of music. For streaming services offered through Melon, the Company charges monthly subscription fees. Subscribers are also able to combine streaming services with downloading music in DRM (digital rights management) format that restricts access after a 30-day period. Subscribers may also combine streaming services with packages that enable downloads of music in unrestricted MP3 format.

Music Content Distribution

Through its subsidiaries Kakao Entertainment and SM Entertainment, leading entertainment companies in Korea in which the Company owned a 66.1% and a 40.5% interest as of 31 December 2023, respectively, the Company enters into arrangements, generally on an exclusive basis, with various production companies (including those that are a part of its subsidiaries' content production operations) for online and offline distribution of music content. See "– Music Production". Through the Company's acquisition of LOEN Entertainment (now known as Kakao M) in March 2016, the predecessor of which (Seoul Record) was founded in 1978, the Company has accumulated over four decades of experience in distributing music content in Korea that spans all major music genres.

The Company generates sales from the distribution of new releases of current artists as well as existing recordings provided by production companies. Its music content distribution activities consist mainly of the following.

Online Distribution. In Korea, there has been a proliferation of websites and mobile applications that sell digital music on a per-album or per-track basis or offer subscription and streaming services. In addition to its Melon online music service, the Company has music content distribution arrangements with a number of online music service providers, including Genie, FLO, Bugs! and VIBE, to make music content available for access in digital formats such as digital downloads and streaming. Such arrangements require the online music service providers to pay specified fees to the Company based on their sales of such content.

Offline Distribution. Most of the Company's sales of music content in CD or DVD format are made to physical wholesale or retail sellers in Korea, including music specialty stores, general entertainment specialty stores, discount stores, mass merchants and other traditional retailers. In addition, sales to both the online distribution arms of traditional retailers and online retailers have become an increasingly important sales channel for CDs and DVDs.

Global K-pop Content Channel. In light of the increasing popularity of K-pop around the world, the Company operates 1theK, a global K-pop channel that streams music videos on YouTube and offers social network services. As of 31 December 2023, the channel had over 24 million subscribers on YouTube globally.

Such vertical integration and comprehensive range of music-related services provide a competitive edge to the Company in terms of efficiency compared to other music entertainment companies in Korea, which may lead to

greater insight into, and more effective response to, rapidly evolving trends in the music industry, as well as a more efficient cost structure. The integrated services, strong brand power and substantial experience in the Korean music market of the Company enhance its position as a leading music entertainment company in Korea, enabling it to take advantage of business opportunities offered by the increasing global popularity of K-pop.

Music Production

In addition to music content distribution, the Company is also engaged in the music production business, mainly through its subsidiaries Kakao Entertainment and SM Entertainment. As a pioneer of K-pop music, SM Entertainment was established in 1995 and is a leading entertainment company with operations including artist management, music and video production and distribution, and concert production and promotion. In March 2023, the Company acquired a 39.87% equity interest in SM Entertainment, which made the Company the largest shareholder of SM Entertainment. SM Entertainment is a consolidated subsidiary of the Company, but its shares remain publicly listed on the KRX KOSDAQ Market.

The Company operates a network of production companies in Korea for musicians. The Company's production companies include Starship Entertainment, IST Entertainment, Edam Entertainment and Antenna. Services provided by the Company's music production companies encompass all stages of the production process for music content, including identifying promising recording artists and entering into management contracts with them for their training and development, collaborating with such artists to produce audio recordings of their work, and marketing and selling such recordings to music distributors. The Company also provides general management services for artists, including in respect of advertising, merchandising, sponsorships, concerts and other promotional activities. As of 31 December 2023, the Company represented more than 100 musicians.

Recording artists' contracts define the commercial relationship between the recording artist and the production company. The Company negotiates agreements with artists that define its rights to use the artists' copyrighted recordings. While the duration of the contracts may vary, the Company's contracts with its recording artists typically grant the Company the right to use the artists' recordings for the duration of the copyright. In accordance with the terms of the contract, the artists receive royalties based on sales and other forms of utilisation of the artists' recorded works and performances. A substantial majority of the contracts are "expanded-rights" arrangements, pursuant to which the Company shares in the concert, merchandising, sponsorship/endorsement, fan club and other non-traditional music revenue associated with its artists.

The Company's contracts with established recording artists generally provide for greater advances and higher royalty rates, and entitle it to fewer albums, compared to its contracts with new artists. It is not unusual for the Company to renegotiate contract terms with a successful artist during the term of the existing contract, sometimes in return for an increase in the number of albums or other content that the artist is required to deliver.

Melon Ticket

Through Melon Ticket, which can be accessed through Kakao Talk, Melon, a standalone mobile application and its own web page, Kakao Talk and Melon users can purchase tickets for concerts, musicals, plays, exhibitions and other events. The Company receives a commission based on the purchase price for sales of such tickets.

Story Content Business

The Company offers a broad range of story contents, including web-comics and web-novels, that can be accessed by users through platforms using its brands including Kakao or Daum. For web-comics and web-novels, users may generally access such content under its "wait or pay" model, pursuant to which users either wait for a specified period of time, or pay a fee or view certain compensatory advertisements, to be allowed to view or read an episode or chapter. In April 2017, the Company entered into a licensing agreement with an affiliate of its

shareholder MAXIMO PTE. LTD. for the use of its "wait or pay" model on Tencent DongMan, a leading web-comics and animation platform in China, and in December 2018, the Company acquired NeoBazar, one of the leading content platforms in Indonesia.

Kakao Page

Through the standalone mobile application, users can access a wide variety of web-comics and web-novels aggregated from leading content providers and optimised for mobile devices. As of 31 December 2023, Kakao Page had a library of over 60,000 titles of web-comics and web-novels. The Company operates its Kakao Page platform through its subsidiary, Kakao Entertainment. In December 2016, a consortium of investors including Anchor Equity Partners and GIC Private Limited made a Won 125 billion equity investment in Kakao Page Corp. for a minority interest in the company. In January 2020, the Company rebranded Kakao Page as a global application available in certain countries, including China, Indonesia, Taiwan and Thailand.

Kakao Piccoma

Through its wholly-owned subsidiary Kakao Piccoma, the Company operates Piccoma, a leading mobile web-comics application in Japan with approximately 7 million users per week in 2023 according to data.ai, which is currently the largest comics market in the world. Following the global trend of digitalisation of comics, Japanese users are increasingly using their mobile and other connected devices to view web-comics, and the Company launched its Piccoma platform in April 2016 to take advantage of potential growth opportunities in Japan. Piccoma offers users access to Japanese-language web-comics provided by both Japanese and non-Japanese authors.

Kakao Webtoon

Originally launched in 2003 by Daum, Daum Webtoon was relaunched in August 2021 as Kakao Webtoon and rebranded as a global application available in certain countries including China, Indonesia, Taiwan and Thailand. Kakao Webtoon offers users access to web-comics and web-novels from leading and up-and-coming authors and can be accessed through its standalone webpage and mobile application. The Company also offers amateur authors the opportunity to publish their work by hosting contests and competitions on a periodic basis.

Media Content Business

Mainly through its subsidiaries, Kakao Entertainment and SM Entertainment, the Company produces visual content, such as movies and television shows, through its in-house studios, subsidiaries and affiliated production companies.

Kakao Entertainment was established in March 2021 as a result of a merger between Kakao Page and Kakao M. Kakao M was established as EN Company Co., Ltd. in September 2018 and changed its name to Kakao M shortly thereafter. The Company transferred to Kakao M the content production and distribution operations and general management services of LOEN Entertainment, the former operator of Melon, after LOEN Entertainment's merger with and into the Company in September 2018.

The Company's production pipelines cover a variety of platforms and genres spanning from OTT to TV and theatre and encompass anchor contents to short-form contents. The Company operates a network of production companies in Korea composed of more than 150 actors, models and other entertainment industry personnel within its subsidiaries and affiliated management agencies as well as screenwriters, directors and producers through studio acquisitions and partnership agreements.

IP Business

Kakao Friends Merchandising

The Company engages in character marketing using originally-designed Kakao Friends characters in order to promote brand awareness and appeal and to further foster affinity and engagement by its user base. The Company sells official Kakao Friends merchandise, such as stationery goods, plush toys, action figures and limited edition collaboration items, at both permanent and "pop-up" Kakao Friends stores, as well as on Kakao Talk Gift Shop. From time to time, the Company licenses its proprietary Kakao Friends characters to third parties for production and sale of merchandise.

SALES AND MARKETING

The Company's large user base, as well as the brand power of its platforms and breadth of its content offerings, are key drivers of its user base growth. The Company markets many of its products and services through its platforms by stimulating user awareness and effectively capturing user interest. In the Company's online community, "word of mouth" is an important driver for the adoption of value-added services, as positive feedback from users can be quickly communicated through various channels, including Kakao Talk and Daum Cafés. From time to time, the Company utilises television commercials and Internet and mobile advertising as well as product placements in television shows. The Company conducts a variety of online and offline marketing and promotional activities, including joint marketing activities with mobile game developers and distributors, as well as exhibitions featuring the Company's widely-known Kakao Friends characters.

The Company markets its advertising, content, e-commerce and fintech services through a dedicated sales force, as well as through third-party advertisement agencies. Leveraging its user base, the Company also offers targeted advertising solutions for its participating online shopping mall and e-commerce merchants to reach their target users and increase online sales. This enables participating merchants to lower their marketing costs and achieve higher returns using the Company's user targeting technology. The Company also invests in customer support for its users, business partners and advertisers.

Marketing and promotional activities are also critical aspects of the Company's entertainment business and have significantly contributed to the enhancement of the brand image of Melon, as well as its other entertainment brands. The proliferation and diversity of available marketing channels, including the continual development and adoption of new interactive technologies and media, have made it more difficult and complex for entertainment service providers to reach their target audiences in an effective and efficient manner. Leveraging the Company's long experience in the Korean music industry and its deep understanding of evolving demand trends across different customer segments, the Company utilises a mix of channels to market its entertainment-related products and services to target audiences, including television, the Internet (including social network services), radio and print media. The Company also sponsors various promotional events, including concert performances and celebrity appearances, which increases its exposure to music fans to enhance music entertainment brand recognition. For example, the Company sponsors the Melon Awards, which are weekly awards conferred based on online voting by Melon subscribers.

Melon's VIP Program, a customer rewards program, is also an important component of the Company's marketing and brand loyalty strategy. The VIP Program is designed to recognise and reward Melon's most loyal customers based on the length of their subscription. Program members are able to participate in various promotional events based on their tier status within the VIP Program.

COMPETITION

The Company faces significant competition in almost every aspect of its business. The Company primarily competes for the time, attention and spending of its users with providers of other forms of mobile, online and in-home communication, entertainment and information services. The Company faces competition from mobile

telecommunications companies, game companies, e-commerce companies, music and video service companies, financial service companies and other Internet-related companies that offer products and services that may compete with specific features of the Company's products and services, including those offered through its platforms using the Company's brands including Kakao, Daum and Melon. In particular, the Company competes directly with other major Korean Internet portal services, such as Naver, to provide comprehensive mobile and online services to users. In addition, the Company competes with international competitors, such as Meta and Google, which offer a wide range of information and communication services and products as well as online advertising services. Furthermore, the Company competes with offline and online media and advertising businesses for a share of advertisers' budgets and in the development of tools and systems for managing and optimising advertising campaigns.

There is intense competition for users, traffic and advertisers in the Korean market for Internet portals and related services, as a result of which the Company has historically experienced, and may continue to experience, difficulty in maintaining or increasing the market share and revenue of its portal-related services from Daum. In addition, although the Company operates the leading mobile messaging service in Korea, the mobile messaging markets outside Korea are dominated by various other companies, many of which have greater financial resources and substantially larger user bases. For example, Kakao Talk faces competition from other well-established mobile messaging services, such as Meta's WhatsApp, Instagram and "Messenger" app, Tencent's WeChat, Naver's LINE Messenger and Telegram. The Company may selectively target new categories and markets outside of Korea to leverage its strengths and exclusive content offerings in order to obtain a competitive advantage. Competition in the mobile game market in Korea is also intense, and it may become more challenging for the Company to retain existing users and attract new users as competition from other online game operators, based in Korea as well as overseas, is likely to increase in the future. In addition, the Company's Kakao Friends merchandising business also faces fierce competition from other companies that own and utilise popular character intellectual property based in Korea as well as overseas.

The key areas in which the Company competes include:

- **Users and User Engagement**. The Company competes to attract, engage and retain users. The Company's ability to compete effectively for users depends on several factors, including the utility, ease of use, performance, quality, volume and reliability of its products and services, as well as its ability to establish and maintain relationships with business partners.

- **Advertising**. A significant portion of the Company's revenue is generated from the sale of advertising services, and the Company competes to attract and retain advertisers. The Company's ability to compete effectively for advertiser spending depends on many factors, including the size and composition of its user base, as well as the reach, relevance and engagement capabilities of its advertising targeting tools.

- **Talent**. The Company competes for highly skilled personnel, including senior management, engineers, developers, designers and service managers. Competition for highly skilled personnel is intense, and the Company faces competition for qualified personnel from other mobile and online businesses, other companies in the technology industry and traditional media businesses. The Company's ability to compete effectively for highly skilled personnel depends on many factors, including a work environment that fosters and rewards creativity and innovation, as well as attractive compensation packages.

In the Company's music business, the principal competitors of the Melon online music service include YouTube Music, Genie, FLO, Bugs! and VIBE and the principal competitors of Kakao Entertainment and SM Entertainment in signing and managing recording artists are HYBE, JYP and YG Entertainment. In the Company's media contents business, its production companies compete mainly with other production companies in Korea, such as Studio Dragon, SBS Contents Hub, Chorokbaem Media and NEW, in signing and managing recording actors and other entertainment industry personnel, and in producing and marketing video content to distributors. In the Company's story contents business, the principal competitor of Kakao Webtoon and Kakao Page is Naver Webtoon. Piccoma, a story content service provider in Japan, competes with Line Manga in Japan.

Competition relating to the Company's fintech and mobility services is also intense as a growing number of new and existing companies seek to enter or expand into such areas. The principal competitors of Kakao Pay include Samsung Pay, Naver Pay, Apple Pay and Toss, while the principal competitors of Kakao T include UT.

INTELLECTUAL PROPERTY

The Company owns various trademarks, service marks and related logos, including "Kakao," "Kakao Talk," "Daum" and "Melon". Such brand names of the Company are well-recognised in Korea, and its patents, copyrights, trademarks and other intellectual property are critical to its success. To establish and protect its proprietary rights, the Company relies on a combination of patents, trademarks, copyrights, trade secrets (including know-how), license agreements, confidentiality procedures, non-disclosure agreements with third parties, employee disclosure and invention assignment agreements, and other contractual and implicit rights. The Company also enters into confidentiality and invention assignment agreements with its employees, contractors and business partners and controls access to its proprietary technology and information.

As of 31 December 2023, the Company had 714 issued patents in Korea and 200 issued patents in other countries primarily relating to telecommunications, social networking, web technologies and infrastructure technologies. The Company also pursues registrations of copyrights, domain names, designs, trademarks and service marks in Korea and elsewhere where it deems appropriate.

As of 31 December 2023, the Company had 2,845 registered trademarks and service marks in Korea and 1,913 registered trademarks and service marks in other countries. While most of the intellectual property the Company uses is developed by itself, from time to time it acquires certain rights to proprietary intellectual property from third parties.

TECHNOLOGY

The Company operates a media research centre in Jeju Island and a research and development centre in Pangyo, near Seoul, and the Company has assembled a team of highly-skilled engineers and computer scientists whose expertise spans a broad range of technical areas. The Company competes aggressively for talent, and its engineers and computer scientists drive innovation, technology development and operations. Talented personnel is essential to the Company as it faces significant challenges across systems design, machine learning, data mining, networking, software engineering, distribution systems, cluster design and other areas. In particular, the Company has made significant investments in scalable infrastructure to support large-scale systems, data management and analysis technology, web search technology, online advertising technology and voice and video call quality solutions.

Scalable Infrastructure to Support Large-Scale Systems

Many of the Company's products and services are built on distributed computing architecture. The Company uses a combination of off-the-shelf and custom software running on clusters of commodity computers to amass substantial computing capability. The Company intends to continue to develop server infrastructure that is operationally efficient, scalable and reliable, which is designed to do the following:

- adapt to meet the needs from user base growth and increasing activities on the Company's online platforms, through decentralised data networks;
- improve the functionality of servers through automated server management technology, thereby reducing cost and improving operational agility;
- automatically detect and respond to errors in the Company's infrastructure components, including application servers, storage infrastructure and system networks; and
- maintain reliable redundant systems for the Company's infrastructure components to reduce the possibility of service interruptions.

The Company's infrastructure enables the storage and processing of large datasets and deployment of its services and products to users on a global basis. As its user base grows and the level of engagement and activities on its online platforms continue to increase, the Company may need to continue to expand its computing infrastructure to sustain and further improve its operating efficiency and to provide its products and services quickly and reliably to all users in Korea and elsewhere around the world.

Data Management and Analytics Technology

In order to provide each user with a personalised experience, the Company processes and analyses a vast and growing amount of content shared by its users, business partners and advertisers. Accordingly, the Company has invested in developing technology and analytics in areas including the following:

- a storage infrastructure that enables the Company to securely store large amounts of data generated by its users;
- increased storage capacity for more efficient data distribution;
- a high-volume business intelligence system that enables large-scale data analysis; and
- a data warehouse infrastructure that provides tools to enable easy data summarisation, *ad hoc* querying and analysis of large datasets.

Web Search Technology

The Company's web search technology uses a combination of techniques to determine the significance of a web page independent of a particular search query as well as to determine the relevance of that page to a particular search query. In particular, the Company employs:

- a page ranking technique that determines the significance of a web page by examining the link structure of the web;
- text-matching techniques that compare search queries with the content of web pages to help determine relevance. Many aspects of a page's content are factored into the equation, including the proximity of individual search terms to each other on a given web page; and
- deep learning techniques that improve speech and image recognition, search capabilities and natural-language understanding.

Online Advertising Technology

The Company offers advertisers powerful online media through which they can effectively reach the Company's large user base in a targeted manner. The Company's online advertising technology enables thousands of relevant, targeted advertisements each day based on search terms its users enter or content they view on its online platforms. The key elements of the Company's advertising technology include:

- advertising auction system technology that enables advertisers to compete against other advertisers in an auction and bid for a given advertisement spot, typically based on a search keyword, as well as automatically deliver relevant, targeted advertising;
- contextual advertising technology that employs techniques that consider factors such as keyword analysis, word frequency and the overall link structure of the web to analyse the content of individual web pages and to match advertisements to them almost instantaneously; and
- systems to better analyse user preferences and content consumption patterns in order to provide more personalised advertisements allowing advertisers to effectively manage their advertising budgets.

PROPERTIES

As of 31 December 2023, the Company had Won 1,322.1 billion of property and equipment in connection with its non-financial services businesses and Won 14.9 billion of property and equipment in connection with its financial services businesses. The Company's property and equipment primarily consisted of its head office building in Jeju Island and its servers, networking equipment and data centre. Most recently in January 2024, the Company completed the construction of a new data centre of its own with a total area of 47,378 m² and capacity to store approximately 120,000 servers.

EMPLOYEES

The Company's employees are critical to its success. The Company seeks employees who are motivated to develop new and innovative products and services for the Company's rapidly growing user base as well as for its business partners and advertisers. Many of the Company's new hires have prior experience in the Internet, mobile services, entertainment or related industries, and the Company strives to hire and retain employees with diverse backgrounds in addition to relevant work experience in order to achieve its objective to continue growth.

On a separate basis, the Company had 3,880 full-time employees, which includes regular employees and contract-based employees other than registered directors, as of 31 December 2023. From time to time, the Company also employs part-time employees to enhance its operational efficiency. The following table sets forth a breakdown of the Company's full-time employees as of 31 December 2023:

Entity	Number of full-time employees
Kakao Corp	3,880
Consolidated subsidiaries	13,237
Total	17,117

The Company reviews the salaries of its full-time employees annually. Salaries are adjusted based on individual and team performance, industry standards and inflation. As an incentive, a discretionary bonus may be paid based on the performance of individuals as well as the overall performance of the relevant team or company. The Company also provides a wide range of fringe benefits to its employees, including medical insurance, periodic health examinations, subsidies for significant personal events (such as marriage, childbirth or death of a family member) and meal subsidies.

The Company has a labour union which was formed in 2018. The Company has not experienced any work slowdowns, work stoppages or strikes. From time to time, the union and the Company's management negotiate and enter into new collective bargaining agreements, which was last entered into in December 2023 when a wage rate increase was negotiated. Under applicable Korean labour laws, the Company is restricted from involuntarily terminating a full-time employee except under certain limited circumstances.

The Company's full-time employees in Korea, including executive officers as well as non-executive employees, are subject to a pension insurance system pursuant to the National Pension Act of Korea, under which the Company makes monthly contributions to the pension accounts of the employees, and upon retirement, such employees are paid from their pension accounts. The Company contributes an amount equal to 4.5% of an employee's standard monthly wages, and each employee contributes 4.5% of his or her standard monthly wages, into his or her personal pension account. In addition, in accordance with the Guarantee of Worker's Retirement Benefits Act of Korea, the Company has adopted retirement pension plans for its employees. Contributions under the retirement pension plans are deposited annually into a financial institution, and an employee may elect to receive a monthly pension or a lump-sum amount upon retirement, pursuant to a defined benefit plan or a defined contribution plan. The defined benefit plan guarantees a certain payout at retirement, according to a fixed formula based on the employee's average salary and the number of years for which the employee has been a plan

member. The defined contribution plan, in which the employer's contribution is determined in advance on an annual basis, is managed directly by the employees through their individual accounts under the plan. For further information regarding the Company's retirement pension obligations with respect to its employees, see Notes 22 and 23 of the notes to the Company's annual consolidated financial statements appearing elsewhere in this Offering Circular.

LEGAL AND REGULATORY PROCEEDINGS

The Company is subject to a number of claims and is a party to a number of legal and regulatory proceedings that arise in the normal course of its business. The Company is not currently involved in any litigation, administrative proceeding or arbitration, the outcome of which would, in the reasonable judgment of its management, have a material adverse effect on its financial condition or results of operations except the following cases.

Kakao Mobility Accounting Treatment Issue

KM Solution, a consolidated subsidiary of Kakao Mobility, entered into a Franchise Agreement with taxi operators, providing transportation support services such as vehicle dispatch platform provision and maintenance of dedicated terminals, and received 20% of the operator's fare revenue as royalties. Meanwhile, Kakao Mobility entered into a Business Partnership Agreement with the taxi operators mentioned above and paid them partnership fees, in exchange for receiving support such as provision of vehicle operation data and participation in advertising and marketing. Although the partnership fees vary for each operator, on average, it is about 16-17% of the operator's fare revenue.

Since 2020, Kakao Mobility has accounted for (i) royalties equivalent to 20% of fare revenue under the Franchise Agreement as revenue and (ii) partnership fees equivalent to 16% to 17% of fare revenue under the Business Partnership Agreement as expenses in its consolidated financial statements (referred to as the "gross-up method") given that Kakao Mobility considered the Franchise Agreement and the Business Partnership Agreement to be separate contracts with different substance.

However, in 2023, the FSS announced that according to its interpretation of the K-IFRS No. 1115, only 3 to 4% of the fare revenue should be accounted for as revenue after offsetting royalties received under the Franchise Agreement and partnership fees paid under the Business Partnership Agreement (referred to as the "net amount method"), and determined that Kakao Mobility inflated its revenue by approximately Won 300 billion in 2022 by using the gross-up method when it should have used the net amount method.

The FSS made a preliminary determination that Kakao Mobility's accounting treatment under the gross-up method amounted to the highest level of violation, considering the motive as intentional and the materiality as level 1. Consequently, the FSS moved to impose the highest level of penalties, including administrative penalties of around Won 8 billion and referral to the prosecutors' office for Kakao Mobility, administrative penalties and dismissal recommendations for the CEO and the auditor of Kakao Mobility, and administrative penalties and suspension recommendations for the former CFO of Kakao Mobility. As these planned penalties by the FSS are subject to the deliberations of the SFC, the final level of penalties may vary during the deliberation process. Additionally, even if the SFC refers Kakao Mobility to the prosecution on charges of fraudulent accounting, the prosecutors' and the court's determination of intent may differ from that of the FSS and the SFC, making it difficult to predict the final level of criminal penalties.

As Kakao Mobility is a consolidated subsidiary of the Company, its revenue and expenses are reflected in the Company's consolidated financial statements. Recently, Kakao Mobility decided to change its accounting treatment for royalties received under the Franchise Agreement and partnership fees paid under the Business Partnership Agreement from the gross-up method to the net amount method to respect the interpretation of accounting standards of the FSS, which is the competent authority on accounting standards, and to avoid unnecessary confusion for users of accounting information, which will result in a decrease in the Company's

revenue by approximately Won 300 billion. Since both revenue and expenses decrease together under the net amount method, there is no impact on Company's profit.

Allegations of Market Manipulation and Collusion in Share Acquisition of SM Entertainment

In the process of acquiring the shares of SM Entertainment, the Company and its affiliate Kakao Entertainment purchased shares of SM Entertainment on the KRX KOSDAQ Market on 28 February 2023, the last day of HYBE's tender offer. Meanwhile, OneAsia Partners and its affiliates also purchased the shares of SM Entertainment on 16, 17, and 27 February 2023 on the KRX KOSDAQ Market. There is no special relationship between OneAsia Partners and the Company.

The FSS and the prosecutors' office launched an investigation into allegations of the Company, Kakao Entertainment, and OneAsia Partners' acting in collusion to interfere with HYBE's tender offer and manipulate the market through the purchase of SM Entertainment's shares. In addition, the FSS and the prosecutors' office argued that if the Company, Kakao Entertainment, and OneAsia Partners had colluded in the purchases, they would be deemed as "joint holders" under the FSCMA, and therefore, they should have reported their ownership exceeding 5%, which they failed to comply with by not fulfilling this reporting requirement. Following the investigation of the Company, Kakao Entertainment and their officers and employees in connection with such allegation, the Company's then Chief Investment Officer and the Company were indicted in November 2023.

As of the date of this Offering Circular, it is difficult to predict whether the Company will face criminal or other penalties, and if so, what those penalties will be. If the Company is fined or faces severer penalties, the eligibility of the Company as a major shareholder may be called into question in relation to its direct and indirect shareholdings in financial companies, such as KakaoBank, Kakao Pay Securities and Kakao Pay Insurance. Many of Korean financial laws, including the Act on Corporate Governance of Financial Companies and the Act on Special Cases Concerning Establishment and Operation of Internet-only Banks, stipulate as one of the conditions for maintaining major shareholder eligibility that the majority shareholder of a financial company should not have been subject to a fine or severer penalty for violating financial laws over the past five years. However, even if the Company's eligibility as a majority shareholder is challenged due to the imposition of a fine, the final disposition will depend on subsequent deliberations by the FSC and decisions of the court regarding the FSC's deliberations.

Management of Kakao Entertainment Accused of Acquiring Drama Production Company at an Overvalued Price

Kakao M (which was later merged into Kakao Entertainment along with Kakao Page) acquired Baram Pictures, a drama production company, for Won 40 billion in 2020 and additionally injected another Won 21 billion into Baram Pictures through new share issuance. Baram Pictures, founded and majority-owned by Jung-hee Yoon, the wife of Jun-ho Lee, the head of Kakao M's investment strategy division at that time, had been in a state of capital erosion, recording operating losses for three consecutive years from 2018 to 2020.

The prosecutors' office launched an investigation in 2023 based on an allegation that Kakao M's acquisition of Baram Pictures for Won 40 billion was an overvaluation and that Sung-soo Kim, the CEO of Kakao M at the time, and Jun-ho Lee conspired to acquire Baram Pictures at an inflated, manipulated price, causing financial damage to Kakao M and unfairly benefiting Jung-hee Yoon.

Kakao Entertainment maintains that the acquisition of Baram Pictures was an investment made in a promising production company to enhance its media business competitiveness and that the acquisition price was objectively determined based on external evaluations.

As of the date of this Offering Circular, it is difficult to anticipate whether the allegation of overvaluation can be substantiated, and the request for arrest warrants against Sung-soo Kim and Jun-ho Lee has been dismissed by the court.

INVESTMENTS

In addition to the Company's operating subsidiaries such as Kakao Mobility, Kakao Games and Kakao Entertainment, the Company has investments in a number of entities, some of which are accounted for as consolidated subsidiaries and others as associates or available-for-sale securities. See Notes 1.1 and 16 of the notes to the Company's annual consolidated financial statements appearing elsewhere in this Offering Circular.

KakaoBank

As of 31 December 2023, the Company owned a 27.20% equity interest in KakaoBank, which became an associate of the Company in November 2019. As an internet-only bank, KakaoBank is treated as a commercial bank for regulatory purposes and subject to the same regulations under the Banking Act. However, it is also subject to the Act on Special Cases Concerning Establishment and Operation of Internet-Only Banks (the "Internet-Only Bank Act") as it provides services online only and may have major shareholders that are non-financial entities. Accordingly, the FSC approved the Company's acquisition of KakaoBank shares from Korea Investment Holdings Co., Ltd., the parent company of Korea Investment & Securities Co., Ltd., a major securities company in Korea. In August 2021, KakaoBank conducted an initial public offering of common shares and listed its common shares on the KRX KOSPI Market on 6 August 2021. KakaoBank remains an equity method investee of the Company, and the Company and Korea Investment & Securities Co., Ltd. each owned a 27.20% equity interest in KakaoBank as of 31 December 2023. Other major shareholders of KakaoBank include National Pension Service of Korea, which had a 5.58% interest as of 31 December 2023.

KakaoBank commenced operations in July 2017 and is the largest Internet-only bank in Korea in terms of asset size. Internet-only banks generally operate without branches and conduct their operations primarily through electronic means, which enable them to minimise costs and offer customers higher interest rates on deposits as well as lower lending rates. As of 31 December 2023, KakaoBank had over 42 million holders of deposit accounts.

MANAGEMENT

Board of Directors

Our board of directors has the ultimate responsibility for the administration of our affairs. Our articles of incorporation currently provide for a board of directors consisting of at least three, but not more than 11 directors. We currently have six directors, one of whom is a standing director, one of whom is a non-standing director, and four of whom are outside directors.

Standing directors are directors who are full-time executive officers of our company, while outside directors are non-standing directors elected from among those persons who do not have a special relationship with us that would interfere with the exercise of their independent judgment. Directors are elected at a general meeting of shareholders by a majority vote of those present or represented so long as the affirmative votes also represent no less than 25% of the issued and outstanding shares with voting rights. Our outside directors are elected at a general meeting of shareholders from among those candidates recommended by our Nomination Committee. The term of office for our directors is a period of not more than three years determined at a general meeting of shareholders. However, the term of office will be extended to the close of the annual general meeting of shareholders if the term of office for the director ends before the close of the annual general meeting of shareholders convened with respect to the last fiscal year within such term of office.

The representative director is a director elected by an affirmative vote of a majority of the directors present at the board of directors meeting where a majority of directors in office are present and is empowered to make decisions regarding our day-to-day business as our chief executive officer. Shina Chung, our chief executive officer, currently serves as our representative director.

The table below sets forth our directors, and their years of birth and positions, as of the date of this Offering Circular. The business address of each of our directors is at our registered office at 242, Cheomdan-ro, Jeju-si, Jeju-do, Korea.

Directors

Name	Year of Birth	Position	End of Current Term	Other Positions
Shina Chung	1975	Director; CEO and Representative Director; Member of Nomination Committee	28 March 2026	—
Dae-yeol Kwon	1968	Standing Director; Member of ESG Committee	28 March 2026	Non-standing director of KakaoBank and Kakao Mobility
Suk-yung Cho	1971	Standing Director	28 March 2026	Auditor of Kakao Entertainment, Kakao Enterprise and Kakao Healthcare
Seok Yun	1962	Outside Director; Chairman of the Board; Chairman of Compensation Committee; Member of Audit Committee	28 March 2025	Professor of business administration at Sook-myung Women's University; CEO and Representative Director at Yun & Co

Name	Year of Birth	Position	End of Current Term	Other Positions
Se-jung Choi	1971	Outside Director; Chairman of ESG Committee; Member of Audit Committee	28 March 2025	Professor of Media & Communication at Korea University; Outstanding Director at HS AD
Choon-seung Ham	1964	Outside Director; Chairman of Audit Committee; Member of Nomination Committee	28 March 2026	President of PH & Company; Chief Risk Officer of Lutronic
Kyung-jin Cha	1983	Outside Director; Chairman of Nomination Committee; Member of Compensation Committee	28 March 2026	Director at Korea-Australia Foundation; Outstanding Director at Shinsegae I&C; Professor of business administration at Han Yang University; Member of Big data Committee of Kyung-ki Province
Sae-rom Park	1990	Outside Director; Member of ESG Committee; Member of Compensation Committee	28 March 2025	Assistant Professor of industrial engineering at Ulsan National Institute of Science and Technology

Shina Chung has served as our chief executive officer and representative director since March 2024. Ms. Chung previously served as the CEO and representative director of Kakao Ventures. Previously, she worked as a consultant at Boston Consulting Group. She has an M.B.A. from the Ross School of Business at the University of Michigan.

Dae-yeol Kwon has served as our standing director since March 2024. Mr. Kwon previously served as Head of ESG Committee of Kakao Corporate Alignment Council and Enterprise Risk Management Committee of Kakao Corp. He has a bachelor's degree of Laws, Seoul National University.

Suk-yung Cho has served as our standing director since March 2024. Mr. Cho previously served as the head of Group Compliance Management Division and Kakao Corporate Alignment Council. He has a LLM from Northwestern University School of Law and a SJD in intellectual property law from Seoul National University, Graduate School of Law.

Seok Yun has served as our outside director since March 2020 and also as Chairman of the Board since March 2023. He is a professor of business administration at Sookmyung Women's University and CEO and representative director at Yun & Co. He has an M.B.A. from the Stern School of Business at New York University.

Se-jung Choi has served as our outside director since March 2020. Ms. Choi is a professor of media and communication at Korea University and an outside director at HS AD. She has a Ph.D. in mass media (advertising) from Michigan State University.

Choon-seung Ham has served as our outside director since March 2024. Mr. Ham is a Present President of PH & Company Inc. and Chief Risk Officer of Lutronic Corp. He has a B.A. in Economics & Political Science from Yale University.

Kyung-jin Cha has served as our outside director since March 2024. Ms. Cha is a professor of Management Information Systems and Chair of Business Informatics Department, Hanyang University. She has a Ph.D in business information system from Australian National University.

Sae-rom Park has served as our outside director since March 2020. Ms. Park is a professor of industrial engineering at Ulsan National Institute of Science and Technology and has a Ph.D. in industrial engineering from Seoul National University.

Board Practices

Our articles of incorporation provide for the establishment of the following committees under our board of directors:

- Audit Committee;
- Compensation Committee;
- Nomination Committee;
- ESG Committee; and
- other committees as deemed necessary by our board of directors.

Our board of directors appoints the members of these committees, except for members of our Audit Committee, who are appointed at a general meeting of shareholders.

Audit Committee

Under the Korean Commercial Code and our articles of incorporation, we are required to have an Audit Committee consisting of three or more directors. Our articles of incorporation currently provide that all members of the Audit Committee must be outside directors. The committee reviews all audit and compliance-related matters and makes recommendations to our board of directors. Our Audit Committee's primary responsibilities include:

- engaging independent auditors;
- approving audit and non-audit services and fees of independent auditors;
- reviewing audit results and reports, including comments and recommendations to the management;
- reviewing our systems of controls and policies, including those covering conflicts of interest and business ethics;
- considering significant changes in accounting practices; and
- examining improprieties or suspected improprieties.

In connection with the annual general meeting of shareholders, our Audit Committee examines the agenda for, and financial statements and other reports to be submitted by the board of directors at, the meeting. Our Audit Committee holds meetings semi-annually and additional meetings as necessary.

Currently, our Audit Committee consists of three outside directors: Seok Yun, Se-jung Choi and Choon-seung Ham. Choon-seung Ham is the chairman of the Audit Committee.

Compensation Committee

Our Compensation Committee is responsible for reviewing and determining the operation of our compensation program. Our Compensation Committee's primary responsibilities include determining and approving the level and structure of compensation of directors, executive officers and employees as well as other matters relating to compensation including performance evaluation.

Currently, our Compensation Committee consists of three members: Seok Yun, Kyung-jin Cha and Sae-rom Park. Seok Yun is the chairman of the Compensation Committee.

Nomination Committee

Under Korean law and our articles of incorporation, we are required to have a Nomination Committee consisting of two or more directors, at least half of whom must be outside directors. Our Nomination Committee is responsible for reviewing and recommending candidates for directors at the general meeting of shareholders.

Currently, our Nomination Committee consists of three members: Shina Chung, Choon-seung Ham and Kyung-jin Cha. Kyung-jin Cha is the chairman of the Nomination Committee.

ESG Committee

Our ESG Committee is responsible for establishing and enforcing policies and strategies relating to certain non-financial aspects of our business, generally consisting of environment, social responsibility and corporate governance matters, in order to promote sustainable development and enhance our corporate value.

Currently, our ESG Committee consists of three members: Se-jung Choi, Dae-yeol Kwon and Sae-rom Park. Se-jung Choi is the chairman of the ESG Committee.

Compensation of Directors

Remuneration

The aggregate remuneration paid and benefits in kind granted to the Company's key management, including the directors, was Won 4.9 billion in 2021, Won 4.9 billion in 2022 and Won 6.8 billion in 2023. As of 31 December 2023, there were no loans granted by us to any of our directors or executive officers. We do not have service contracts with any of our directors or executive officers.

Stock Options

Under Korean law and our articles of incorporation, subject to certain exceptions, we may, by special resolution of our shareholders, grant to our directors, officers and employees who have contributed or are expected to contribute to our management, options to purchase up to an aggregate of 15% of the total number of our issued and outstanding shares.

We have granted both cash-settled stock options and equity-settled stock options to our directors, officers and employees, including share-based payment transactions with cash alternatives which we have the discretion to settle by the issuance of new common shares, distribution of treasury shares or payment of cash at the time of their exercise. As of 31 December 2023, we had outstanding stock options exercisable for an aggregate of 6,628,437 common shares calculated on a separate basis. For further information regarding our stock options, see Note 28 of the notes to our audited consolidated financial statements appearing elsewhere in this Offering Circular.

Interests of Directors and Executive Officers

As of 31 December 2023, there were no outstanding transactions other than in the ordinary course of business undertaken by us in which our directors or executive officers were interested parties.

In addition to the equity-settled stock options discussed above, certain of our directors and executive officers have direct or indirect beneficial interests in our common shares. However, other than as set forth in "Shareholders," none of them holds more than 5% of our outstanding common shares. Certain of our directors and executive officers have direct or beneficial interests in companies with which we have engaged in transactions, including those in the ordinary course of business. As a result, potential conflicts of interest between their duties to us and their private interests could arise.

SHAREHOLDERS

The following table sets forth certain information relating to the shareholders of our common shares as of 31 December 2023. No material change has been made to the list and details below as of the date of this Offering Circular.

Shareholder	Number of common shares held	Percentage of total outstanding common shares
Beomsu Kim	59,068,747	13.28%
K Cube Holdings Co., Ltd.[1]	46,253,222	10.40
MAXIMO PTE. LTD.	26,396,880	5.93
National Pension Service	25,307,322	5.69
Treasury Shares	6,643,783	1.49
Others	281,179,924	63.21
Total	444,849,878	100.00%

(1) K Cube Holdings Co., Ltd. is wholly owned by Beomsu Kim.

Other than as set forth above, no other person or entity known by us to be acting in concert, directly or indirectly, jointly or severally, owned more than 5% or more of our outstanding common shares or exercised control or could exercise control over us as of the date hereof.

KAKAO GROUP

We are a member company of the Kakao Group, which was, as of 1 May 2023, Korea's 15th largest business group in terms of combined assets and composed of 147 companies, including ten that were listed on the KRX KOSPI Market or the KRX KOSDAQ Market, according to the KFTC. The member of the Kakao Group collectively provide the service offerings that comprise the Kakao ecosystem.

As of 1 May 2023, the total assets of the companies included in the combined financial statements of the Kakao Group amounted to approximately Won 70.0 trillion according to the KFTC. The Kakao Group currently operates the leading mobile messaging service in Korea and provides users with a diverse and extensive array of services that enhance their quality of life by enabling them to conduct more aspects of their daily affairs through mobile phones and devices, such as the ability to communicate, search and view content including games, music, web-comics, web-novels, movies and television shows, shop and make payments, access financial services and utilize transportation services. The following table shows select member companies of the Kakao Group and their areas of business as of the date of this Offering Circular:

Company	Principal Business
Kakao Corp.	Mobile messenger, portal, content and advertising services
Kakao Entertainment Corp.	Online music, content and entertainment management services
KakaoPay Corp.	Mobile financial services platform
Kakao Games Corp.	Game development and services
Kakao Mobility Corp.	Mobility services platform
Kakao Investment Co., Ltd.	Investment/holding company
Kakao Ventures Corp.	Venture capital investment
KakaoBank Corp.	Mobile-only bank and fintech platform
Kakao Enterprise Corp.	AI-based platform and solution development
SM Entertainment Co., Ltd.	Music contents and entertainment agency

DESCRIPTION OF SHARE CAPITAL

This section provides information relating to our share capital, including brief summaries of material provisions of our articles of incorporation, the FSCMA, the Korean Commercial Code and related laws of Korea, all as currently in effect. The following summaries are subject to, and are qualified in their entirety by reference to, our articles of incorporation and the applicable provisions of the FSCMA and the Korean Commercial Code.

Share capital

Currently, our authorized share capital is 750,000,000 shares, which consists of common shares and preferred shares with a par value of Won 100 per share.

As of the date of this Offering Circular, 445,243,887 Common Shares are issued, of which 6,632,450 shares are held by us as treasury shares. No non-common (including preferred shares) were issued and outstanding.

Under our articles of incorporation, we may issue (i) shares without voting rights that can be converted into common shares, or (ii) redemption shares without voting rights that can be cancelled by a profit of the company, and our preferred shares without voting rights including (i) and (ii) may be issued, within 50% of the total number of issued share capital, by resolution of the board of directors.

Under the Act on Electronic Registration of Stocks and Bonds of Korea which took effect from 16 September 2019, the shares which are listed on the Korea Exchange must be electronically registered with the electronic register managed by the electronic registration institution (i.e., the KSD) or the account management institutions (meaning securities company managing its customers' accounts) (as the case may be), and the physical certificates representing such listed shares can no longer be issued. Our Common Shares are also currently registered with the electronic registers managed by the KSD or the account management institutions.

Dividends

We distribute dividends to our shareholders in proportion to the number of shares owned by each shareholder. No dividends are distributed with respect to Shares held by us. The dividends rate for our preferred shares shall be determined by our board of directors at the time of issuance. As of the date of this Offering Circular, we have not issued preferred shares.

Annual dividends, if any, on our Shares must be approved at the annual general meeting of shareholders which is held within three months after the end of the fiscal year. We pay the annual dividend shortly after the annual general meeting to the shareholders and pledgees listed in our register of shareholders as of the date determined by our board of directors. In accordance with Article 462 of the Korean Commercial Code and our articles of incorporation, the annual dividends are subject to the resolution at the general meeting of shareholders.

We may distribute the annual dividend in cash or in-kind with newly issued shares. However, a dividend of Shares must be distributed at par value. Pursuant to the Article 165-13 of the FSCMA and the Article 462-2 of the Korean Commercial Code, if the market price of the Shares is less than their par value, dividends in Shares may not exceed one-half of the annual dividend. Under Article 462-4 of the Korean Commercial Code, in-kind distribution of dividends, other than cash or newly issued shares, are permitted if provided for in the articles of incorporation of the company. As of the date of this Offering Circular, our articles of incorporation allow in-kind distribution of dividends.

The Ministry of Justice of Korea has recently issued an official ruling to the effect that (i) a record date for determining shareholders entitled to exercise of their voting rights at the general meeting of shareholders for declaration of dividends and (ii) a record date for determining the shareholders entitled to payment of dividends so declared may be separately set. Based on the foregoing official ruling, the Government has recommended the

listed companies to set the record date for determining the shareholders entitled to payment of dividends after the date of the general meeting of shareholders by resolution of their board of directors so that the investors may invest in the shares of the listed companies after checking whether the dividend is declared and the amount of dividend so declared. As a result of the recommendation of the Government, many listed companies are expected to amend their articles of incorporation which generally provide the shareholders shown at the register of shareholders as of the end of the fiscal year are entitled to both (i) exercise of their voting rights at the general meeting of shareholders for declaration of dividends and (ii) payment of dividends so declared. We have also amended our Articles of Incorporation to the effect that our board of directors may decide the record date for determining the shareholders entitled to payment of dividends declared at the general meeting of shareholders according to the recommendation of the Government.

Under Article 462-3 of the Korean Commercial Code, interim dividends are permitted if provided in the articles of incorporation. As of date of this Offering Circular, our articles of incorporation allow for the payment of interim dividends to be approved by the board of directors.

Under Article 165-12 of the FSCMA, in the case of listed companies, quarterly dividends are permitted if provided in the articles of incorporation. Quarterly dividends, which may be declared and paid to the shareholders or registered pledgees of record as of the last day of a quarter of a given fiscal year, must be approved by a resolution of the board of directors. Such resolution of the board of directors approving quarterly dividends must be adopted within 45 days from the last day of a quarter of such fiscal year. Pursuant to the FSCMA, only cash dividends are permitted for quarterly dividends. However, as of date of this Offering Circular, our articles of incorporation do not allow the payment of quarterly dividends.

We have no obligation to pay any annual dividend unclaimed for five years from the payment date, at which time rights to such dividends lapse. Unclaimed cash dividends revert to us.

Under the Korean Commercial Code, we may pay our dividend only out of the excess of our net assets, on a separate basis, over the sum of (1) our stated capital, (2) the total amount of our capital surplus reserve and earned surplus reserve accumulated up to the end of the relevant dividend period, (3) the earned surplus reserve required to be set aside for the relevant dividend period and (4) the unrealized gain equivalent to the increased net assets on our balance sheet, based on our evaluation of assets and liabilities, that are not subject to set-off against unrealized losses. In addition, we may not pay any dividend (other than stock dividend) unless we have set aside as our earned surplus reserve an amount equal to at least 10% of the annual dividend or unless we have accumulated our earned surplus reserve of not less than one-half of our stated capital. We may also set aside certain amounts as "other reserves" for certain purposes with the approval of shareholders at the annual general meeting of shareholders instead of distributing such amounts as dividends. We may not use our capital surplus reserve and earned surplus reserve to pay cash dividends but may transfer amounts from our capital surplus reserve and earned surplus reserve to capital stock or use our capital surplus reserve and earned surplus reserve to reduce an accumulated deficit.

Distribution of free shares

In addition to paying dividends in Shares out of our retained or current earnings, we may also distribute to our shareholders an amount transferred from our capital surplus reserve or earned surplus reserve to our stated capital in the form of free shares. We must distribute such free shares to all our shareholders in proportion to their existing shareholdings.

Preemptive rights and issuance of additional shares

We may issue authorized but unissued shares at times and, unless otherwise provided in the Korean Commercial Code and the FSCMA, on terms our board of directors may determine. Subject to the limitation described below, all our shareholders are generally entitled to subscribe for any newly issued Shares in proportion to their existing

shareholdings. We must offer new Shares on uniform terms to all shareholders who have preemptive rights and are listed on our shareholders' register as of the relevant record date. Under the Korean Commercial Code, we may vary, subject to certain limitations, the terms of these preemptive rights for different classes of Shares. We must give public notice of the preemptive rights regarding new Shares and their transferability at least two weeks before the relevant record date. Our board of directors may determine how to distribute Shares for which preemptive rights have not been exercised or forfeited or where fractions of Shares occur.

Under the Korean Commercial Code, it is required that the new Shares, convertible bonds or bonds with warrants be issued to persons other than the existing shareholders solely for the purpose of achieving managerial objectives. However, the Bonds which fall within the exchangeable bonds in their nature under the Korean Commercial Code and exchangeable with Shares owned by us are not subject to the above restriction and may be issued to persons other than the existing shareholders by the resolution of the board of directors. In this case, matters concerning the party to whom the Bonds may be issued shall be determined by the board of directors as our articles of incorporation do not provide for such matters.

Under our articles of incorporation, we may issue new Shares to persons other than the existing shareholders by the resolution of the board of directors if the Shares are:

- issued in a general public offering of new Shares to all types of subscribers in accordance with Article 165-6 of the FSCMA, provided that the total number of Shares so issued does not exceed 50% of our total issued and outstanding Shares;
- issued pursuant to an exercise of stock options in accordance with Article 340-2 and Article 542-3 of the Korean Commercial Code, provided that the total number of Shares so issued does not exceed 15% of our total issued and outstanding Shares;
- issued as a result of the issuance of depositary receipts in accordance with Article 165-11 of the FSCMA;
- issued abroad for listing on a foreign securities exchange or securities trading market with a computer or bidding system for trading securities; and
- issued to individuals or entities (including existing shareholders) for the purpose of achieving our management objectives such as the adoption of new technology or improvement of our financial structure.

We shall allocate 20.0% of the shares publicly offered to members of our employee stock ownership association, whether or not they are our shareholders, unless the total number of Shares so acquired and held by members of our employee stock ownership association then exceed 20.0% of the total number of Shares then issued (including in such total both: (i) all issued and outstanding shares at the time such allocation is made; and (ii) all shares to be newly issued in the applicable share issuance transaction in connection with which such allocation is made).

The Korean Commercial Code requires us to notify the existing shareholders at least two weeks prior to our receipt of subscription funds in the event that we issue new shares to persons other than existing shareholders; provided that, we may file a material fact report with the FSC and the Korea Exchange at least one week prior to our receipt of subscription funds instead of the notice to the existing shareholders pursuant to Article 165-9 of the FSCMA.

General meeting of shareholders

We hold the annual general meeting of shareholders within three months after the end of each fiscal year. Subject to a board resolution or court approval, we may hold an extraordinary general meeting of shareholders:

- as necessary;
- at the request of shareholders of an aggregate of 3.0% or more of our issued voting shares;

- at the request of shareholders holding an aggregate of 1.5% or more of our issued voting shares for at least six months; or
- at the request of our audit committee.

We must give notice to our shareholders in writing or by an electronic document setting out the date, place and agenda of the meeting at least two weeks before the date of the general meeting of shareholders. However, for holders of less than 1.0% of the total number of issued and outstanding shares with voting rights, we may give notice by placing public notices two or more times each in *Seoul Economic Daily* and *Herald Economic Daily*, a daily newspaper published in Seoul, or by posting such notice on the electronic disclosure systems managed by the FSS or the Korea Exchange at least two weeks in advance of the meeting. Shareholders not on the shareholders' register as of the record date are not entitled to receive notice of the general meeting of shareholders or attend or vote at the meeting.

Our general meetings of shareholders are held at our head office, in Jeju Special Self-Governing Province, or if necessary, may be held anywhere near our head office.

Voting rights

Holders of our voting shares are entitled to one vote for each common share, except that voting shares held by us, or by a corporate shareholder that is more than 10.0% of the issued and outstanding shares of capital stock of which is directly or indirectly owned by us and/or our parent company and/or our subsidiaries, individually or in the aggregate, may not be exercised.

In the case of listed companies with total assets of Won 2 trillion or more as of the end of the latest fiscal year, for the purpose of electing or dismissing a member of the audit committee, if the aggregate number of shares with voting rights held by any shareholder exceeds 3% of the total number of the issued and outstanding shares with voting rights, then such shareholder may not exercise its voting rights with respect to the shares it holds in excess of such 3% threshold. In addition, for the purpose of electing or dismissing a member of the audit committee who is not an outside director, if the number of shares with voting rights held by any of the following shareholders exceeds, in the aggregate, 3% of the total number of issued and outstanding Shares with voting rights, then such shareholder may not exercise its voting rights with respect to the Shares it holds in excess of such 3% threshold: the largest shareholder, a shareholder specially-related to the largest shareholder, any shareholder who holds our shares for the account of the largest shareholder or a person specially-related to the largest shareholder, or any shareholder who appoints the largest shareholder or a person specially-related to the largest shareholder as a proxy for the exercise of voting rights. While the articles of incorporation of a company may prescribe a threshold shareholding percentage that is lower than 3%, as of the date of this Offering Circular, our articles of incorporation do not provide for a lower threshold shareholding percentage.

The Korean Commercial Code permits cumulative voting, under which each shareholder has multiple voting rights corresponding to the number of directors to be appointed in the voting and may exercise all voting rights cumulatively to elect one director. However, as of the date of this Offering Circular, the cumulative voting method is not permitted under our articles of incorporation.

Our shareholders may adopt resolutions at a general meeting by an affirmative majority vote of the voting shares present or represented at the meeting, where the affirmative votes also represent at least one-fourth of our total voting shares then issued and outstanding. However, under the Korean Commercial Code, the following matters, among others, require approval by the holders of at least two-thirds of the voting shares present or represented at a meeting, where the affirmative votes also represent at least one-third of our total voting shares then outstanding:

- amending our articles of incorporation;
- removing a director;

- effecting any dissolution, merger or consolidation;
- transferring the whole or any significant part of our business;
- leasing or delegating of the management of the corporation's entire business, or executing, amending or terminating any agreement relating to sharing of all profits and losses of the corporation's business with any other person or any other agreement equivalent thereto;
- effecting our acquisition of all or a part of the business of any other company which acquisition may have a material effect on our business;
- granting a stock option to its directors, executive officers, auditors or other employees who will, or will be able to contribute to its incorporation and management, technological innovation, etc.;
- issuing any new Shares at a price lower than their par value;
- subdividing shares; or
- reducing capital, except the reduction of capital for recovery from deficit.

Shareholders may exercise their voting rights by proxy. The proxy must present a document evidencing an appropriate power of attorney prior to the start of the general meeting of shareholders.

Rights of dissenting shareholders

In some limited circumstances, including the transfer of the whole or any significant part of our business and our merger or consolidation with another company, dissenting shareholders, whether or not the shares of the dissenting shareholders have voting rights, have the right to require us to purchase their Shares. To exercise this right, shareholders must submit to us a written notice of their intention to dissent before the general meeting of shareholders. Within 20 days after the relevant resolution is passed at a meeting, the dissenting shareholders must request us in writing to purchase their shares. We are obligated to purchase the Shares of dissenting shareholders within one month after the expiration of the 20-day period. The purchase price for the shares is required to be determined through negotiation between the dissenting shareholders and us. Under the FSCMA, if a listed company cannot agree on a price through negotiation with the dissenting shareholders, the purchase price will be the average of (1) the weighted average of the daily final quotation of shares on the KRX KOSPI Market for the two-month period before the date of the adoption of the relevant board resolution, (2) the weighted average of the daily final quotation of shares on the KRX KOSPI Market for the one month period before the date of the adoption of the relevant board resolution and (3) the weighted average of the daily final quotation of shares on the KRX KOSPI Market for the one week period before the date of the adoption of the relevant board resolution. However, if we or any of the dissenting shareholders do not accept the purchase price calculated using the method above, the objecting party may request the court to determine the purchase price.

Register of shareholders and record dates

Our share transfer agent, Kookmin Bank, maintains the register of our shareholders at its office in Seoul, Korea. It registers transfers of Shares on the register of shareholders reflecting the owners list of the Shares provided from time to time by the KSD in accordance with the Act on Electronic Registration of Stocks and Bonds of Korea.

We may establish the record date for determining the shareholders or registered pledgees entitled to annual dividends by resolution of the board of directors, with a notice two weeks before such record date. Further, for the purpose of determining the shareholders entitled to some other rights pertaining to the shares, we may, on at least two weeks' public notice, set a record date and/or close the register of shareholders for not more than three months. The trading of shares and the delivery of share certificates may continue while the register of shareholders is closed.

Annual reports

At least one week before the annual general meeting of shareholders, we must make our annual report, audited separate financial statements and audited consolidated financial statements available for inspection at our principal office and at all of our branch offices. In addition, copies of annual reports, audited separate financial statements and audited consolidated financial statements and any resolutions adopted at the general meeting of shareholders will be available to our shareholders.

Under the FSCMA, we must file with the FSC and the Korea Exchange (1) an annual report within 90 days after the end of our fiscal year and (2) interim reports with respect to the three month period, six month period and nine month period from the beginning of each fiscal year within 45 calendar days following the end of each period. Copies of these reports are or will be available for public inspection at the FSC and the Korea Exchange.

Transfer of shares

Under the Korean Commercial Code, the transfer of shares is effected by delivery of share certificates. However, to assert shareholders' rights against us, the transferee must have his or her name and address registered on our register of shareholders. For this purpose, a shareholder is required to file his or her name, address and seal with our transfer agent. A non-Korean shareholder may file a specimen signature in place of a seal, unless the non-Korean shareholder is a citizen of a country with a sealing system similar to that of Korea. In addition, a non-resident shareholder must appoint an agent authorized to receive notices on his or her behalf in Korea and file a mailing address in Korea.

However, in respect of the shares which are listed on the Korea Exchange, under the Act on Electronic Registration of Stocks and Bonds of Korea, there is no physical delivery of the share certificate, and the delivery is made by way of the electronic registration of transfer of the shares between the accounts of the assignor and the assignee which is generally initiated by an application of the assignor to the KSD or the account management institutions (as the case may be). The register of shareholders is updated reflecting the owners list of the shares provided from time to time by the KSD in accordance with the Act on Electronic Registration of Stocks and Bonds of Korea. In addition, a non-resident shareholder must appoint an agent authorized to receive notices on his or her behalf in Korea and file a mailing address in Korea.

Under current Korean regulations, Korean foreign exchange banks, investment dealers, investment brokers, collective investment companies (including licensed branches of non-Korean banks, investment dealers, investment brokers and collective investment companies), internationally recognized foreign custodians and the KSD may act as agents and provide related services for foreign shareholders. Certain foreign exchange controls and securities regulations apply to the transfer of Shares by non-residents of Korea or non-Koreans.

Our share transfer agent is Kookmin Bank.

Acquisition of Shares

Pursuant to the Korean Commercial Code and the FSCMA, we may acquire Shares by (i) purchasing on the KRX KOSPI Market, (ii) purchasing from the shareholder on a pro rata basis in accordance with the number of shares held by each shareholder or (iii) tender offer. As a listed company, we may also acquire Shares returned to us upon the cancellation or termination of a trust agreement with a trust companies who acquired the Shares by either of the methods indicated above.

The aggregate purchase price for the shares may not exceed the total amount available for distribution of dividends, subject to certain procedural requirements.

Moreover, as explained under the heading "Rights of dissenting shareholders", we may acquire our own Shares from dissenting shareholders who exercise their right to force us to purchase their Shares.

In general, corporate entities in which we own a 50.0% or more equity interest may not acquire our Shares.

Liquidation rights

In the event of our liquidation, after payment of all debts, liquidation expenses and taxes, our remaining assets will be distributed among shareholders in proportion to their shareholdings.

TERMS AND CONDITIONS OF THE BONDS

The following, other than the words in italics, is the text of the Terms and Conditions of the Bonds substantially in the form in which the same will appear on the reverse of each of the definitive certificates representing the Bonds:

The issue of U.S.$212,200,000 in aggregate principal amount of 2.625 per cent. convertible bonds due 2029 (the "**Bonds**") of Kakao Corp. (the **"Company**") was authorised by a resolution of the board of directors of the Company passed on 22 April 2024. The Bonds are constituted by a trust deed (as amended and/or supplemented from time to time, the "**Trust Deed**") dated 29 April 2024 (the "**Closing Date**") and made between the Company and Citicorp International Limited as trustee for the holders of the Bonds (in such capacity, the "**Trustee**", which term shall, where the context so permits, include all other persons for the time being acting as trustee or trustees under the Trust Deed). The Company has entered into a paying, conversion and transfer agency agreement (as amended and/or supplemented from time to time, the "**Agency Agreement**") dated 29 April 2024 with the Trustee, Citibank, N.A., London Branch as principal paying agent, principal conversion agent and principal transfer agent (collectively in such capacities, the "**Principal Agent**"), Citicorp International Limited as registrar (in such capacity, the "**Registrar**") and the other paying agents, conversion agents and transfer agents appointed under it (each, a "**Paying Agent**", a "**Conversion Agent**" or, as the case may be, a "**Transfer Agent**" and together with the Registrar and the Principal Agent, the "**Agents**" (which term shall, where applicable, include the Singapore Agent (as defined in Condition 18)) relating to the Bonds. References to the "**Paying Agents**", the "**Conversion Agents**" or, as the case may be, the "**Transfer Agents**" in each case include the Principal Agent, and references to the "**Principal Agent**", the "**Registrar**" and the "**Agents**" below are references to the principal agent, the registrar and the agents for the time being for the Bonds.

The statements in these terms and conditions (these "**Conditions**") include summaries of, and are subject to, the detailed provisions of the Trust Deed. Unless otherwise defined, terms used in these Conditions have the meaning specified in the Trust Deed. Copies of the Trust Deed and the Agency Agreement are available (i) for inspection following prior written request and proof of holding and identity to the satisfaction of the Trustee during normal business hours (being between 9:00 a.m. (Hong Kong time) to 3:00 p.m. (Hong Kong time), Monday to Friday except for public holidays) at the principal office of the Trustee (being as at the Closing Date at 40/F Champion Tower, Three Garden Road, Central, Hong Kong and (ii) electronically from the Trustee following prior written request and proof of holding and identity to the satisfaction of the Trustee. The Bondholders are entitled to the benefit of the Trust Deed and are bound by, and are deemed to have notice of, all the provisions of the Trust Deed and are deemed to have notice of all those provisions of the Agency Agreement applicable to them. Any redemption and any adjustment to the Conversion Price (as defined in Condition 6.1.3) in accordance with the terms and conditions contained herein will be subject to, and done in accordance with, applicable law.

1 STATUS

The Bonds constitute direct, unsubordinated, unconditional and (subject to the provisions of Condition 4) unsecured obligations of the Company and shall at all times rank *pari passu* and rateably without any preference or priority among themselves. The payment obligations of the Company under the Bonds shall, save for such exceptions as may be provided by mandatory provisions of applicable law and subject to Condition 4, at all times rank at least equally with all of the Company's other present and future direct, unsubordinated, unconditional and unsecured obligations.

2 FORM, DENOMINATION AND TITLE

2.1 Form and Denomination

The Bonds are issued in registered form without coupons and only in the denomination of U.S.$200,000 and integral multiples of U.S.$100,000 in excess thereof (each an "**Authorised Denomination**"). A Bond

certificate (each a "**Certificate**") will be issued to each Bondholder in respect of its registered holding of Bonds. Each Bond and each Certificate will be numbered serially with an identifying number which will be recorded on the relevant Certificate and in the register of Bondholders which the Company will procure to be kept by the Registrar pursuant to the Agency Agreement. The Bonds may not be subdivided into a denomination smaller than U.S.$200,000.

*Upon issue, the Bonds will be represented by a global certificate (the "**Global Certificate**") in registered form which will be registered in the name of a nominee of, and deposited with, a common depositary for Euroclear Bank SA/NV ("**Euroclear**") and Clearstream Banking S.A. ("**Clearstream**"). The Conditions are modified by certain provisions contained in the Global Certificate. Except in the limited circumstances described in the Global Certificate, owners of interests in Bonds represented by the Global Certificate will not be entitled to receive definitive Certificates in respect of their individual holdings of Bonds. The Bonds are not issuable in bearer form. If owners of interests in the Bonds become entitled to receive a definitive Certificate, pursuant to their terms, each Bond will be issued in registered form and serially numbered with an identifying number which will be recorded in the Register.*

2.2 Title

Title to the Bonds passes only by transfer and registration in the register of Bondholders as described in Condition 3. The holder of any Bond will (except as otherwise required by law or as ordered by a court of competent jurisdiction) 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 in it or any writing on, or the theft or loss of, the Certificate issued in respect of it) and none of the Company, the Trustee or any agent thereof shall be affected by notice to the contrary. In these Conditions, "**Bondholder**" and (in relation to a Bond) "**holder**" means the person in whose name a Bond is registered.

3 TRANSFERS OF BONDS; ISSUE OF CERTIFICATES

3.1 Register

The Company will cause to be kept at the specified office of the Registrar outside the United Kingdom and in accordance with the terms of the Agency Agreement a register in respect of the Bonds on which shall be entered the names and addresses of the holders of the Bonds and the particulars of the Bonds held by them and of all transfers, redemptions and conversions of the Bonds (the "**Register**").

Each Bondholder shall be entitled to receive only one Certificate in respect of its entire holding of Bonds and save as provided in Condition 3.2, each Certificate shall represent the entire holding of Bonds by such Bondholder.

3.2 Transfers

Subject to Conditions 3.5 and 3.6 and the terms of the Agency Agreement, a Bond may be transferred or exchanged by delivery of the Certificate issued in respect of that Bond duly endorsed and accompanied by a form of transfer duly completed and signed by the holder or his attorney duly authorised in writing, to the specified office of the Registrar or any of the Transfer Agents, together with such evidence as the Registrar or (as the case may be) such Transfer Agent may require regarding the title of the transferor and the authority of the individuals who have executed the form of transfer. A Bond may be transferred only if the principal amount of such Bond being transferred is in an Authorised Denomination. No transfer of title to a Bond will be valid unless and until entered on the Register.

Transfers of interests in the Bonds represented by the Global Certificate will be effected in accordance with the rules of the relevant clearing systems.

3.3 Delivery of New Certificates

3.3.1 The relevant transfer or exchange will be registered by the Registrar within five Business Days and each new Certificate to be issued upon a transfer or exchange of Bonds will, within five Business Days (at the place of the relevant specified office) of receipt by the Registrar or, as the case may be, the relevant Transfer Agent of the original Certificate and the form of transfer duly completed and signed, be made available for collection at the specified office of the Registrar or such Transfer Agent or, if so requested in the form of transfer, be mailed by uninsured mail at the risk of the holder entitled to the Bonds (free of charge to the holder but if mailed otherwise than by ordinary mail at the request of the transferee or, as the case may be, the transferor, then at the expense of the transferee or, as the case may be, the transferor) to the address specified in the form of transfer.

3.3.2 Where only part of a principal amount of the Bonds (being that of one or more Bonds) in respect of which a Certificate is issued is to be transferred, converted, redeemed or repurchased, such transfer, conversion, redemption or repurchase shall be registered in the register by the Registrar and a new Certificate in respect of the Bonds not so transferred, converted, redeemed or repurchased will, within five Business Days of delivery of the original Certificate to the Registrar or the relevant Transfer Agent, be made available for collection by the holder of the Bonds not so transferred at the specified office of the Registrar or such other relevant Agent or, if so requested in the form of transfer, Conversion Notice (as defined in Condition 6.2), notice of redemption, Delisting Put Exercise Notice or Put Option Notice, as applicable, be mailed by uninsured mail at the risk of the holder of the Bonds not so transferred, converted, redeemed or repurchased (free of charge to the holder but if mailed otherwise than by ordinary mail at the request of the transferee or, as the case may be, the transferor, then at the expense of the transferee or, as the case may be, the transferor) to the address of such holder appearing on the Register.

3.3.3 For the purposes of these Conditions (except for Condition 6.2.1(iii), Condition 7 and Condition 8.5.6), "**Business Day**" shall mean a day other than a Saturday or Sunday on which banks are open for business in Seoul, London and the city in which the specified office of the Registrar (if a Certificate is deposited with it in connection with a transfer or conversion) or the other Agent with whom a Certificate is deposited in connection with a transfer or exchange, is located.

3.4 Formalities Free of Charge

Registration of a transfer of Bonds and issuance of new Certificates will be effected without charge by or on behalf of the Company or any of the Agents, but upon (i) payment (or the giving of such indemnity and/or security and/or pre-funding as the Company or any of the Agents may require) of a sum sufficient to cover any tax, duties or other governmental charges which may be imposed in relation to such transfer (and such transfer shall not be made unless and until the required payment described herein is made); (ii) the Company or the relevant Transfer Agent being satisfied that the regulations concerning transfer of Bonds have been complied with (including such reasonable regulations as the Company may from time to time agree with the Registrar and the Trustee) and (iii) the Registrar being satisfied in its absolute discretion with the documents of and/or the identity of the person making the application.

3.5 Restricted Transfer Periods

No Bondholder may require the transfer of a Bond to be registered (i) during the period of seven days ending on (and including) the due date for any redemption pursuant to Conditions 8.1, 8.2 and 8.3 of the Bonds; (ii) after a Conversion Notice has been delivered with respect to such Bond; (iii) after a Change of Control Put Exercise Notice (as defined in Condition 8.4) has been delivered in respect of such Bond; (iv) after a Delisting Put Exercise Notice (as defined in Condition 8.5) has been delivered in respect of such Bond; (v) after a Put Option Notice (as defined in Condition 8.6) has been delivered in respect of such Bond or (vi) during the period of seven days ending on (and including) any Record Date (as defined in Condition 7.1.3), each such period being a "**Restricted Transfer Period**".

3.6 Regulations

All transfers of Bonds and entries on the Register will be made subject to the detailed regulations concerning transfers of Bonds attached as a schedule to the Agency Agreement. The regulations may be changed by the Company, with the prior written approval of the Trustee and the Registrar. A copy of the current regulations will be mailed (free of charge to the Bondholder and at the Company's expense) by the Registrar to any Bondholder who requests in writing a copy of such regulations and provides proof of holding and identity to the satisfaction of the Registrar.

3.7 Transfer Restriction under Korean Law

The Bonds may not be offered, sold or otherwise transferred to a Korean resident (as such term is defined in the Foreign Exchange Transactions Law of Korea) on or prior to 29 April 2025, being the first anniversary of the Closing Date.

4 NEGATIVE PLEDGE

So long as any Bond remains outstanding (as defined in the Trust Deed), the Company will not, and will procure that no Principal Subsidiary (as defined below) will, create or permit to be outstanding any mortgage, charge, lien, pledge or other security interest upon the whole or any part of the property, assets or revenues, present or future, of the Company or any Principal Subsidiary to secure for the benefit of the holders of any International Investment Securities (as defined below):

(i) any payment of any sum owing in respect of any such International Investment Securities; or

(ii) any payment under any guarantee or other like obligation of any such International Investment Securities; or

(iii) any payment under any indemnity or other like obligation relating to any such International Investment Securities,

unless, at the same time or prior thereto, the Company's obligations under the Bonds and the Trust Deed (a) are secured equally and rateably therewith to the satisfaction of the Trustee or (b) have the benefit of such other security, guarantee, indemnity or other arrangement as shall be approved by, or the obligations under this Condition 4 are otherwise waived pursuant to, an Extraordinary Resolution (as defined in the Trust Deed) of the Bondholders.

The following terms (except as otherwise expressly provided or unless the context otherwise clearly requires) for all purposes of the Trust Deed and the Bonds shall have the respective meanings specified in this Condition 4:

"**International Investment Securities**" means any future and present indebtedness in the form of or represented by bonds, debentures, notes or other investment securities of the Company or any Principal Subsidiary or any other Person which (i) are for the time being, or are intended to be or capable of being, quoted, listed, ordinarily dealt in or traded on any stock exchange or over the counter or other securities market outside Korea (whether or not initially distributed by way of private placement), and (ii) either are by their terms payable, or confer a right to receive payment, in any currency other than Won or are denominated in Won and more than 50 per cent. of the aggregate principal amount thereof is initially distributed outside Korea by or with the authorisation of the Company or the relevant Principal Subsidiary or the issuer thereof, as the case may be.

"**Person**" means any individual, corporation, partnership, joint venture, association, joint stock company, trust, unincorporated organisation or government or any agency or political subdivision thereof.

"**Principal Subsidiary**" means:

(i) any Subsidiary (as defined below) of the Company:

(a) whose net sales, as shown by the then latest audited financial statements or accounts (consolidated where applicable, but without intercompany adjustments for consolidation with the Company) of such Subsidiary, constitute at least 10 per cent. of the consolidated net sales of the Company as shown by the then latest audited consolidated accounts of the Company; or

(b) whose total assets, as shown by the then latest audited financial statements or accounts (consolidated where applicable, but without intercompany adjustments for consolidation with the Company) of such Subsidiary, constitute at least 10 per cent. of the total consolidated assets of the Company as shown by the then latest audited consolidated accounts of the Company;

provided that:

(1) in the case of a Subsidiary acquired, or a company becoming a Subsidiary, after the end of the financial period to which the latest audited consolidated accounts of the Company relate, the reference to the then latest audited consolidated accounts of the Company for the purposes of the calculation above shall, until audited consolidated accounts of the Company for the financial period in which the acquisition is made or, as the case may be, in which the relevant company becomes a Subsidiary are published, be deemed to be a reference to the then latest audited consolidated accounts of the Company adjusted to consolidate the last audited accounts (consolidated where applicable) of such Subsidiary in such accounts;

(2) if at any relevant time in relation to the Company or any Subsidiary in respect of which financial consolidation is relevant no consolidated accounts are prepared, audited net sales and total assets of the Company and/or any such Subsidiary shall be determined on the basis of pro-forma consolidated accounts prepared for this purpose by the auditors for the time being of the Company;

(3) if at any relevant time in relation to any Subsidiary no accounts are audited, its net sales and total assets (consolidated where applicable, but without intercompany adjustments for consolidation with the Company) shall be determined on the basis of pro-forma accounts (consolidated where applicable, but without intercompany adjustments for consolidation with the Company) of the relevant Subsidiary prepared for this purpose by the auditors for the time being of the Company; and

(4) if the accounts of any Subsidiary (not being a Subsidiary referred to in proviso (1) above) are not consolidated with those of the Company, then the determination of whether or not such Subsidiary is a Principal Subsidiary shall be based on a pro-forma consolidation of its accounts (consolidated where applicable, but without intercompany adjustments for consolidation with the Company) with the then latest consolidated audited accounts (determined on the basis of the foregoing) of the Company; or

(ii) any Subsidiary of the Company to which is transferred all or substantially all of the assets of a Subsidiary which immediately prior to such transfer was a Principal Subsidiary, provided that the Principal Subsidiary which so transfers its assets shall forthwith upon such transfer cease to be a Principal Subsidiary.

"**Subsidiary**" means any company or other business entity of which the Company owns or controls (in either case, either directly or through another Subsidiary or other Subsidiaries) 50 per cent. or more 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 should have its accounts consolidated with those of that person under Korean law, regulations or generally accepted accounting principles from time to time.

5 INTEREST

The Bonds bear interest at their outstanding principal amount from and including the Closing Date at the rate of 2.625 per cent. per annum, payable semi-annually in arrear in equal instalments of U.S.$1,312.50 per Calculation Amount (as defined below) on 29 April and 29 October in each year (each an "**Interest Payment Date**"), commencing on 29 October 2024.

Each Bond will cease to bear interest (i) (subject to Condition 6.2.4) where the Conversion Right attached to it shall have been exercised by a Bondholder in accordance with the provisions of Condition 6.2, from and including the Interest Payment Date last preceding its Conversion Date (as defined in Condition 6.2.1(ii)), or if none, the Closing Date, or (ii) from the due date for redemption or repayment thereof unless, upon surrender in accordance with Condition 8, payment of the full amount due is improperly withheld or refused or default is otherwise made in respect of any such payment. In such event, interest will continue to accrue as provided in Condition 7.5 below and in the Trust Deed. If interest or default interest is required to be calculated for a period of less than one year (other than a complete Interest Period (as defined below)), it will be calculated on the basis of a 360-day year comprised of twelve 30-day months and, in the case of an incomplete month, the number of days elapsed. Interest payable under this Condition 5 will be paid in accordance with Condition 7.1.

Interest in respect of any Bond shall be calculated per U.S.$100,000 in principal amount of the Bonds (the "**Calculation Amount**"). The amount of interest payable per Calculation Amount for any period shall, save as provided above in relation to equal instalments, be equal to the relevant annual rate of interest, the Calculation Amount and the day-count fraction (determined in the same manner as stated above in this Condition 5) for the relevant period, with the resulting figure rounded to the nearest cent (half a cent being rounded upwards).

In these Conditions, the period beginning on and including the Closing Date and ending on but excluding the first Interest Payment Date and each successive period beginning on and including an Interest Payment Date and ending on but excluding the next succeeding Interest Payment Date is called an "**Interest Period**".

6 CONVERSION

6.1 Conversion Right

6.1.1 Conversion Period:

Subject as hereinafter provided, Bondholders have the right to convert their Bonds in an Authorised Denomination for Shares (as defined in Condition 6.1.5) at any time during the Conversion Period referred to below.

The right of a Bondholder to convert any Bond for Shares is called the "**Conversion Right**." Subject to and upon compliance with the provisions of this Condition 6, the Conversion Right attaching to any Bond may be exercised, at the option of the holder thereof, at any time (subject to the next paragraph) on or after 9 June 2024, up to the close of business (at the place where the Certificate representing such Bond is deposited for conversion) on the date that is ten calendar days prior to the Maturity Date (but, except as provided in Condition 6.1.4 and Condition 10, in no event thereafter) or if such Bond shall have been called for redemption before the Maturity Date, then up to the close of business (at the place aforesaid) on the date that is ten calendar days prior to the date fixed for redemption thereof (or, if such date shall not be a Business Day at the place where the Certificate representing the Bond is to be delivered, the immediately preceding Trading Day) (the "**Conversion Period**").

Conversion Rights may not be exercised in respect of a Bond where the Bondholder shall have exercised its right to require the Company to redeem such Bond pursuant to Conditions 8.4, 8.5 or 8.6, except as provided in Condition 6.1.4.

The number of Shares to be delivered on conversion of a Bond will be determined by dividing the principal amount of the Bond to be converted (translated into Korean Won at the fixed rate of KRW1,380.60 = U.S.$1.00 (the "**Fixed Exchange Rate**")) by the Conversion Price in effect on the Conversion Date (both as hereinafter defined).

A Conversion Right may only be exercised in respect of an Authorised Denomination. If more than one Bond held by the same holder is converted at any one time by the same holder, the number of Shares to be delivered upon such conversion will be calculated on the basis of the aggregate principal amount of the Bonds to be converted.

Upon exercise of Conversion Rights in relation to the entire principal amount of any Bond and the fulfilment by the Company of all its obligations in respect thereof, the relevant Bondholder shall have no further rights in respect of such Bond and the obligations of the Company in respect thereof shall be extinguished.

6.1.2 Fractions of Shares:

Fractions of Shares will not be delivered on conversion and no cash adjustments or other adjustment will be made in respect thereof. However, if the Conversion Right in respect of more than one Bond is exercised at any one time such that Shares to be delivered on conversion are to be registered in the same name, the number of such Shares to be delivered in respect thereof shall be calculated on the basis of the aggregate principal amount of such Bonds being so converted and rounded down to the nearest whole number of Shares. Notwithstanding the foregoing, the Company will upon conversion of Bonds pay in cash in U.S. dollars a sum equal to such portion of the principal amount of the Bond or Bonds represented by the Certificate deposited in connection with the exercise of Conversion Rights, aggregated as provided above, as corresponds to any fraction of a Share not delivered if such sum, when translated to U.S. dollars at the Fixed Exchange Rate, exceeds U.S.$10.00. Any such sum shall be paid not later than 14 Business Days after the relevant Conversion Date by the Company by transfer to a U.S. dollar account with a bank in New York City specified in the relevant Conversion Notice, or if no such account is specified in the relevant Conversion Notice, by payment to the registered account of the Bondholder appearing in the Register.

6.1.3 Conversion Price:

The price at which Shares will be delivered upon conversion, as adjusted from time to time (the "**Conversion Price**"), will initially be KRW63,700 per Share, but will be subject to adjustment in the manner provided in Condition 6.3.

6.1.4 Revival and/or Survival after Default:

Notwithstanding the provisions of Condition 6.1.1, if (i) the Company shall default in making payment in full in respect of any Bond which shall have been called or put for redemption on the date fixed for redemption thereof pursuant to these Conditions, (ii) any Bond has become due and payable prior to the Maturity Date (as defined in Condition 8.1) by reason of the occurrence of any of the events referred to in Condition 10, or (iii) any Bond is not redeemed on the Maturity Date in accordance with Condition 8.1, the Conversion Right attaching to such Bond will revive in respect of the unpaid portion of such Bond and/or will continue to be exercisable up to, and including, the close of business (at the place where the Certificate representing such Bond is deposited for conversion) on the date upon which the full amount of the moneys payable in respect of such Bond has been duly received by the Principal Agent or the Trustee and notice of such receipt has been duly given to the Bondholders and, notwithstanding the provisions of Condition 6.1.1, any Bond in respect of which the Certificate and Conversion Notice are deposited for conversion prior to such date shall be converted on the relevant Conversion Date notwithstanding that notice referred to above may have

been duly given to the Bondholders before such Conversion Date or that the Conversion Period may have expired before such Conversion Date. For the avoidance of doubt nothing in this Condition 6.1.4 shall permit any Bondholder to both have Shares delivered to it pursuant to Condition 6.2.3 and receive payment of the moneys payable with respect to such Bond.

6.1.5 Meaning of "Shares":

As used in these Conditions, the expression "**Shares**" means (i) shares of common stock, par value KRW100 per share, of the Company, together with shares of any class or classes resulting from any subdivision, consolidation or re-classification of those shares, which as between themselves have no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation or dissolution of the Company and (ii) fully-paid shares of any class or classes of the share capital of the Company authorised after the date of the Trust Deed which have no preference in respect of dividends or of amounts payable in the event of any voluntary or involuntary liquidation or winding-up of the Company; provided that, subject to the provisions of Condition 11, shares to be delivered in conversion of the Bonds means only "Shares" as defined in sub-clause (a) above.

6.2 Conversion Procedure

6.2.1 Conversion Notice:

(i) To exercise the Conversion Right attaching to any Bond, the holder thereof must complete, execute and deliver at his own expense during normal business hours (being between 9:00 a.m. to 3:00 p.m., Monday to Friday except for public holidays) on any business day at the place of the specified office of any Conversion Agent a duly completed and signed notice of conversion (a "**Conversion Notice**") in duplicate in the form (current at such time) obtainable from the specified office of each Conversion Agent, together with the relevant Certificate (other than any Global Certificate).

A Conversion Notice delivered outside the aforementioned normal business hours or on a day which is not a business day at the place of the specified office of the relevant Conversion Agent shall for all purposes be deemed to have been delivered with that Conversion Agent during the normal business hours on the next business day following such day at such place. Any Bondholder who delivers a Conversion Notice during any period (a "**Closed Period**") other than the Conversion Period specified in Condition 6.1.1 will not be permitted to convert the Bonds for Shares until the next business day after the end of that Closed Period at the place of the specified office of the relevant Conversion Agent, which (if all other conditions to conversion have been fulfilled) will be the Conversion Date for such Bonds notwithstanding that such date may fall outside of the Conversion Period.

(ii) On or prior to delivering a Conversion Notice, the Bondholder exercising its Conversion Right must, to the extent required by Korean laws and regulations file an over-the-counter transaction report of the acquisition of the Shares with the Governor of the Financial Supervisory Service of Korea ("**KFSS**") without undue delay directly or through the Korea Securities Depository (the "**KSD**").

On or prior to delivering a Conversion Notice, a Bondholder exercising its Conversion Right or the person named in the relevant Conversion Notice to receive the delivery of Shares must appoint an eligible custodian in Korea with which the Shares will be kept in custody. For the avoidance of doubt, under Korean law, only foreign exchange banks (including domestic branches of foreign banks), the KSD, financial investment companies (including domestic branches of foreign financial investment companies) with a dealing, brokerage or collective investment business licence and internationally recognised custodians are eligible to act as a custodian of shares for a non-resident or foreign investor.

No Shares will be delivered to a Bondholder or a person owning a beneficial interest therein unless such Bondholder or person satisfies the foregoing conditions of this Condition 6.2.1(ii).

(iii) The calendar day on which a Conversion Notice has been delivered to a Conversion Agent (determined by reference to the date and time in Seoul at the time of delivery no matter where delivery is made) in full compliance with the foregoing procedures is referred to herein as a "**Deposit Date**" and the Business Day in Seoul immediately following the Deposit Date is referred to herein as the "**Conversion Date**." For purposes of the Korean Commercial Code, the request for conversion shall be deemed to have been made at 23:59, Seoul time on the Conversion Date. In this Condition 6.2.1(iii) and Condition 8.4.1, "**Business Day in Seoul**" shall mean a day other than a Saturday or Sunday on which banks are open for business in Seoul.

(iv) The Conversion Date in respect of a Bond must fall at a time when the Conversion Right attaching to that Bond is expressed in these Conditions to be exercisable (subject to the provisions of Condition 6.1.4 and Condition 10). A Conversion Notice once delivered shall be irrevocable and may not be withdrawn unless the Company consents to such withdrawal.

6.2.2 Stamp Duty etc.:

A Bondholder delivering a Certificate in respect of a Bond for conversion must pay directly to the relevant tax authorities any taxes or capital, stamp, issue, delivery and registration and transfer taxes and duties arising on conversion (other than any taxes or capital or stamp duties payable in Korea and, if relevant, in the place of any Alternative Stock Exchange, in respect of the allotment and transfer or delivery of Shares and listing of the Shares on the KRX KOSPI Market of the Korea Exchange (the "**KRX KOSPI Market**") or any Alternative Stock Exchange on conversion, which shall be payable by the Company) (in these Conditions, the "**Taxes**") and such Bondholder must pay all, if any, taxes arising by reference to any disposal or deemed disposal of a Bond in connection with such conversion. The Company will pay all other expenses arising on the delivery of Shares on conversion of the Bonds and all charges of the Agents, the Trustee and the share transfer agent (which initially will be Kookmin Bank) (the "**Share Transfer Agent**") for the Shares in connection with conversion. Neither the Trustee nor the Agents shall be responsible for determining whether such taxes or capital, stamp, issue, delivery and registration and transfer taxes and duties are payable or the amount thereof and none of them shall be responsible or liable to any other person for any failure by the Company or any Bondholder to pay such taxes or capital, stamp, issue, delivery and registration and transfer taxes and duties or to determine the sufficiency of any amount so paid.

6.2.3 Delivery of Shares:

(i) Upon exercise by a Bondholder of its Conversion Right, the Company shall use its best efforts to, as soon as practicable, and in any event not later than ten Business Days after the Conversion Date, cause the relevant securities account of the Bondholder exercising its Conversion Right or of his/their nominee, to be credited with such number of relevant Shares to be delivered upon conversion (notwithstanding any Retroactive Adjustment of the Conversion Price) and, subject to any applicable limitations then imposed by Korean laws and regulations, shall procure the Share Transfer Agent to, as soon as practicable, and in any event within 20 Business Days in Korea of the Conversion Date, dispatch or cause to be dispatched to the order of the person named for that purpose in the relevant Conversion Notice at the place and in the manner specified in the relevant Conversion Notice (uninsured and the risk of delivery at any such place being that of the converting Bondholder) such assignments and other documents (if any) as required by law to effect the transfer thereof.

The crediting of the Shares to the relevant securities account of the converting Bondholder in the manner contemplated in Condition 6.2.3(i) and any payment of cash payable pursuant to Condition 6.1.2 will be deemed to satisfy the Company's obligation to pay the principal and interest on the Bonds converted.

(ii) If the Conversion Date in relation to any Bond shall be on or after the record date for any issue, distribution, grant, offer or other event as gives rise to the adjustment of the Conversion Price pursuant to Condition 6.3, but before the relevant adjustment becomes effective under the relevant Condition (any such adjustment, a "**Retroactive Adjustment**"), upon the relevant adjustment becoming effective the Company shall deliver to the converting Bondholder (or in accordance with the instructions contained in the Conversion Notice (subject to applicable exchange control or other laws or other regulations)), such additional number of Shares ("**Additional Shares**") as, together with the Shares delivered or to be delivered on conversion of the relevant Bond, is equal to the number of Shares which would have been required to be delivered on conversion of such Bond if the relevant adjustment to the Conversion Price had been made and become effective immediately after the relevant record date.

(iii) The Shares delivered upon conversion of the Bonds will be fully paid and will in all respects rank *pari passu* with the Shares in issue on the relevant Conversion Date (except for any right excluded by mandatory provisions of applicable law) and the converting Bondholder shall be entitled to all rights, the record date for which falls on or after such Conversion Date to the same extent as all other holders of fully-paid and non-assessable Shares in issue as if such converting Bondholder had held such Shares throughout the period to which such rights relate. A holder of Shares delivered on conversion of Bonds shall not be entitled to any rights, the record date for which precedes the relevant Conversion Date.

6.2.4 Interest Accrual:

If any notice requiring the redemption of any Bonds is given pursuant to Condition 8.2 or Condition 8.3 during the period beginning on the 15th day prior to the record date in respect of any dividend payable in respect of the Shares and ending on the Interest Payment Date next following such record date, where such notice specifies a date for redemption falling on or prior to the date which is 14 days after such next following Interest Payment Date, interest shall (subject as hereinafter provided) accrue on the Bonds where Certificates have been delivered for conversion and in respect of which the Conversion Date falls after such record date and on or prior to the Interest Payment Date next following such record date from (and including) the preceding Interest Payment Date (or, if such Conversion Date falls before the first Interest Payment Date, from and including the Closing Date) to (but excluding) the relevant Conversion Date; provided that no such interest shall accrue on any Bond in the event that the Shares delivered on conversion thereof shall carry an entitlement to receive such dividend. Any such interest shall be paid not later than 14 days after the relevant Conversion Date by transfer to a U.S. dollar account maintained by the payee in accordance with instructions given by the relevant Bondholder in the Conversion Notice.

6.3 Adjustments to Conversion Price

The Conversion Price will be subject to adjustment as described in this Condition 6.3.

6.3.1 Free Distribution, Bonus Issue, Sub-division, Consolidation and Re-classification of Shares:

Adjustment: If the Company shall (i) make a free distribution of Shares (other than by way of a dividend in Shares); (ii) make a bonus issue of its Shares; (iii) sub-divide its outstanding Shares; (iv) consolidate its outstanding Shares into a smaller number of Shares or (v) re-classify any of its Shares into other securities of the Company, then the Conversion Price shall be appropriately adjusted so that the holder of any Bond, the Conversion Date in respect of which occurs after the coming into effect of the adjustment described in this Condition 6.3.1, shall be entitled to receive the number of Shares and/or other securities of the Company which such holder would have held or have been entitled to receive after the occurrence of any of the events described above had such Bond been converted immediately prior to the occurrence of such event (or, if the Company has

fixed a prior record date for the determination of shareholders entitled to receive any such free distribution or bonus issue of Shares or other securities issued upon any such sub-division, consolidation or re-classification, immediately prior to such record date), but without prejudice to the effect of any other adjustment to the Conversion Price made with effect from the date of the occurrence of such event (or such record date) or any time thereafter.

Effective date of adjustment: An adjustment made pursuant to this Condition 6.3.1 shall become effective immediately on the relevant event referred to above becoming effective or, if a record date is fixed therefor, immediately after such record date; provided that in the case of a free distribution or bonus issue of Shares which must, under applicable laws of Korea, be submitted for approval to a general meeting of shareholders or be approved by a meeting of the Board of Directors of the Company before being legally paid or made, and which is so approved after the record date fixed for the determination of shareholders entitled to receive such distribution or issue, such adjustment shall, immediately upon such approval being given by such meeting, become effective retroactively to immediately after such record date.

6.3.2 Declaration of Dividend in Shares, Capitalisation of Profits or Reserves:

Adjustment: If the Company shall issue Shares as a dividend in Shares or make a distribution of Shares which is treated as a capitalisation issue for accounting purposes under Korean international financial reporting standards ("**K-IFRS**") (including, but not limited to, capitalisation of capital reserves and employee stock bonus), then the Conversion Price in effect when such dividend and/or distribution is issued (or, if the Company has fixed a prior record date for the determination of shareholders entitled to receive such dividend and/or distribution, on such record date) shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N}{N+n}\right]$$

where:

NCP = the Conversion Price after such adjustment.

OCP = the Conversion Price before such adjustment.

N = the number of Shares outstanding, immediately before the issuance of such dividend and/or distribution (or at the close of business in Seoul on such record date as the case may be).

n = the number of Shares to be distributed to the shareholders as a dividend and/or distribution.

Effective date of adjustment: An adjustment made pursuant to this Condition 6.3.2 shall become effective immediately on the relevant event referred to in this Condition 6.3.2 becoming effective or, if a record date is fixed therefor, immediately after such record date; provided that in the case of a dividend in Shares which must, under applicable laws of Korea, be submitted for approval to a general meeting of shareholders of the Company or be approved at a meeting of the Board of Directors of the Company before being legally paid or made, and which is so approved after the record date fixed for the determination of shareholders entitled to receive such dividend, such adjustment shall, immediately upon such approval being given by such meeting, become effective retroactively to immediately after such record date.

6.3.3 Concurrent Adjustment Events:

If the Company shall declare a dividend in, or make a free distribution or bonus issue of, Shares which dividend, issue or distribution is to be paid or made to shareholders as of a record date which is also:

(i) the record date for the issue of any rights or warrants which requires an adjustment of the Conversion Price pursuant to Conditions 6.3.5, 6.3.6 or 6.3.7;

(ii) the day immediately before the date of issue of any securities convertible into or exchangeable for Shares which requires an adjustment of the Conversion Price pursuant to Condition 6.3.9;

(iii) the day immediately before the date of issue of any Shares which requires an adjustment of the Conversion Price pursuant to Condition 6.3.10 or, if applicable, the record date for determination of stock dividend entitlement as referred to in Condition 6.3.10;

(iv) the day immediately before the date of issue of any rights, options or warrants which requires an adjustment of the Conversion Price pursuant to Condition 6.3.11; or

(v) determined by the Company and notified by the Company to the Trustee in writing to be the relevant date for an event or circumstance which requires an adjustment to the Conversion Price pursuant to Condition 6.3.12,

then (except where such dividend, bonus issue or free distribution gives rise to a Retroactive Adjustment of the Conversion Price under this Condition 6.3.3) no adjustment of the Conversion Price in respect of such dividend, bonus issue or free distribution shall be made under Conditions 6.3.1 and 6.3.2, but in lieu thereof an adjustment shall be made under Conditions 6.3.5, 6.3.6, 6.3.7, 6.3.9, 6.3.10, 6.3.11 or 6.3.12 (as the case may require) by including in the denominator of the fraction described therein the aggregate number of Shares to be issued pursuant to such dividend, bonus issue or free distribution.

6.3.4 Capital Distribution and Cash Dividend:

Adjustment:

(i) If the Company shall pay or make to its shareholders any Capital Distribution (as defined below), then the Conversion Price shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{CMP - fmv}{CMP}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

CMP = the Current Market Price (as defined in Condition 6.3.15 below) per Share on the last Trading Day preceding the date on which the relevant Dividend is first publicly announced.

fmv = the portion of the Fair Market Value (as defined below), with such portion being determined by dividing the Fair Market Value of the aggregate Capital Distribution by the number of Shares entitled to receive the relevant Capital Distribution (or, in the case of a purchase or redemption of Shares or any depositary or other receipts or certificates representing shares by or on behalf of the Company, by the number of Shares in issue immediately prior to such purchase or redemption), of the Capital Distribution attributable to one Share less any consideration payable for the same to the Company by the shareholder.

(ii) If the Company shall pay or make to its shareholders any Cash Dividend, then, in such case, the Conversion Price shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{CMP - C}{CMP}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

CMP = the Current Market Price (as defined in Condition 6.3.15 below) per Share on the last Trading Day preceding the date on which the relevant Dividend is first publicly announced.

C = the Cash Dividend attributable to one Share.

Effective date of adjustment

Any adjustment pursuant to this Condition 6.3.4 shall become effective immediately after the record date for the determination of shareholders entitled to receive the relevant Dividend; provided that (a) in the case of such a Dividend which must, under applicable law of Korea, be submitted for approval to a general meeting of shareholders or be approved by a meeting of the Board of Directors of the Company before such Dividend may legally be made and is so approved after the record date fixed for the determination of shareholders entitled to receive such Dividend, such adjustment shall, immediately upon such approval being given by such meeting, become effective retroactively to immediately after such record date and (b) in the case of Condition 6.3.4(i), if the Fair Market Value of the relevant Capital Distribution cannot be determined until the record date fixed for the determination of shareholders entitled to receive the relevant Dividend, such adjustment shall, immediately upon such Fair Market Value being determined, become effective retroactively to immediately after such record date.

If such Dividend is not so paid, the Conversion Price shall again be adjusted to be the Conversion Price which would then be in effect if such Dividend had not been approved.

For the purposes of this Condition 6.3.4:

"**Capital Distribution**" means any Dividend other than a Cash Dividend.

In making any calculation for the purposes of this Condition 6.3.4, such adjustments (if any) shall be made as an independent investment or commercial bank of international repute selected by the Company and notified in writing to the Trustee (an "**Independent Financial Institution**") considers appropriate to reflect any consolidation, subdivision or re-classification of any Share or the issue of Shares by way of capitalisation of profits or reserves, or any like or similar event or any adjustment to the Conversion Price. The fees of any Independent Financial Institution shall be at the expense of and paid by the Company.

"**Cash Dividend**" means (i) any Dividend which is to be paid in cash and (ii) any Dividend determined to be a Cash Dividend pursuant to paragraph (a) of the definition "Dividend", and for the avoidance of doubt, a Dividend falling within paragraph (c) of the definition "Dividend" shall be treated as not being a Cash Dividend.

"**Dividend**" means any dividend or distribution whether of cash or other property or assets or evidences of the Company's indebtedness, whenever paid or made and however described (including any modification of rights to dividends of Shares); provided that:

(a) where a Cash Dividend is announced which is to be, or may at the election of a shareholder or shareholders be, satisfied by the issue or delivery of Shares or other property or assets, or where a capitalisation of profits or reserves is announced which is to be, or may at the election

of a shareholder or shareholders be, satisfied by the payment of a Dividend, then for the purposes of this definition, the Dividend in question shall be treated as a Dividend of (i) such Cash Dividend or (ii) the Fair Market Value (on the date of announcement of such Dividend or date of capitalisation (as the case may be) or, if later, the date on which the number of Shares (or amount of property or assets, as the case may be) which may be issued or delivered is determined) of such Shares or other property or assets if such Fair Market Value is greater than the Fair Market Value of such Cash Dividend;

(b) any issue or distribution of Shares falling within Condition 6.3.2 shall be disregarded; and

(c) a purchase or redemption of ordinary share capital by or on behalf of the Company shall not constitute a Dividend unless, in the case of purchases of Shares by or on behalf of the Company, the volume weighted average price per Share (before expenses) on any one day in respect of such purchases exceeds the Current Market Price per Share either (1) on that day (or if such day is not a Trading Day, the immediately preceding Trading Day), or (2) where an announcement (excluding for the avoidance of doubt for these purposes, any general authority for such purchases or redemptions approved by a general meeting of shareholders of the Company or any notice convening such a meeting of shareholders) has been made of the intention to purchase Shares at some future date at a specified price, on the Trading Day immediately preceding the date of such announcement, in which case such purchase shall be deemed to constitute a Dividend (but not a Cash Dividend) in an amount equal to the amount by which the aggregate price paid (before expenses) in respect of such Shares purchased by or on behalf of the Company exceeds the product of (i) the Current Market Price per Share determined as aforesaid and (ii) the number of Shares so purchased; provided that (x) any purchase or redemption of ordinary share capital of the Company made to dissenting shareholders upon exercise by dissenting shareholders of their appraisal rights under the Korean Commercial Code and the Financial Investment Services and Capital Markets Act of Korea will not constitute a Dividend and (y) any purchase or redemption of ordinary share capital of the Company effectuated through the KRX KOSPI Market at the then Prevailing Market Price (as defined below) will not constitute a Dividend so long as any such purchase or redemption is made in accordance with Korean law and the rules and regulations of the Korea Exchange (without giving effect to any waivers that may be obtained therefrom), is not a general offer and will not trigger a requirement for a general offer under the rules of the Korea Exchange and does not constitute a Tender Offer (as defined below).

"**Fair Market Value**" means, with respect to any asset, security, option, other right or property on any date, the fair market value of that asset, security, option, other right or property as determined in good faith by an Independent Financial Institution, provided that (i) the Fair Market Value of a Cash Dividend paid or to be paid shall be the amount of such Cash Dividend; (ii) the Fair Market Value of any other cash amount shall be equal to such cash amount and (iii) where shares, options, warrants or other rights are publicly traded in a market of adequate liquidity (as determined by the Independent Financial Institution) the fair market value of such shares, options, warrants or other rights shall equal the arithmetic mean of the daily volume weighted average prices of such shares, options, warrants or other rights during the period of five trading days on the relevant market commencing on the first such trading day such shares, options, warrants or other rights are publicly traded and in the case of (i) translated into Korean Won to the extent not declared or paid in such currency, at the Prevailing Rate.

"**Tender Offer**" means purchases or redemptions made by or on behalf of the Company or its Subsidiaries of 5 per cent. or more of the ordinary share capital of the Company in any twelve-month period.

"**Prevailing Market Price**" means the price prevailing on the relevant exchange on such day prior to the time that any purchase is made or any purchase order is placed by or on behalf of the Company.

6.3.5 Rights or Options Issued to Shareholders:

Adjustment: **If the Company shall grant, issue or offer to the holders of Shares rights or options entitling them to subscribe for or purchase Shares:**

(i) at a consideration per Share receivable by the Company (determined as provided in Condition 6.3.16) which is fixed on or prior to the record date mentioned below and is less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced; or

(ii) at a consideration per Share receivable by the Company which is fixed after the record date mentioned below and is less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced,

then the Conversion Price in effect (in a case within (i) above) on the record date for the determination of shareholders entitled to receive such rights or options or (in a case within (ii) above) on the date the Company fixes the said consideration shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

N = the number of Shares outstanding (having regard to Condition 6.3.17) at the close of business in Korea (in a case within (i) above) on such record date or (in a case within (ii) above) on the date the Company fixes the said consideration.

n = the number of Shares initially to be issued upon exercise of such rights or options at the said consideration being (a) the number of Shares which underwriters have agreed to underwrite as referred to below or, as the case may be, (b) the number of Shares for which applications are received from shareholders as referred to below save to the extent already adjusted for under (a).

v = the number of Shares which the aggregate consideration receivable by the Company (determined as provided in Condition 6.3.16) would purchase at such Current Market Price per Share specified in (i) or, as the case may be, (ii) above.

Effective date of adjustment: Subject as provided below, such adjustment shall become effective immediately after the latest date for the submission of applications for such Shares by shareholders entitled to the same pursuant to such rights or options or (if later) immediately after the Company fixes the said consideration but retroactively to immediately after the record date mentioned above.

Rights or Options not taken up by shareholders: If, in connection with a grant, issue or offer to the holders of Shares of rights or options entitling them to subscribe for or purchase Shares, any Shares which are not subscribed for or purchased by the persons entitled thereto are underwritten by other persons prior to the latest date for the submission of applications for such Shares, an adjustment shall be made to the Conversion Price in accordance with the above provisions which shall become effective immediately after the date the underwriters agree to underwrite the same or (if later) immediately after the Company fixes the said consideration but retroactively to immediately after the record date mentioned above.

If, in connection with a grant, issue or offer to the holders of Shares of rights or options entitling them to subscribe for or purchase Shares, any such Shares which are not subscribed for or purchased by the underwriters who have agreed to underwrite as referred to above or by the shareholders entitled thereto (or persons to whom shareholders have transferred such rights or options) who have submitted applications for such Shares as referred to above are offered to and/or subscribed by others, no further adjustment shall be made to the Conversion Price by reason of such offer and/or subscription.

6.3.6 Warrants Issued to Shareholders:

Adjustment: If the Company shall grant, issue or offer to the holders of Shares warrants entitling them to subscribe for or purchase Shares:

(i) at a consideration per Share receivable by the Company (determined as provided in Condition 6.3.16) which is fixed on or prior to the record date for the determination of shareholders entitled to receive such warrants and is less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced; or

(ii) at a consideration per Share receivable by the Company which is fixed after the record date mentioned above and is less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced,

then the Conversion Price in effect (in a case within (i) above) on the record date for the determination of shareholders entitled to receive such warrants or (in a case within (ii) above) on the date the Company fixes the said consideration shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

N = the number of Shares outstanding (having regard to Condition 6.3.17) at the close of business in Korea (in a case within (i) above) on such record date or (in a case within (ii) above) on the date the Company fixes the said consideration.

n = the number of Shares to be issued upon exercise of such warrants at the said consideration which, where no applications by shareholders entitled to such warrants are required, shall be based on the number of warrants issued. Where applications by shareholders entitled to such warrants are required, the number of such Shares shall be calculated based upon (a) the number of warrants which underwriters have agreed to underwrite as referred to below or, as the case may be, (b) the number of warrants for which applications are received from shareholders as referred to below save to the extent already adjusted for under (a).

v = the number of Shares which the aggregate consideration receivable by the Company (determined as provided in Condition 6.3.16) would purchase at such Current Market Price per Share specified in (i) or, as the case may be, (ii) above.

Effective date of adjustment: Subject as provided below, such adjustment shall become effective (a) where no applications for such warrants are required from shareholders entitled to the same, upon their issue and (b) where applications by shareholders entitled to the same are required as aforesaid, immediately after the latest date for the submission of such applications or (if later) immediately after the Company fixes the said consideration but in all cases retroactively to immediately after the record date mentioned above.

Warrants not subscribed for by shareholders: If, in connection with a grant, issue or offer to the holders of Shares of warrants entitling them to subscribe for or purchase Shares in the circumstances described in (i) and (ii) of this Condition 6.3.6, any warrants which are not subscribed for or purchased by the shareholders entitled thereto are underwritten by others prior to the latest date for the submission of applications for such warrants, an adjustment shall be made to the Conversion Price in accordance with the above provisions which shall become effective immediately after the date the underwriters agree to underwrite the same or (if later) immediately after the Company fixes the said consideration but retroactively to immediately after the record date mentioned above.

If, in connection with a grant, issue or offer to the holders of Shares of warrants entitling them to subscribe for or purchase Shares, any warrants which are not subscribed for or purchased by the underwriters who have agreed to underwrite as referred to above or by the shareholders entitled thereto (or persons to whom shareholders have transferred the right to purchase such warrants) who have submitted applications for such warrants as referred to above are offered to and/or subscribed by others, no further adjustment shall be made to the Conversion Price by reason of such offer and/or subscription.

6.3.7 Issues of Rights or Warrants for Equity-related Securities to Shareholders:

Adjustment: If the Company shall grant, issue or offer to the holders of Shares rights or warrants entitling them to subscribe for or purchase any securities convertible into or exchangeable for Shares:

(i) at a consideration per Share receivable by the Company (determined as provided in Condition 6.3.16) which is fixed on or prior to the record date mentioned below and is less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced; or

(ii) at a consideration per Share receivable by the Company (determined as aforesaid) which is fixed after the record date mentioned below and is less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced,

then the Conversion Price in effect (in a case within (i) above) on the record date for the determination of shareholders entitled to receive such rights or warrants or (in a case within (ii) above) on the date the Company fixes the said consideration shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

N = the number of Shares outstanding (having regard to Condition 6.3.17) at the close of business in Korea (in a case within (i) above) on such record date or (in a case within (ii) above) on the date the Company fixes the said consideration.

n = the number of Shares initially to be issued upon exercise of such rights or warrants and conversion or exchange of such convertible or exchangeable securities at the said consideration being, in the case of rights, (a) the number of Shares initially to be issued upon conversion or exchange of the number of such convertible or exchangeable securities which the underwriters have agreed to underwrite as referred to below or, as the case may be, (b) the number of Shares initially to be issued upon conversion or exchange of the number of such convertible or exchangeable securities for which applications are received from shareholders as referred to below save to the extent already adjusted for under (a) and which, in the case of warrants, where no applications by shareholders entitled to such warrants are required, shall be based on the number of warrants issued. Where applications by shareholders entitled to such warrants are required, the number of such Shares shall be calculated based upon (x) the number of warrants which underwriters have agreed to underwrite as referred to below or, as the case may be; (y) the number of warrants for which applications are received from shareholders as referred to below save to the extent already adjusted for under (x).

v = the number of Shares which the aggregate consideration receivable by the Company (determined as provided in Condition 6.3.16) would purchase at such Current Market Price per Share specified in (i) or, as the case may be, (ii) above.

Effective date of adjustment: Subject as provided below, such adjustment shall become effective (a) where no applications for such warrants are required from shareholders entitled to the same, upon their issue and (b) where applications by shareholders entitled to the warrants are required as aforesaid and in the case of convertible or exchangeable securities by shareholders entitled to the same pursuant to such rights, immediately after the latest date for the submission of such applications or (if later) immediately after the Company fixes the said consideration; but in all cases retroactively to immediately after the record date mentioned above.

Rights or warrants not taken up by shareholders: If, in connection with a grant, issue or offer to the holders of Shares of rights or warrants entitling them to subscribe for or purchase securities convertible into or exchangeable for Shares in the circumstances described in this Condition 6.3.7, any convertible or exchangeable securities or warrants which are not subscribed for or purchased by the shareholders entitled thereto are underwritten by others prior to the latest date for the submission of applications for such convertible or exchangeable securities or warrants, an adjustment shall be made to the Conversion Price in accordance with the above provisions which shall become effective immediately after the date the underwriters agree to underwrite the same or (if later) immediately after the Company fixes the said consideration but retroactively to immediately after the record date mentioned above.

If, in connection with a grant, issue or offer to the holders of Shares or rights or warrants entitling them to subscribe for or purchase securities convertible into or exchangeable for Shares, any convertible or exchangeable securities or warrants which are not subscribed for or purchased by the underwriters who have agreed to underwrite as referred to above or by the shareholders entitled thereto (or persons to whom shareholders have transferred such rights or the right to purchase such warrants) who have submitted applications for such convertible or exchangeable securities or warrants as referred to above are offered to and/or subscribed by others, no further adjustment shall be made to the Conversion Price by reason of such offer and/or subscription.

6.3.8 Other Distributions to Shareholders:

Adjustment: If the Company shall distribute to the holders of Shares or capital stock of the Company (other than Shares), assets (excluding any Dividends), or rights or warrants to subscribe for or purchase Shares or securities (excluding those rights and warrants referred to in Conditions 6.3.5, 6.3.6 and 6.3.7), then the Conversion Price in effect on the record date for the determination of shareholders entitled to receive such distribution shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{CMP - fmv}{CMP}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

CMP = the Current Market Price per Share on the last Trading Day preceding the date on which such distribution is first publicly announced.

fmv = the Fair Market Value of the distribution applicable to one Share less any consideration payable for the same to the Company by the shareholder.

Effective date of adjustment: Such adjustment shall become effective immediately after the record date for the determination of shareholders entitled to receive such distribution. Provided that (i) in the case of such a distribution which must, under applicable law of Korea, be submitted for approval to a general meeting of shareholders or be approved by a meeting of the Board of Directors of the Company before such distribution may legally be made and is so approved after the record date fixed for the determination of shareholders entitled to receive such distribution, such adjustment shall, immediately upon such approval being given by such meeting, become effective retroactively to immediately after such record date and (ii) if the Fair Market Value of the shares of capital stock,

assets, rights or warrants so distributed cannot be determined until after the record date fixed for the determination of shareholders entitled to receive such distribution, such adjustment shall, immediately upon such Fair Market Value being determined, become effective retroactively to immediately after such record date.

6.3.9 Issue of Convertible or Exchangeable Securities other than to Shareholders or on Exercise of Warrants:

Adjustment: If the Company shall issue any securities convertible into or exchangeable for Shares (except in any of the circumstances described in Condition 6.3.7 and Condition 6.3.11) or grant such rights in respect of any existing securities and the consideration per Share receivable by the Company (determined as provided in Condition 6.3.16) shall be less than the Current Market Price per Share on the last Trading Day preceding the date on which such issue or grant is first publicly announced, then the Conversion Price in effect immediately prior to the date of issue of such convertible or exchangeable securities shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

N = the number of Shares outstanding (having regard to Condition 6.3.17) at the close of business in Korea on the day immediately prior to the date of such issue.

n = the number of Shares to be issued upon conversion or exchange of such convertible or exchangeable securities at the initial conversion or exchange price or rate.

v = the number of Shares which the aggregate consideration receivable by the Company would purchase at such Current Market Price per Share.

Effective date of adjustment: Such adjustment shall become effective as of the calendar day in Korea corresponding to the calendar day at the place of issue on which such convertible or exchangeable securities are issued.

6.3.10 Other Issues at less than Current Market Price:

Adjustment: If the Company shall issue any Shares (other than Shares issued upon conversion or exchange of any convertible or exchangeable securities issued by the Company or upon exercise of any rights, options or warrants granted, offered or issued by the Company or in any of the circumstances described in any preceding provision of this Condition 6.3), for a consideration per Share receivable by the Company (determined as provided in Condition 6.3.16) less than the Current Market Price per Share on the last Trading Day preceding the date on which such issue is first publicly announced, then the Conversion Price in effect immediately prior to the issue of such additional Shares shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

N = the number of Shares outstanding (having regard to Condition 6.3.17) at the close of business in Korea on the day immediately prior to the date of issue of such additional Shares.

n = the number of additional Shares issued as aforesaid.

v = the number of Shares which the aggregate consideration receivable by the Company (determined as provided in Condition 6.3.16) would purchase at such Current Market Price per Share.

Effective date of adjustment: Such adjustment shall become effective as of the calendar day in Korea of the issue of such additional Shares.

6.3.11 Issue of Equity-related Securities:

Adjustment: If the Company shall grant, issue or offer options, warrants or rights (excluding those rights, options and warrants referred to in Conditions 6.3.5, 6.3.6, 6.3.7 and 6.3.8) to subscribe for or purchase Shares or securities convertible into or exchangeable for Shares and the consideration per Share receivable by the Company (determined as provided in Condition 6.3.16) shall be less than the Current Market Price per Share on the last Trading Day preceding the date on which such grant, issue or offer is first publicly announced, then the Conversion Price in effect immediately prior to the date of the offer, grant or issue of such rights, options or warrants shall be adjusted in accordance with the following formula:

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

where:

NCP and OCP have the meanings ascribed thereto in Condition 6.3.2.

N = the number of Shares outstanding (having regard to Condition 6.3.17) at the close of business in Korea on the day immediately prior to the date of such issue.

n = the number of Shares to be issued on exercise of such rights, options or warrants and (if applicable) conversion or exchange of such convertible or exchangeable securities at the said consideration.

v = the number of Shares which the aggregate consideration receivable by the Company (determined as provided in Condition 6.3.16) would purchase at such Current Market Price per Share.

Effective date of adjustment: Such adjustment shall become effective as of the calendar day in Korea corresponding to the calendar day at the place of issue on which such rights, options or warrants are issued.

6.3.12 Analogous Events and Modifications:

If (i) the rights of conversion or exchange, purchase or subscription attaching to any options, rights or warrants to subscribe for or purchase Shares or any securities convertible into or exchangeable for, or which carry rights to subscribe for or purchase Shares are modified (other than pursuant to and as provided in the terms and conditions of such options, rights, warrants or securities as originally issued) or (ii) the Company determines that any other event or circumstance has occurred which has or would have an effect on the position of the Bondholders as a class compared with the position of the holders of all the securities (and options and rights relating thereto) of the Company, taken as a class which is analogous to any of the events referred to in Conditions 6.3.1 to 6.3.11, then, in any such case, the Company shall promptly notify the Trustee in writing thereof and the Company shall consult with an Independent Financial Institution as to what adjustment, if any, should be made to the Conversion Price to preserve the value of the Conversion Right of Bondholders and will make any such adjustment. All costs, charges, liabilities and expenses incurred in connection with the appointment, retention, consultation and remuneration of any Independent Financial Institution appointed under these Conditions shall be borne by the Company.

6.3.13 Simultaneous Issues of Different Classes of Shares:

In the event of simultaneous issues of two or more classes of share capital comprising Shares or rights or warrants in respect of, or securities convertible into or exchangeable for, two or more classes of share capital comprising Shares, then, for the purposes of this Condition 6.3, the formula

$$NCP = OCP \times \left[\frac{N + v}{N + n}\right]$$

shall be restated as

$$NCP = OCP \times \left[\frac{N + v1 + v2 + v3}{N + n1 + n2 + n3}\right]$$

where v1 and n1 shall have the same meanings as "v" and "n" but by reference to one class of Shares, v2 and n2 shall have the same meanings as "v" and "n" but by reference to a second class of Shares, v3 and n3 shall have the same meanings as "v" and "n" but by reference to a third class of Shares and so on.

6.3.14 No Adjustment for Certain Issuances to Directors, Officers or Employees:

Notwithstanding any provision herein to the contrary, a grant, issue or offer of Shares, options, rights, warrants or other securities to any director, officer or employee of the Company as part of such person's compensation will not result in the adjustment of the Conversion Price; provided that (i) all such grants, issues and offers are made pursuant to employee stock ownership or grant plans or option scheme or plans which are in compliance with applicable Korean laws and regulations and the rules of the Korea Exchange or if applicable, the rules of the Alternative Stock Exchange and (ii) if the total number of Shares so issued or that may be issued as a result of the conversion, exchange or exercise of such convertible or exchangeable securities or such options, rights, warrants or other securities so granted, issued or offered (whether in a single grant, issue or offering or a series of grants, issuances or offerings) during any 12-month period up to and including the date of such grant representing, in aggregate, over 2 per cent. of the average number of issued and outstanding Shares (including any treasury Shares) during such 12-month period, in which case only the portion of such Shares so issued or which may be issued that exceeds 2 per cent. of the average number of issued and outstanding Shares (including any treasury Shares) during the relevant 12-month period shall be taken into account in determining adjustment of the Conversion Price pursuant to Condition 6.3.

6.3.15 Certain Definitions:

For the purposes of these Conditions:

"**Alternative Stock Exchange**" means at any time, in the case of the Shares, if they are not at that time listed and traded on the KRX KOSPI Market, the principal stock exchange or securities market on which the Shares are then listed or quoted or dealt in.

"**Closing Price**" of the Shares for each Trading Day shall be the last reported transaction price of the Shares on the KRX KOSPI Market for such day or, if no transaction takes place on such day, the average of the closing bid and offered prices of Shares for such day as furnished by a leading independent securities firm licensed to trade on the KRX KOSPI Market selected from time to time by the Company.

"**Current Market Price**" per Share on any date means the arithmetic average of the daily Closing Prices of the relevant Shares for the 20 consecutive Trading Days (as defined below) ending on and including the Trading Day immediately preceding such date; provided that if at any time during the said 20 consecutive Trading Day period the Shares shall have been quoted ex-dividend and during some other part of that period the Shares shall have been quoted cum-dividend then:

(i) if the Shares to be issued in such circumstances do not rank for the dividend in question, the quotations on the dates on which the Shares shall have been quoted cum-dividend shall for the purpose of this definition be deemed to be the amount thereof reduced by an amount equal to the Fair Market Value of that dividend per Share; or

(ii) if the Shares to be issued in such circumstances rank for the dividend in question, the quotations on the dates on which the Shares shall have been quoted ex-dividend shall for the purpose of this definition be deemed to be the amount thereof increased by an amount equal to the Fair Market Value of that dividend per Share;

and provided further that if the Shares on each of the said 20 consecutive Trading Days have been quoted cum-dividend in respect of a dividend which has been declared or announced but the Shares to be issued do not rank for that dividend, the quotations on each of such dates shall for the purpose of this definition be deemed to be the amount thereof reduced by an amount equal to the Fair Market Value of that dividend per Share, and provided further that:

(a) if such Closing Prices are not available on each of the 20 consecutive Trading Days during the relevant period, then the arithmetic average of such Closing Prices which are available in the relevant period shall be used (subject to a minimum of two such Closing Prices); and

(b) if only one or no such Closing Prices is available in the relevant period, then the Current Market Price shall be determined in good faith by an Independent Financial Institution (acting as expert).

If the Company has more than one class of share capital comprising Shares, then the relevant Current Market Price for Shares shall be the price for that class of Shares the issue of which (or of rights, options or warrants in respect of, or securities convertible into or exchangeable for, that class of Shares) gives rise to the adjustment in question.

If during the said twenty Trading Days or any period thereafter up to but excluding the date as of which the adjustment of the Conversion Price shall be effected, any event (other than the event which requires the adjustment in question) shall occur which gives rise to a separate adjustment to the Conversion Price under the provisions of these Conditions, then the Current Market Price as determined above shall be adjusted in such manner and to such extent as an Independent Financial Institution shall in its absolute discretion deem appropriate and fair to compensate for the effect thereof.

"**Trading Day**" means a day when the KRX KOSPI Market is open for business, but does not include a day when (i) no such last transaction price or closing bid and offered prices is/are reported and (ii) (if the Shares are not listed or admitted to trading on such exchange) no such closing bid and offered prices are furnished as aforesaid, provided that for the purposes of any calculation where a Closing Price is required, if no Closing Price is reported for one or more consecutive Trading Days, such day or days will be disregarded in any relevant calculation and shall be deemed not to have existed when ascertaining any period of Trading Days.

If the Shares are no longer listed on the KRX KOSPI Market and have been listed on an Alternative Stock Exchange, references in the above definitions to the KRX KOSPI Market will be taken as references to the Alternative Stock Exchange; provided that, as necessary, Closing Prices on such exchanges will be translated into Korean Won at the Prevailing Rate. The "**Prevailing Rate**" applicable to any Trading Day shall be the market average exchange rate effective for such Trading Day as announced by Seoul Money Brokerage Services, Ltd. or any successor entity on the relevant page on Bloomberg or, if there is no such page, on such other information service provider that displays the relevant information, or if such market average exchange rate is not available, such rate of exchange as may be determined in good faith by an Independent Financial Institution to be the spot rate ruling at the close of business on that date (or if no such rate is available on that date the equivalent rate on the immediately preceding date on which such a rate is available) for exchanges of Korean Won and the applicable currency.

6.3.16 Consideration Receivable by the Company:

For the purposes of any calculation of the consideration receivable by the Company pursuant to Conditions 6.3.5, 6.3.6, 6.3.7, 6.3.8, 6.3.9, 6.3.10, 6.3.11, 6.3.12 and 6.3.13 above, the following provisions shall be applicable:

(i) in the case of the issue of Shares for cash, the consideration shall be the amount of such cash;

(ii) in the case of the issue of Shares for a consideration in whole or in part other than cash, the consideration other than cash shall be deemed to be the Fair Market Value thereof;

(iii) in the case of the issue (whether initially or upon the exercise of rights or warrants) of securities convertible into or exchangeable for Shares, the aggregate consideration receivable by the Company shall be deemed to be the consideration received by the Company for such securities and (if applicable) rights or warrants plus the additional consideration (if any) to be received by the Company upon (and assuming) the conversion or exchange of such securities at the initial conversion or exchange price or rate and (if applicable) the exercise of such rights or warrants at the initial subscription or purchase price (the consideration in each case to be determined in the same manner as provided in this Condition 6.3.16) and the consideration per Share receivable by the Company shall be such aggregate consideration divided by the number of Shares to be issued upon (and assuming) such conversion or exchange at the initial conversion or exchange price or rate and (if applicable) the exercise of such rights or warrants at the initial subscription or purchase price;

(iv) in the case of the issue of rights, options or warrants to subscribe for or purchase Shares, the aggregate consideration receivable by the Company shall be deemed to be the consideration received by the Company for any such rights, options or warrants plus the additional consideration to be received by the Company upon (and assuming) the exercise of such rights, options or warrants at the initial subscription or purchase price (the consideration in each case to be determined in the same manner as provided in this Condition 6.3.16) and the consideration per Share receivable by the Company shall be such aggregate consideration divided by the number of Shares to be issued upon (and assuming) the exercise of such rights, options or warrants at the initial subscription or purchase price;

(v) if any of the consideration referred to in any of the preceding paragraphs of this Condition 6.3.16 is receivable in a currency other than Korean Won, such consideration shall (in any case where there is a fixed rate of exchange between the Korean Won and the relevant currency for the purposes of the issue of the Shares, the conversion or exchange of such securities or the exercise of such rights, options or warrants) be translated into Korean Won for the purposes of this Condition 6.3.16 at such fixed rate of exchange and shall (in all other cases) be translated into Korean Won at the Prevailing Rate;

(vi) in the case of the issue of Shares (including, without limitation, to employees under any employee bonus or profit sharing arrangements) credited as fully paid out of retained earnings or capitalisation of reserves at their par value, the aggregate consideration receivable by the Company shall be deemed to be zero (and accordingly the number of Shares which such aggregate consideration receivable by the Company could purchase at the relevant Current Market Price per Share shall also be deemed to be zero); and

(vii) in making any such determination, no deduction shall be made for any commissions or any expenses paid or incurred by the Company.

6.3.17 Cumulative Adjustments:

If, at the time of computing an adjustment (the "**later adjustment**") of the Conversion Price pursuant to any of Conditions 6.3.2, 6.3.5, 6.3.6, 6.3.7, 6.3.9, 6.3.10, 6.3.11, 6.3.12 and 6.3.13 above,

the Conversion Price already incorporates an adjustment made (or taken or to be taken into account pursuant to the proviso to Condition 6.3.18) to reflect an issue of Shares or of securities convertible into or exchangeable for Shares or of rights, options or warrants to subscribe for or purchase Shares or securities, to the extent that the number of such Shares or securities taken into account for the purposes of calculating such adjustment exceeds the number of such Shares in issue at the time relevant for ascertaining the number of outstanding Shares for the purposes of computing the later adjustment, such excess Shares shall be deemed to be outstanding for the purposes of making such computation.

6.3.18 Minor Adjustments:

No adjustment of the Conversion Price shall be required if the adjustment would be less than 1 per cent. of the then current Conversion Price; provided that any adjustment which by reason of this Condition 6.3.18 is not required to be made shall be carried forward and taken into account (as if such adjustment had been made at the time when it would have been made but for the provisions of this Condition 6.3.18) in any subsequent adjustment. All calculations under this Condition 6.3 shall be rounded to the nearest KRW1 with KRW0.5 being rounded up to the next KRW1. Except as otherwise set out in Condition 6.3.19, the Conversion Price may be reduced at any time by the Company.

6.3.19 Minimum Conversion Price:

Notwithstanding the provisions of this Condition 6.3, the Company covenants that:

(i) the Conversion Price shall not be reduced below the par value of the Shares (KRW100 at the date hereof) as a result of any adjustment made hereunder unless, under applicable law then in effect, Bonds may be converted at such reduced Conversion Price into legally issued, fully-paid and non-assessable Shares; and

(ii) it will not take any corporate or other action which might result in the Conversion Price being reduced pursuant to this Condition 6 below the level permitted by (a) applicable Korean laws and regulations from time to time (if any) or (b) applicable Korean regulatory authorities where the approval of such regulatory authority has not been obtained.

6.3.20 Reference to "fixed":

Any references herein to the date on which a consideration is "**fixed**" shall, where the consideration is originally expressed by reference to a formula which cannot be expressed as an actual cash amount until a later date, be construed as a reference to the first day on which such actual cash amount can be ascertained.

6.3.21 Upward/downward Adjustment:

No adjustment involving an increase in the Conversion Price will be made, except (i) in the case of a consolidation or a re-classification of the Shares, after which the number of Shares outstanding has decreased, as referred to in Condition 6.3.1, (ii) in the case of a capital reduction, immediately after which the value of the Shares outstanding has increased as a result or (iii) in the case of an occurrence of any event similar to the foregoing, immediately after which the value of the Shares outstanding has increased as a result. The Company may at any time and for a specified period of time only, following notice being given to the Trustee writing and to the Bondholders in accordance with Condition 17, reduce the Conversion Price, subject to Condition 6.3.19. In addition, the Company may at any time offer cash or other incentives to Bondholders in consideration for the relevant Bondholders exercising their Conversion Rights in respect of the Bonds.

6.3.22 Trustee not Obliged to Monitor:

Neither the Trustee nor any of the Agents shall be under any duty to monitor whether any event or circumstance has happened or exists or may occur which may require an adjustment to be made to the Conversion Price under this Condition 6.3, or be under any duty to calculate, make or check any adjustment to the Conversion Price, and none of them will be responsible or liable to Bondholders or any other person for any loss arising from any failure by it to do so.

6.3.23 Notice to Trustee:

The Company shall send the Trustee and the Agents a certificate signed by an Authorised Signatory of the Company setting out particulars relating to adjustment of the Conversion Price and the Conversion Price after such adjustment and the effective date thereof.

6.3.24 Independent Financial Institution:

If the Company fails to select an Independent Financial Institution when required in this Condition 6.3 and Condition 6.1.6, the Trustee may, but shall not be obliged to, (at its absolute discretion and at the expense of the Company and provided it is indemnified and/or secured and/or prefunded to its satisfaction against the costs, fees and expenses of such adviser and otherwise in connection with such selection) select on behalf of the Company such an Independent Financial Institution (and such Independent Financial Institution shall be deemed for all purposes to have been appointed by the Company and not the Trustee) and the Trustee shall not be liable to Bondholders or any other person for such selection or for any determination or calculation made by such Independent Financial Institution or for any loss, costs, charges, damages or expenses arising therefrom.

6.4 Undertakings

6.4.1 The Company has undertaken in the Trust Deed, *inter alia*, that so long as any Bond remains outstanding, save with the approval of an Extraordinary Resolution (as defined in the Trust Deed) of the Bondholders or with the approval of the Trustee where, in the opinion of the Trustee, it is not materially prejudicial to the interests of Bondholders to give such approval:

(i) it will use its best efforts to (a) obtain and maintain a listing of the Bonds on the Singapore Exchange Securities Trading Limited (the "**SGX-ST**"); (b) maintain a listing for all the issued Shares on the KRX KOSPI Market; (c) obtain and maintain a listing for all the Shares to be delivered on the exercise of the Conversion Rights attaching to the Bonds on the KRX KOSPI Market and (d) if the Company is unable to obtain or maintain such listings, obtain and maintain a listing for all the Bonds and the Shares to be delivered on the exercise of the Conversion Rights, on an Alternative Stock Exchange and will forthwith give notice to the Bondholders in accordance with Condition 17 of the listing or delisting of the Shares or the Bonds (as a class) by any of such stock exchanges;

(ii) it will entrust the number of Shares that are deliverable upon conversion of all outstanding Bonds (as adjusted from time to time in tandem with the Conversion Price pursuant to Condition 6.3) with the KSD and will not transfer, or create or attempt to create, assume or permit to subsist, any mortgage, charge, pledge, hypothecation, lien or other encumbrance over, such Shares;

(iii) it will pay the expenses of the delivery of, and all expenses of obtaining listing for, Shares arising on conversion of the Bonds, except for Taxes payable by a Bondholder pursuant to Condition 6.2.2;

(iv) it will not make any reduction of its ordinary share capital or any uncalled liability in respect thereof or of any share premium account or capital redemption reserve fund (except, in each case,

as permitted by applicable law and that results in (or would, but for the provision of these Conditions relating to rounding or the carry forward of adjustments, result in) a downward adjustment to the Conversion Price or is otherwise taken into account for the purposes of determining whether such a downward adjustment should be made);

(v) it will not take any action described in paragraphs (ii) or (iii) of Condition 6.3.21 which would result in an increase in the Conversion Price; and

(vi) it will not make any offer, issue or distribute or take any action the effect of which would be to reduce the Conversion Price below the par value of the Shares of the Company; provided always that the Company shall not be prohibited from purchasing its Shares to the extent permitted by law.

6.4.2 The Company has also given certain other undertakings in the Trust Deed for the protection of the Conversion Rights.

6.5 Notice of Change in Conversion Prices

The Company shall give notice to the Trustee and the Agents in writing and to the Bondholders in accordance with Condition 17 of any adjustment to the Conversion Price as soon as reasonably practicable (and in any event by no later than three Business Days save where otherwise specified in this Condition 6) following such change). The Company shall give notice of any such change to the Bondholders as soon as practicable in accordance with Condition 17 and, for so long as the Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, the Company shall also give notice of any such change to the SGX-ST. Any such notice relating to an adjustment to the Conversion Price shall set forth the event giving rise to the adjustment, the Conversion Price prior to such adjustment, the adjusted Conversion Price and the effective date of such adjustment.

7 PAYMENTS

7.1 Method of Payment

7.1.1 Payment of principal and interest will be made by transfer to the registered account of the Bondholder, in each case in accordance with the provisions of the Agency Agreement.

7.1.2 Payment of principal will only be made after surrender of the relevant Certificate at the specified office of any of the Agents.

7.1.3 Interest on Bonds due on an Interest Payment Date will be paid on the due date for the payment of interest to the holder shown on the Register at the close of business on the seventh day before the due date of the payment of interest (the "**Record Date**").

If an amount which is due on the Bonds is not paid in full, the Registrar will annotate the Register with a record of the amount (if any) paid and Condition 6.1.4 shall apply.

7.2 Registered Accounts

For the purposes of this Condition 7 and in Condition 6.1.2, a Bondholder's "**registered account**" means the U.S. dollar account maintained by or on behalf of it with a bank in New York City, details of which appear on the Register at the close of business on the second Payment Business Day before the due date for payment, and a Bondholder's registered address means its address appearing on the Register at that time.

7.3 Applicable Laws

All payments to be made to Bondholders by or on behalf of the Company are subject in all cases to (i) any applicable laws and regulations in any applicable jurisdiction, but without prejudice to the provisions of

Condition 9 and (ii) any withholding or deduction required pursuant to an agreement described in Section 1471(b) of the U.S. Internal Revenue Code of 1986, as amended (the "**Code**") or otherwise imposed pursuant to Sections 1471 through 1474 of the Code, any regulations or agreements thereunder, any official interpretations thereof, or (without prejudice to the provisions of Condition 9) any law implementing an intergovernmental approach thereto. No commissions or expenses shall be charged to the Bondholders in respect of such payments.

7.4 Payment Initiation

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

So long as the Bonds are represented by the Global Certificate and the Global Certificate is held on behalf of Euroclear or Clearstream or an Alternative Clearing System (as defined in the form of the Global Certificate), payments in respect of the Global Certificate are expected to be made by transfer through Euroclear or Clearstream or the Alternative Clearing System.

7.5 Default Interest and Delay in Payment

7.5.1 If the Company fails to pay any sum in respect of the Bonds when the same becomes due and payable under these Conditions, interest shall accrue on the overdue sum (both before and after any judgment) at the rate of 5.625 per cent. per annum from the due date up to the date on which payment in full of all sums due and unpaid in respect of the Bonds is made.

7.5.2 Bondholders 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 Payment Business Day, or if the Bondholder is late in surrendering its Certificate (if required to do so).

7.6 Payment Business Day

For the purposes of these Conditions, "**Payment Business Day**" means a day other than a Saturday or Sunday on which commercial banks are open for business in New York City, Seoul and London and the city in which the specified office of the Principal Agent is located and, in the case of the surrender of a Certificate, in the place where the Certificate is surrendered.

7.7 Rounding

When making payments to Bondholders, fractions of one U.S. cent will be rounded down to the nearest cent.

8 REDEMPTION, PURCHASE AND CANCELLATION

8.1 Maturity

Unless previously redeemed, converted or repurchased and cancelled as provided herein, the Company will redeem each Bond at its principal amount, together with accrued but unpaid interest, on 29 April 2029 (the "**Maturity Date**"). The Company may not redeem the Bonds at its option prior to that date except as provided in Condition 8.2 or Condition 8.3 below (but without prejudice to Condition 10).

8.2 Redemption at the Option of the Company

8.2.1 At any time from and including 13 May 2027 but not less than 30 Business Days prior to the Maturity Date, the Company may, having given not less than 30 nor more than 60 days' notice in accordance with Condition 17 to the Bondholders and to the Trustee and the Principal Agent in writing (which notice will be irrevocable), redeem the Bonds in whole but not in part at their aggregate principal amount on the date fixed for redemption, together with accrued but unpaid interest to but excluding the date fixed for redemption; provided that no such redemption may be made unless the Closing Price (translated into U.S. dollars at the Prevailing Rate) of the Shares for each of 20 Trading Days in the period of 30 consecutive Trading Days ending on the Trading Day immediately prior to the date upon which notice of such redemption is given pursuant to Condition 17, was at least 130 per cent. of the prevailing Conversion Price (translated into U.S. dollars at the Fixed Exchange Rate). Upon expiry of such notice, the Company shall be bound to redeem such Bonds in accordance with this Condition 8.2.1. If there shall occur an event giving rise to a change in the Conversion Price during any such 30 consecutive Trading Day period, appropriate adjustments for the relevant days approved by two independent investment banks (acting as experts) selected and appointed by the Company (at the expense of the Company) and notified in writing to the Trustee, shall be made for the purpose of calculating the Closing Price for such days.

8.2.2 If at any time the aggregate principal amount of the Bonds outstanding is less than 10 per cent. of the aggregate principal amount originally issued (including any Bonds issued pursuant to Condition 16), the Company shall have the option to redeem such outstanding Bonds in whole but not in part at their aggregate principal amount on the date fixed for redemption, together with accrued but unpaid interest to but excluding the date fixed for redemption. The Company will give at least 30 days' but not more than 60 days' prior notice pursuant to Condition 17 to the Bondholders and to the Trustee and the Principal Agent in writing for such redemption. Upon expiry of such notice, the Company shall be bound to redeem such Bonds in accordance with this Condition 8.2.2.

8.3 Redemption for Taxation Reasons

8.3.1 Subject to Condition 8.3.3, at any time the Company may, having given not less than 30 nor more than 60 days' notice to the Trustee and the Principal Agent in writing and to the Bondholders in accordance with Condition 17 (which notice shall be irrevocable) redeem the Bonds in whole but not in part on the date fixed for redemption (the "**Tax Redemption Date**") at their aggregate principal amount, together with accrued but unpaid interest to but excluding the Tax Redemption Date, if (i) the Company provides to the Trustee immediately prior to the giving of such notice an opinion in form and substance satisfactory to the Trustee of independent legal counsel of recognised international standing to the effect that such change or amendment has occurred (irrespective of whether such amendment or change is then effective) and that the Company has or will become obliged to pay Additional Amounts pursuant to Condition 9 as a result of any change in, or amendment to, the laws or regulations of Korea or any political subdivision or any authority thereof or therein having power to tax, or any change in the general application or official interpretation of such laws or regulations, which change or amendment becomes effective on or after 22 April 2024 and (ii) such obligation cannot be avoided by the Company taking all reasonable measures available to it; provided that no such notice of redemption shall be given earlier than 90 days prior to the earliest date on which the Company would be obliged to pay such Additional Amounts were a payment in respect of the Bonds then due. Prior to the publication of any notice of redemption pursuant to this paragraph, the Company shall deliver to the Trustee (a) an officer's certificate signed by the chief financial officer, chief accounting officer or chief executive officer of the Company stating that the obligation referred to in (i) above of this Clause 8.3.1 cannot be avoided by the Company (taking all reasonable measures available to it) and (b) the opinion of counsel referred to in (i) above of this Clause 8.3.1 and the Trustee shall be obliged to accept such certificate and opinion as sufficient evidence thereof without investigation or verification and the same shall be conclusive and binding on the Bondholders.

8.3.2 Upon the expiry of any such notice, the Company will be bound to redeem the Bonds at their aggregate principal amount.

8.3.3 If the Company gives a notice of redemption pursuant to this Condition 8.3, each Bondholder will have the right to elect that all or a portion of its Bond(s) (in an Authorised Denomination) shall not be redeemed and that the provisions of Condition 9 shall not apply in respect of any payment of principal or interest to be made in respect of such Bond(s) which falls due after the relevant Tax Redemption Date whereupon no, subject to the following sentence, Additional Amounts shall be payable in respect thereof pursuant to Condition 9 and payment of all amounts shall be made subject to the deduction or withholding of the taxation required to be withheld or deducted by the government of Korea or any authority thereof or therein having power to tax. For the avoidance of doubt, any Additional Amounts which had been payable in respect of the Bonds as a result of the laws or regulations of the government of Korea or any authority thereof or therein having power to tax prior to 22 April 2024 will continue to be payable to such Bondholders. To exercise such right, the holder of the relevant Bond must complete, sign and deposit at the specified office of any Paying Agent a duly completed and signed notice of non-redemption, in the form for the time being current, obtainable from the specified office of any Paying Agent, on or before the day falling 15 days prior to the Tax Redemption Date.

8.4 Redemption for Change of Control

8.4.1 Following the occurrence of a Change of Control (as defined below) and to the extent permitted by applicable law, each Bondholder will have the right at such holder's option to require the Company to redeem all or a portion of such holder's Bonds (provided that the remaining portion is in an Authorised Denomination) on the Change of Control Put Date at their principal amount together with interest accrued but unpaid to but excluding the Change of Control Put Date. To exercise such right, the holder of the relevant Bond must complete, sign and 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 Certificate representing the Bonds to be redeemed by not later than ten Business Days prior to the Change of Control Put Date. The "**Change of Control Put Date**" shall be the date set by the Company for such redemption, which shall not be less than 30 days nor more than 60 days after the occurrence of a Change of Control.

For the purposes of this Condition 8.4.1:

"**control**" means, with respect to any person, (a) the acquisition or control of more than 50 per cent. of the Voting Rights of the issued share capital of such person or (b) the right to appoint and/or remove all or the majority of the members of such person'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;

a "**Change of Control**" occurs when:

(a) any person or persons (other than a Permitted Holder) directly or indirectly, acting together, acquires control, directly or indirectly, of the Company;

(b) the Company consolidates with, or merges into, any other person, unless such transaction will not result in any person or persons (other than a Permitted Holder) acquiring control of the surviving person; or

(c) the Company sells or transfers all or substantially all of its assets to any other person or persons, acting together (save for the purposes of reorganisation on terms approved by an Extraordinary Resolution of Bondholders);

a "**Permitted Holder**" means the aggregate shareholding of Beom Su Kim ("**Mr. Kim**") and:

(a) any heir, estate, lineal descendant (or spouse thereof), spouse or parent of Mr. Kim; and

(b) any trust, corporation, partnership or other entity, of which the direct or indirect beneficiaries, equity holders, partners or owners are Mr. Kim and/or such other persons referred to in paragraph (a) above;

a "**person**" includes any individual, company, corporation, firm, partnership, joint venture, undertaking, association, organisation, trust, state or agency of a state (in each case whether or not being a separate legal entity); and

"**Voting Rights**" means the right generally to vote at a general meeting of shareholders (irrespective of whether or not, at the time, stock of any other class or classes shall have, or might have, voting power by reason of the happening of any contingency).

8.4.2 A Change of Control Put Exercise Notice, once delivered, shall be irrevocable and the Company shall redeem the Bonds which form the subject of the Change of Control Put Exercise Notices delivered as aforesaid on the Change of Control Put Date.

8.4.3 The Trustee and the Agents shall not be required to monitor or 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 or may occur and none of them will be responsible or liable to Bondholders or any other person for any loss arising from any failure by it to do so.

8.4.4 No later than seven days after becoming aware of a Change of Control, the Company shall procure that a Change of Control Notice shall be delivered to the Trustee in writing and to the Bondholders in accordance with Condition 17 stating (i) the Bondholders' entitlement to exercise their Conversion Rights as provided in these Conditions and their entitlement to exercise their rights to require redemption of their Bonds pursuant to this Condition 8.4; (ii) the Change of Control Put Date; (iii) the date of such Change of Control, the events causing such Change of Control and all information material to Bondholders concerning the Change of Control; (iv) the date by which the Change of Control Put Exercise Notice (as defined above) must be given; (v) the redemption amount and the method by which such amount will be paid; (vi) the names and addresses of all Paying Agents; (vii) the Conversion Price immediately prior to the occurrence of the Change of Control and the Conversion Price applicable pursuant to Condition 6.6 during the Change of Control Period; (viii) the Closing Price of the Shares as derived from the relevant stock exchange as at the latest practicable date prior to the publication of the Change of Control Notice; (ix) the procedures that Bondholders must follow and the requirements that Bondholders must satisfy in order to exercise the Change of Control Put Right or Conversion Right and (x) that a Change of Control Put Exercise Notice, once validly given, may not be withdrawn.

8.5 Delisting Put Rights

8.5.1 In the event the Shares cease to be listed or admitted to trading or are suspended for a period equal to or exceeding 30 consecutive Trading Days on the KRX KOSPI Market (a "**Delisting**"), each Bondholder shall have the right (the "**Delisting Put Right**"), at such Bondholder's option, to require the Company to redeem all or a portion of such Bondholder's Bonds (provided that the remaining portion is in an Authorised Denomination) on the date set by the Company for such redemption, which shall not be less than 30 days nor more than 60 days after the occurrence of a Delisting, or, if later, the date upon which notice thereof is given to Bondholders by the Company in accordance with Condition 8.5.2 below (the "**Delisting Put Date**") at the principal amount of such Bonds to be redeemed together with accrued but unpaid interest to but excluding the Delisting Put Date.

8.5.2 Promptly after becoming aware of a Delisting but no later than seven days after becoming aware of a Delisting, the Company shall procure that notice regarding the Delisting Put Right shall be given to the Trustee in writing and to the Bondholders in accordance with Condition 17 stating:

(i) the Delisting Put Date;

(ii) the date of such Delisting and, briefly, the events causing such Delisting;

(iii) the date by which the Delisting Put Exercise Notice (as defined below) must be given;

(iv) the method by which the principal amount of the Bonds to be redeemed will be paid;

(v) the names and addresses of all Paying Agents;

(vi) the Conversion Right and the then current Conversion Price;

(vii) the procedures that Bondholders must follow and the requirements that Bondholders must satisfy in order to exercise the Delisting Put Right or Conversion Right; and

(viii) that a Delisting Put Exercise Notice, once validly given, may not be withdrawn.

8.5.3 To exercise its rights to require the Company to redeem (subject to applicable laws) its Bonds, the Bondholder must deliver a written irrevocable notice of the exercise of such right (a "**Delisting Put Exercise Notice**"), in the then current form obtainable from the specified office of any Agent, to any Paying Agent on any business day during normal business hours (being between 9:00 a.m. to 3:00 p.m., Monday to Friday except for public holidays) at the location of such Paying Agent on such day and which day is not less than ten business days prior to the Delisting Put Date.

8.5.4 A Delisting Put Exercise Notice, once delivered, shall be irrevocable and the Company shall redeem the Bonds which form the subject of the Delisting Notices delivered as aforesaid on the Delisting Put Date.

8.5.5 The Trustee and the Agents shall not be required to monitor or take any steps to ascertain whether a Delisting or any event which could lead to the occurrence of a Delisting has occurred or may occur and none of them will be responsible or liable to Bondholders or any other person for any loss arising from any failure by it to do so.

8.5.6 For the purposes of this Condition 8.5, "**business day**" shall mean a day on which commercial banks are open for business in London and Seoul and in the location of the relevant Agent.

8.6 Redemption at the Option of the Bondholders

The Company will, at the option of the holder of any Bond, redeem all or a portion of that holder's Bonds (provided that the remaining portion is in an Authorised Denomination) on 29 April 2027 (the "**Put Option Date**"), at the principal amount of such Bonds to be redeemed, together with accrued but unpaid interest to but excluding the Put Option Date. To exercise such right, the holder of the relevant Bond must complete, sign and deliver to the specified office of any Paying Agent a duly completed and signed notice (the "**Put Option Notice**") together with the Certificate representing the Bonds to be redeemed not less than 30 days nor more than 60 days prior to the Put Option Date.

A Put Option Notice, once delivered, shall be irrevocable (and may not be withdrawn unless the Company consents to such withdrawal) and the Company shall redeem the Bonds the subject of a Put Option Notice delivered as aforesaid on the Put Option Date.

8.7 Redemption Following Exercise of a Put Option

Upon the exercise of any put option specified in any of Conditions 8.4, 8.5 or 8.6, payment of the applicable redemption amount shall be conditional upon (i) the Company obtaining all approvals required by law and (ii) delivery of the Bondholder's Certificate (together with any necessary endorsements) to any Paying Agent on any Business Day together with the delivery of any other document(s) required by these Conditions, and will be made on the later of the date set for redemption and promptly following the time of delivery of such Certificate. If the Paying Agent holds on the Put Date (as defined below) money sufficient to pay the applicable redemption monies of Bonds for which notices have been delivered in accordance with the provisions hereof upon exercise of such right, then, whether or not such Certificate is delivered to the Paying Agent, on and after such Put Date, (a) such Bond will cease to be outstanding; (b) such Bond

will be deemed paid and (c) all other rights of the Bondholder shall terminate (other than the right to receive the applicable redemption monies). "**Put Date**" shall mean the Change of Control Put Date, the Delisting Put Date or the Put Option Date, as applicable.

8.8 Purchases

The Company may, if permitted under applicable laws or regulations, at any time and from time to time purchase Bonds at any price in the open market or otherwise. The Company is required to submit to the Registrar for cancellation any Bonds so purchased.

8.9 Cancellation

All Bonds which are redeemed or purchased by the Company or converted or surrendered will forthwith be cancelled. Certificates in respect of all Bonds cancelled will be forwarded to or to the order of the Registrar and such Bonds may not be reissued or resold.

8.10 Redemption Notices

All notices to Bondholders given by or on behalf of the Company pursuant to this Condition 8 will be given in accordance with Condition 17, and specify (i) the Conversion Price as at the date of the relevant notice, (ii) the Closing Price as at the latest practicable date prior to the publication of the notice, (iii) the date for redemption, (iv) the manner in which redemption will be effected, (v) the aggregate principal amount of the Bonds outstanding as at the latest practicable date prior to the publication of the notice, (vi) the applicable redemption amount together with the accrued and unpaid interest payable up to but excluding the relevant redemption date, and (vii) such other information as the Trustee (in its absolute discretion) may require.

No notice of redemption given under Condition 8.2 or Condition 8.3 shall be effective if it specifies a date for redemption which falls during a Closed Period or within 15 days following the last day of a Closed Period.

If more than one notice of redemption is given (being a notice given by either the Company or a Bondholder pursuant to this Condition 8), the first in time shall prevail. Neither the Trustee nor the Agents shall be responsible for calculating or verifying any calculations of any amounts payable or number of Shares deliverable under these Conditions.

9 TAXATION

9.1 All payments of principal and interest in respect of the Bonds by the Company will be made free from any restriction or condition and be made without deduction or withholding for or on account of any present or future taxes, duties, assessments or governmental charges of whatever nature imposed or levied by or on behalf of Korea or any authority thereof or therein having power to tax, unless deduction or withholding of such taxes, duties, assessments or governmental charges is compelled by law. If such withholding or deduction is so required, the Company will pay such additional amount ("**Additional Amounts**") as may be necessary in order that the net amounts of the principal and interest received by the Bondholders after such withholding or deduction shall equal the amounts which would have been receivable in respect of the Bonds in the absence of such withholding or deduction; except that no such Additional Amounts shall be payable with respect to any Bond:

9.1.1 to a holder (or to a third party on behalf of a holder) who is subject to such taxes, duties, assessments or governmental charges in respect of such Bond by reason of its having some connection with Korea otherwise than merely by holding the Bond or by the receipt of amounts in respect of the Bond; or

9.1.2 (in the case of a payment of principal) if the Certificate in respect of such Bond is surrendered more than 30 days after the Relevant Date except to the extent that the holder would have been entitled to such Additional Amounts on surrendering the relevant Certificate for payment on the last day of such period of 30 days.

9.2 For the purposes hereof, "**Relevant Date**" means whichever is the later of (i) the date on which such payment first becomes due and (ii) if the full amount payable has not been received by the Trustee or the Principal Agent on or prior to such due date, the date on which, the full amount having been so received, notice to that effect shall have been given to the Bondholders and payment made.

9.3 References in these Conditions to principal and interest shall be deemed also to refer to any Additional Amounts which may be payable under this Condition 9 or any undertaking or covenant given in addition thereto or in substitution therefor pursuant to the Trust Deed.

9.4 Neither the Trustee nor any Agent shall be responsible for paying any tax, duty, charges, withholding or other payment referred to in this Condition 9 or for determining or verifying whether such amounts are payable or the amount thereof, and none of them shall be responsible or liable for any failure by the Company, any Bondholder or any third party to pay such tax, duty, charges, withholding or other payment in any jurisdiction or to provide any notice or information to the Trustee, any Agent or any other person that would permit, enable or facilitate the payment of any principal, interest or other amount under or in respect of the Bonds without deduction or withholding for or on account of any tax, duty, charge, withholding or other payment imposed by or in any jurisdiction.

10 EVENTS OF DEFAULT

10.1 The Trustee at its absolute discretion may, and if so requested in writing by the holders of not less than 25 per cent. of the aggregate principal amount of the Bonds then outstanding or if so directed by an Extraordinary Resolution shall (subject to being indemnified and/or secured and/or pre-funded to its satisfaction), give notice to the Company that the Bonds are, and they shall accordingly thereby become, immediately due and repayable at their aggregate principal amount together with any accrued and unpaid interest (subject as provided below and without prejudice to the right of Bondholders to exercise the Conversion Right in respect of their Bonds in accordance with Condition 6) if any of the following events (each an "**Event of Default**") has occurred:

10.1.1 Non-Payment: the Company fails to pay all or any part of any principal or interest in respect of any of the Bonds when the same shall become due and payable, whether at maturity, on acceleration, upon redemption or otherwise, and (i) in the case of principal, such failure to pay shall not have been remedied within five Business Days of the due date for such payment or (ii) in the case of interest, such failure to pay shall not have been remedied within 30 days of the due date for such payment; or

10.1.2 Conversion Rights: the Company fails to deliver the Shares as and when such Shares are required to be delivered following conversion of a Bond, if such failure to deliver shall not have been remedied within two Business Days of the due date for such delivery; or

10.1.3 Breach of Other Obligations: the Company defaults in the performance or observance of or compliance with any of its other obligations set out in the Bonds or the Trust Deed which default is incapable of remedy or, if in the opinion of the Trustee capable of remedy, is not remedied within ten Business Days after the date on which written notice specifying such failure, stating that such notice is a "Notice of Default" under the Bonds and demanding that the Company remedy the same, shall have been given to the Company by the Trustee; or

10.1.4 Cross-Acceleration: (i) any other present or future indebtedness of the Company or any Principal Subsidiary for or in respect of moneys borrowed or raised becomes due and payable as a result of acceleration of such indebtedness prior to its stated maturity (otherwise than at the option of the Company or such Principal Subsidiary, as the case may be) by reason of any actual or potential default, event of default or the like (howsoever described) or (ii) any such indebtedness is not paid when due or, as the case may be, within any applicable grace period originally provided for or (iii) the Company or any Principal Subsidiary fails to pay when due (or within any applicable grace period originally provided for) any amount payable by it under any present or future guarantee for, or indemnity in respect of, any moneys borrowed or raised; provided that the aggregate amount of

the relevant indebtedness, guarantees and indemnities in respect of which any one or more of the events mentioned above in this Condition 10.1.4 has or have occurred with respect to the Company and any Principal Subsidiary equals or exceeds the higher of US$20,000,000 or its equivalent in other currencies; or

10.1.5 Involuntary Proceedings: (i) proceedings are initiated against the Company or any Principal Subsidiary under any applicable liquidation, insolvency, composition, reorganisation, rehabilitation or other similar laws or an application is made for the appointment of an administrative or other receiver, manager, administrator or other similar official, or an administrative or other receiver, manager, administrator or other similar official is appointed, in relation to the Company or any Principal Subsidiary or, as the case may be, in relation to the whole or a substantial part of the undertaking or assets of any of them or an encumbrancer takes possession of the whole or a substantial part of the undertaking or assets of any of them, and (ii) such case (other than the appointment of an administrator) is not stayed or discharged within 60 days; or

10.1.6 Voluntary Proceedings: if the Company or any Principal Subsidiary initiates or consents to judicial proceedings relating to itself under any applicable liquidation, insolvency, composition, reorganisation or other similar laws or makes a conveyance or assignment for the benefit of, or enters into any composition or other arrangement with, its creditors generally (or any class of its creditors) or any meeting is convened to consider a proposal for an arrangement or composition with its creditors generally (or any class of its creditors); or

10.1.7 Winding-up, Dissolution: (i) any order is made by any competent court or resolution passed for the winding up or dissolution of the Company or any Principal Subsidiary; or (ii) the Company or any Principal Subsidiary ceases or threatens to cease to carry on the whole or substantially all of its business, save for the purposes of reorganisation on terms approved by an Extraordinary Resolution of Bondholders, or the Company or any Principal Subsidiary stops or threatens to stop payment of, or is unable to, or admits inability to, pay all or a substantial part of its debts (or any class of its debt) as they fall due or is deemed unable to pay its debts pursuant to or for the purposes of any applicable law, or is adjudicated or found bankrupt or insolvent; or

10.1.8 Analogous Events: any event occurs which under the laws of the relevant jurisdiction has an analogous effect to any of the events referred to in Condition 10.1.1 to Condition 10.1.7 (both inclusive) above.

Upon any such notice being given to the Company, the Bonds will immediately become due and payable at their principal amount as provided in the Trust Deed.

For the purposes of Condition 10.1.4 above, any indebtedness which is in a currency other than U.S. dollars shall be translated into U.S. dollars at the middle spot rate for the sale of U.S. dollars against the purchase of the relevant currency quoted by any leading bank selected by the Trustee in its absolute discretion on any day when the Trustee requests a quotation for such purposes.

10.2 If the Bonds have become due and payable pursuant to Condition 10.1, notwithstanding Condition 6.1 and receipt of any payment after the acceleration of the Bonds and provided that no Conversion Notice has been delivered pursuant to Condition 6.1.4, a Bondholder may exercise its Conversion Right in accordance with this Condition 10.2 by delivering a Conversion Notice (unless, with respect to Condition 10.1.2, a Conversion Notice has already been delivered) to a Conversion Agent during the period from and including the date of a default notice with respect to an event specified in Condition 10.1 (at which time the Company will notify the Bondholders of the number of Shares per Bond to be delivered upon conversion, assuming all the then outstanding Bonds are converted) to and including the 30th Business Day after such payment.

If any converting Bondholder delivers a Conversion Notice pursuant to this Condition 10 on the Business Day prior to, or during, a Closed Period, the Bondholder's Conversion Right shall continue until the Business Day following the last day of the Closed Period, which shall be deemed the Conversion Date (notwithstanding that such a date may fall outside the Conversion Period), for the purposes of such Bondholder's exercise of its Conversion Right pursuant to this Condition 10.

If the Conversion Right attached to any Bond is exercised pursuant to this Condition 10.2 or if an Event of Default has occurred pursuant to Condition 10.1.3, the Company shall at the option of the converting Bondholder (notice of exercise of such option to be delivered to the Conversion Agent in writing) in lieu of delivery of the relevant Shares pay to such Bondholder an amount in U.S. dollars (converted from Korean Won at the Prevailing Rate (the "**Default Cure Amount**") equal to the product of (i) (a) the number of Shares that are required to be delivered by the Company to satisfy the Conversion Right in relation to such converting Bondholder minus (b) the number of Shares that are actually delivered by the Company pursuant to such Bondholders' Conversion Notice and (ii) the Closing Price of the Shares on the Conversion Date; provided that if such Bondholder has received any payment under the Bonds pursuant to this Condition 10, the amount of such payment shall be deducted from the Default Cure Amount. Payment of the Default Cure Amount shall be paid to the converting Bondholder on the third Business Day following the date on which notice of exercise of the option to receive the Default Cure Amount is delivered.

11 CONSOLIDATION, AMALGAMATION OR MERGER

The Company will not consolidate with, merge or amalgamate into or transfer its assets substantially as an entirety to any corporation or convey or transfer its properties and assets substantially as an entirety to any person (the consummation of any such event, a "**Merger**"), unless:

(i) the corporation formed by such Merger (if not the Company) or the person that acquired such properties and assets shall expressly assume, by a supplemental trust deed, all obligations of the Company under the Trust Deed, the Agency Agreement and the Bonds and the performance of every covenant and agreement applicable to it contained therein;

(ii) immediately after giving effect to any such Merger, no Event of Default shall have occurred or be continuing or would result therefrom; and

(iii) the corporation formed by such Merger, or the person that acquired such properties and assets, shall expressly agree, among other things, to indemnify each holder of a Bond against any tax, assessment or governmental charge payable by withholding or deduction thereafter imposed on such holder solely as a consequence of such Merger with respect to the payment of principal on the Bonds.

12 PRESCRIPTION

Claims in respect of amount due in respect of the Bonds will become prescribed unless made within ten years (in the case of principal) or five years (in the case of interest) from the relevant date for payment.

13 ENFORCEMENT

At any time after the Bonds have become due and repayable, the Trustee may, at its discretion and without further notice, take such steps and/or actions and/or institute such proceedings against the Company as it may think fit to enforce repayment of the Bonds and to enforce the provisions of the Trust Deed, but it will not be bound to take any such proceedings unless (i) it shall have been so requested in writing by the holders of not less than 25 per cent. of the aggregate principal amount of the Bonds then outstanding or shall have been so directed by an Extraordinary Resolution of the Bondholders and (ii) it shall have been indemnified and/or secured and/or pre-funded to its satisfaction. No Bondholder will be entitled to proceed directly against the Company unless the Trustee, having become bound to do so, fails to do so within a reasonable period and such failure shall be continuing.

14 MEETINGS OF BONDHOLDERS, MODIFICATION AND WAIVER

14.1 Meetings

The Trust Deed contains provisions for convening meetings of Bondholders to consider any matter affecting their interests, including without limitation the sanctioning by Extraordinary Resolution of a modification of the Bonds or the provisions of the Trust Deed. The quorum at any such meeting for passing

an Extraordinary Resolution will be two or more persons holding or representing in the aggregate over 50 per cent. of the aggregate principal amount of the Bonds for the time being outstanding or, at any adjourned such meeting, two or more persons being or representing Bondholders whatever the principal amount of the Bonds so held or represented unless the business of such meeting includes consideration of proposals, *inter alia*, (i) to modify the due date for any payment in respect of the Bonds, (ii) to reduce or cancel the amount of principal amount of or interest on the Bonds or to change the method of calculation of the interest, (iii) to change the currency of payment of the Bonds, (iv) to modify (except by a unilateral and unconditional reduction in the Conversion Price) or cancel the Conversion Rights or the put options specified in Condition 8, (v) to increase the Conversion Price (other than as provided for in Condition 6.3.21) or to shorten the Conversion Period or (vi) to modify the provisions concerning the quorum required at any meeting of the Bondholders or the majority required to pass an Extraordinary Resolution including this proviso, in which case the necessary quorum for passing an Extraordinary Resolution will be two or more persons holding or representing not less than 66.66 per cent., or at any adjourned such meeting not less than 25 per cent., of the aggregate principal amount of the Bonds for the time being outstanding. An Extraordinary Resolution passed at any meeting of Bondholders will be binding on all Bondholders, whether or not they are present at the meeting. The Trust Deed provides that (a) a written resolution signed by or on behalf of the holders of not less than 90 per cent. of the aggregate principal amount of Bonds outstanding or (b) a resolution passed by Electronic Consent (as defined in the Trust Deed) shall in each case be as valid and effective as an Extraordinary Resolution duly passed at a quorate meeting of Bondholders. Such a resolution in writing may be contained in one document or several documents in the same form, each signed by or on behalf of one or more Bondholders.

14.2 Modification and Waiver

The Trustee may agree, without the consent of the Bondholders, to (i) any modification (except as mentioned in Condition 14.1 above) to, or the waiver or authorisation of any breach or proposed breach of, the Bonds, the Agency Agreement, any agreement supplemental to the Agency Agreement, the Trust Deed, any deed supplemental to the Trust Deed or these Conditions which is not, in the opinion of the Trustee, materially prejudicial to the interests of the Bondholders or (ii) any modification to the Bonds, the Agency Agreement, any agreement supplemental to the Agency Agreement, the Trust Deed, any deed supplemental to the Trust Deed or these Conditions which, in the Trustee's opinion, is of a formal, minor or technical nature or to correct a manifest error or to comply with mandatory provisions of law. Any modification, waiver or authorisation pursuant to this Condition 14.2 will be binding on the Bondholders and, unless the Trustee agrees otherwise, any such modification, waiver or authorisation will be notified by the Company to the Bondholders as soon as practicable thereafter.

14.3 Interests of Bondholders

In connection with the exercise of its functions (including but not limited to those in relation to any proposed modification, authorisation or waiver) the Trustee shall have regard to the interests of the Bondholders as a class and shall not have regard to the consequences of such exercise for individual Bondholders and the Trustee shall not be entitled to require, nor shall any Bondholder be entitled to claim, from the Company or the Trustee, any indemnification or payment in respect of any tax consequences of any such exercise upon individual Bondholders except to the extent provided for in Condition 9 and/or any undertakings given in addition thereto or in substitution therefor pursuant to the Trust Deed.

14.4 Certificates/Reports

The Trustee may rely without liability to Bondholders on a report, confirmation or certificate or any advice of any accountants, financial advisers, financial institution or any other expert, whether or not addressed to it and whether their liability in relation thereto is limited (by its terms or by any engagement letter relating

thereto entered into by the Trustee or in any other manner) by reference to a monetary cap, methodology or otherwise. The Trustee may accept and shall be entitled to conclusively rely on any such report, confirmation or certificate or advice and such report, confirmation or certificate or advice shall be binding on the Company, the Trustee and the Bondholders.

15 REPLACEMENT OF CERTIFICATES

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

16 FURTHER ISSUES

The Company may from time to time without the consent of the Bondholders create and issue further bonds having the same terms and conditions as the Bonds in all respects (or in all respects except for the issue date and the first payment of interest on them) and so that such further issue shall be consolidated and form a single series with the outstanding Bonds. References in these Conditions to the Bonds include (unless the context requires otherwise) any further bonds issued pursuant to this Condition 16 and consolidated and forming a single series with the Bonds. Any further bonds consolidated and forming a single series with the Bonds shall be constituted by a deed supplemental to the Trust Deed.

17 NOTICES

All notices to Bondholders shall be validly given if mailed to them at their respective addresses in the register of Bondholders maintained by the Registrar or published in a leading newspaper having general circulation in Asia. Any such notice shall be deemed to have been given on the later of the date of such publication and the seventh day after being so mailed, as the case may be.

So long as the Bonds are represented by the Global Certificate and the Global Certificate is held on behalf of Euroclear or Clearstream or an Alternative Clearing System, notices to Bondholders shall be given by delivery of the relevant notice to Euroclear or Clearstream or an Alternative Clearing System, for communication by it to entitled accountholders in substitution for notification as required by the Conditions (and shall be deemed to have been given on the date of delivery to such clearing system).

18 AGENTS

The names of the initial Agents and their respective specified offices are set out below. Subject to the terms of the Trust Deed and the Agency Agreement, the Company reserves the right, with the prior written approval of the Trustee, at any time to vary or terminate the appointment of any Agent and to appoint additional or other Agents. The Company will at all times maintain (i) a Principal Agent; (ii) a Registrar with a specified office outside the United Kingdom; and (iii) so long as the Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, an Agent having a specified office in Singapore where the Bonds may be presented or surrendered for payment or redemption (and such agent in Singapore shall be a Paying Agent, a Transfer Agent and a Conversion Agent and shall be referred to in these terms and conditions as the "**Singapore Agent**"). Notice of any such termination or appointment, of any changes in the specified offices of any Agent and of any change in the identity of the Registrar or the Principal Agent will be given promptly by the Company to the Bondholders in accordance with Condition 17 and in any event not less than 45 days' notice will be given.

For so long as the Bonds are listed on the SGX-ST and the rules of the SGX-ST so require, in the event that the Global Certificate is exchanged for definitive Certificates, the Company shall appoint and maintain a paying agent in Singapore, where the Bonds may be presented or surrendered for payment or redemption.

In addition, in the event that the Global Certificate is exchanged for definitive Certificates, an announcement of such exchange shall be made by or on behalf of the Company through the SGX-ST and such announcement will include all material information with respect to the delivery of the definitive Certificates, including details of the paying agent in Singapore.

19 INDEMNIFICATION

The Trust Deed contains provisions for the indemnification of the Trustee and for its relief from responsibility, including provisions relieving it from taking proceedings to enforce repayment or the provisions of the Trust Deed or the terms and conditions of the Bonds unless indemnified and/or secured and/or pre-funded to its satisfaction. The Trustee is entitled to enter into business transactions with the Company or any person or body corporate associated with the Company without accounting for any profit resulting therefrom.

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

None of the Trustee or any of the Agents shall be responsible for the performance by the Company and any other person appointed by the Company in relation to the Bonds of the duties and obligations on its part expressed in respect of the same and, unless it has express written notice from the Company to the contrary, the Trustee and each Agent shall be entitled to assume that the same are being duly performed. The Trustee shall not be under any obligation to monitor compliance with the provisions of the Trust Deed, the Agency Agreement or these Conditions or whether an Event of Default or a Potential Event of Default has occurred, and shall not be liable to the Bondholders or any other person for not doing so.

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

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

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

20 CONTRACTS (RIGHTS OF THIRD PARTIES) ACT 1999

Without prejudice to the rights of the Bondholders as set out in Condition 13, no person shall have any right to enforce any term or condition of the Bonds under the Contracts (Rights of Third Parties) Act 1999, but this does not affect any right or remedy of any person which exists or is available apart from that Act.

21 GOVERNING LAW AND JURISDICTION

The Bonds, the Trust Deed and the Agency Agreement and any non-contractual obligations arising out of or in connection with them are governed by, and shall be construed in accordance with, the laws of England and Wales. The courts of England are to have jurisdiction to settle any disputes which may arise out of or in connection with the Trust Deed and the Bonds ("**Proceedings**") and accordingly any Proceedings arising out of or in connection with the Trust Deed and the Bonds may be brought in such courts. The Company has in the Trust Deed irrevocably submitted to the courts of England and waived any objection to Proceedings in such courts, whether on the ground of venue or on the ground that Proceedings have been brought in an inconvenient forum. These submissions are made for the benefit of the Trustee and each of the Bondholders. The Company irrevocably has appointed Cogency Global (UK) Limited, now at 6 Lloyds Avenue, Unit 4CL, London EC3N 3AX, United Kingdom, as its agent for service of process in England. If for any reason Cogency Global (UK) Limited ceases to be able to act as such or no longer has an address in England, the Company irrevocably agrees to appoint a substitute process agent and shall immediately notify the Trustee of such appointment. Nothing herein or in the Trust Deed shall affect the right to serve process in any other manner permitted by law.

THE GLOBAL CERTIFICATE

The Global Certificate will contain provisions that apply to the Bonds in respect of which they are issued, some of which modify the effect of the Conditions set out in this Offering Circular. Terms defined in the Conditions have the same meaning in the paragraphs below. The following is a summary of such provisions.

MEETINGS

The registered holder of the Bonds in respect of which the Global Certificate is issued will be treated as being two persons for the purposes of any quorum requirements of a meeting of Bondholders, and at any such meeting, as having one vote in respect of each U.S.$100,000 in principal amount of the Bonds in respect of which the Global Certificate is issued.

CANCELLATION

Cancellation of any Bond following its redemption, conversion or purchase by the Company will be effected by a reduction in the principal amount of the Bonds in the register of Bondholders.

NOTICES

So long as the Bonds are represented by the Global Certificate and the Global Certificate is held on behalf of Euroclear or Clearstream or an alternative clearing system (the "Alternative Clearing System"), notices to Bondholders may be given by delivery of the relevant notice to Euroclear or Clearstream or the Alternative Clearing System for communication by it to entitled accountholders in substitution for notification as required by the Conditions and such notices shall be deemed to have been given on the date such notices are delivered to Euroclear, Clearstream or the Alternative Clearing System, as appropriate.

TRUSTEE'S POWERS

In considering the interests of Bondholders while the Global Certificate representing the Bonds is registered in the name of a nominee of the Common Depositary for a clearing system, the Trustee may, to the extent it considers appropriate to do so in the circumstances but without being obliged to do so, call for any certificate or other document to be issued by Clearstream or Euroclear (or any Alternative Clearing System on behalf of whom this Global Certificate may be held) as to the principal amount of Bonds represented by this Global Certificate standing to the account of any Bondholder.

CONVERSION

The right to require the conversion of the Bonds in respect of which the Global Certificate has been issued is exercisable by presentation to or to the order of the Principal Agent or to any other Conversion Agent of one or more Conversion Notices duly completed by or on behalf of a holder of a book-entry interest in such Bond. Deposit of the Global Certificate with any Conversion Agent together with the relevant Conversion Notice(s) shall not be required. The exercise of the Conversion Right shall be notified by the relevant Conversion Agent to the Registrar and the holder of this Global Certificate.

REGISTRATION OF TITLE

Except in the limited circumstances described in the Global Certificate, certificates for individual Bonds will not be issued in exchange for the Bonds in respect of which the Global Certificate is issued.

TRANSFERS

Transfers of interests in the Bonds will be effected through the records of Euroclear and Clearstream or any Alternative Clearing System and their respective participants in accordance with their respective rules and operating procedures.

KOREAN FOREIGN EXCHANGE CONTROLS AND SECURITIES REGULATION

General

The Foreign Exchange Transaction Act and Presidential Decree and Regulations under that Act and Decree (collectively, the "FETL") regulate investment in Korean securities by non-residents and issuance of securities outside Korea by Korean companies. Under the FETL, non-residents may invest in Korean securities only to the extent specifically allowed by these laws or otherwise permitted by the Ministry of Economy and Finance (the "MOEF"). The FSC has also adopted, pursuant to its authority under the FSCMA, regulations that restrict investment by foreigners in Korean securities and regulate issuance of securities outside Korea by Korean companies.

Under the FETL, (1) if the Korean government deems that it is inevitable due to the outbreak of natural calamities, wars, conflict of arms or grave and sudden and significant changes in domestic or foreign economic circumstances or other situations equivalent thereto, the MOEF may temporarily suspend payment, receipt or performance under any or all foreign exchange transactions, in whole or in part, to which the FETL apply (including suspension of payment and receipt of foreign exchange) or impose an obligation to safe-keep, deposit or sell precious metal or means of payment to the Bank of Korea, foreign exchange equalization funds, certain Korean governmental agencies or financial institutions; and (2) if the Korean government concludes that international balance of payments and international financial markets are confronted or are likely to be confronted with serious disruption or that the movement of capital between Korea and other countries is likely to adversely affect its currency policies, exchange rate policies or other macroeconomic policies, the MOEF may take measures to require any person who intends to perform capital transactions to obtain permission or to require any person who performs capital transactions to deposit part of the payments received in such transactions at the Bank of Korea, foreign exchange equalization funds or financial institutions, in each case subject to certain limitations.

Such authority of the MOEF would not, however, be applicable to foreign investments made pursuant to the Foreign Investment Promotion Act of Korea.

Reporting requirements for holders of substantial interests

Report on substantial shareholding (5% report)

Under the FSCMA, any person whose direct or indirect holding of (a) shares having voting rights issued by a listed company (the "Voting Shares"), (b) securities related to the Voting Shares issued by a listed company, including (i) certificates representing the right to subscribe for the Voting Shares, (ii) convertible bonds, (iii) bonds with warrants, (iv) exchangeable bonds with a right to claim to exchange them with Voting Shares or any of items set forth in (i) through (iii), (v) derivative-linked securities based on, as the underlying asset, Voting Shares or any of items set forth in (i) through (iv) (only in cases where the underlying asset can be acquired through the exercise of a right) and (c) securities related to the Voting Shares issued by a person other than the listed company, including (i) depository receipts for Voting Shares or other securities set forth in (b), (ii) exchangeable bonds with a right to claim to exchange them with Voting Shares or other securities set forth in (b) or (c)(i) and (iii) derivative-linked securities based on, as underlying asset, the aforementioned securities (only in cases where the underlying asset can be acquired through the exercise of a right)(collectively, the "Equity Securities"), together with the Equity Securities directly or indirectly held by certain related persons or by any person acting in concert with the person accounts for 5.0% or more of the total issued and outstanding Equity Securities of such listed company is required to report the status and purpose (in terms of whether the purpose of the shareholding is to exercise control over the management of the issuer) of the holdings, the major terms and conditions of the agreement relating to the Equity Securities and other matters prescribed by the Enforcement Decree to the FSC and the Korea Exchange within five business days after reaching the 5.0% ownership interest .

In addition, after filing the aforementioned report, the occurrence of any of the following subsequent changes with respect to such person's shareholdings must be reported to the FSC and the Korea Exchange within five (5) business days from the date of such change:

- any change to the shareholding of such person in a shareholding ratio equal to or greater than 1% of the total number of issued and outstanding Equity Securities;
- any change to the purpose of shareholding (which means whether a person has 'purpose to participate in management' (as explained in detail below) of the listed company or not);
- any change to the purpose of shareholding between 'general investment purpose' (as explained in detail below) and 'simple investment purpose' (as explained in detail below) (either of which is only applicable to the case where a person does not have 'purpose to participate in management' of the listed company);
- any change to the material terms or conditions of any agreements (such as trust agreement or security agreement) relating to such person's shareholding (with this item (a) applying only to the case where the purpose of shareholding is 'purpose to participate in management' or 'general investment purpose' and (b) being triggered only if the number of the Equity Securities held by such person subject to such changed agreements are equal or greater than 1% of the total number of issued and outstanding Equity Securities of the listed company); or
- any change to the form of shareholding of such person (which means change to the form of shareholding between direct holding and indirect holding, and this item (a) applies only to the case where the purpose of shareholding is 'purpose to participate in management' and (b) is triggered only if the number of the Equity Securities held by such person subject to such change of the form of shareholding are equal or greater than 1% of the total number of issued and outstanding Equity Securities of the listed company).

In regards to the aforementioned '*purpose to participate in management*' of the listed company, such purpose will be regarded to exist if and when an investor has any intention to exercise *de facto* influence over the listed company or its executive officers with respect to any of the following matters concerning the listed company (the term 'exercising *de facto* influence' includes (i) exercising the minority shareholders' rights under the Korean Commercial Code to convene an extraordinary shareholders meeting or to propose an agenda to be dealt with at the extraordinary shareholders meeting or having 3rd parties exercise such minority shareholders' rights, (ii) soliciting others to exercise their voting rights by proxy in accordance with the FSCMA, but excludes merely expressing its intention to the company or others):

- Appointment or dismissal of an executive officer, or suspension of the performance of duties of an executive officer subject to certain exceptions;
- Amendment of the articles of incorporation with respect to the organization of the listed company under the Korean Commercial Code such as the board of directors, subject to certain exceptions;
- Change of the listed company's capital subject to certain exceptions;
- Merger, split-off, and merger after a split-off of the listed company;
- Comprehensive exchange or transfer of stocks;
- Complete transfer and acquisition of business or transfer and acquisition of an essential part of business as prescribed by the FSC;
- Disposal of all assets or disposal of an essential part of the assets as prescribed by the FSC;
- Execution of, amendments to, or termination of a contract for leasing all business or delegating business administration, or entirely sharing the profit and loss with another person, or any other similar contract; or
- Dissolution.

The '*general investment purpose*' means the purpose other than 'purpose to participate in management' and 'simple investment purpose' and primarily includes shareholder's activities for matters unrelated to the control of the listed company (such as dividends or executive officer's remuneration) or professional investor's activities for general improvement of corporate governance of the listed company carried out in accordance with its policy disclosed in advance such as Stewardship Code.

The '*simple investment purpose*' means the purpose to exercise only such rights granted under the laws with respect to the Equity Securities and which can be exercised irrespective of the number of such Equity Securities held, and includes voting rights, pre-emptive rights to shares and dividend rights.

There are some exceptions to the above reporting rule in terms of (i) the matters required to be reported and (ii) the reporting period in the case where (a) the purpose of holding is not the 'purpose to participate in management' and/or (b) the holder is the professional investor under the FSCMA. However, the foreign investors do not fall within the professional investor for the purpose of the above reporting rule.

Violation of these reporting requirements may subject a person to criminal sanctions such as fines or imprisonment and may result in a prohibition on the exercise of voting rights with respect to the ownership of Equity Securities exceeding 5.0%. Furthermore, the FSC may issue an order to dispose of non-reported Equity Securities.

Report by the major shareholder on its shareholding status (10% report)

In addition to the reporting requirements described above, any person whose direct or beneficial ownership of our voting stock and/or depository receipts for our voting stock accounts for 10.0% or more of the total issued and outstanding voting stock, which we refer to as a major shareholder (the "Major Shareholder"), must file a report on the status of his/her ownership of (i) equity securities issued by us, including voting shares, convertible bonds, bonds with warrants, participating bond, or exchangeable bonds or derivative linked securities with right to claim their exchange with equity securities and foregoing other securities, (ii) depository receipts for the securities set forth in (i) above, (iii) exchangeable bonds which are issued by a person other than us and entitled to be exchanged for the securities set forth in (i) and (ii) above, and (iv) financial investment instruments, the underlying assets of which are comprised solely of the securities set forth in (i), (ii) and (iii) above (collectively, "Specific Securities"), to the SFC and the Korea Exchange within five business days after the date on which he or she becomes a Major Shareholder. In addition, such person must file a report on any subsequent change in shareholding (excluding the minimal change in shareholding under the FSCMA) to the SFC and the Korea Exchange within five business days after the change occurred.

There are some exceptions to the above reporting rule in terms of the reporting period in the case where (a) the change in shareholding occurs as a result of inevitable events such as stock dividends, distribution of free shares, subdivision or consolidation of shares and capital reduction and/or (b) the major shareholder is a professional investor without 'purpose to participate in management' of the listed company under the FSCMA. However, the foreign investors do not fall within the professional investor for the purpose of the above reporting rule.

Violation of these reporting requirements may subject a person to criminal sanctions such as fines or imprisonment.

Report by the Major Shareholder of its Plan to Transaction Specific Securities

The FSCMA, amended on 23 January 2024 and to be implemented from 24 July 2024, stipulates that if any major shareholder wishes to sell, buy, or carry out other transactions prescribed by the enforcement decree of the FSCMA involving, specific securities, it shall file a report on its plan for such transactions including the details on the purpose, transaction volume, transaction period and other matters prescribed by the enforcement decree of the FSCMA, to the SFC and the Korea Exchange during the period prescribed by the enforcement decree of the FSCMA within 30 days to 90 days prior to the commencement of such transactions.

The enforcement decree of the FSCMA which provides the details of the foregoing reporting requirements has not yet been passed.

According to the pre-announcement of legislation of the FSC, the following entities and any foreign entities equivalent thereto are expected to be excluded from the scope of major shareholder under the enforcement decree of the FSCMA for the purpose of the above reporting obligation: (i) Korean Government, (ii) The Bank of Korea, (iii) a bank under the Banking Act, (iv) The Korea Development Bank, (v) The Industrial Bank of Korea, (vi) The Export-Import Bank of Korea, (vii) National Agricultural Cooperative Federation, (viii) National Federation of Fisheries Cooperatives, (ix) an insurance company under the Insurance Business Act, (x) a financial investment firm under the FSCMA, (xi) Korea Securities Finance Corporation, (xii) a merchant bank under the FSCMA, (xiii) a money brokerage corporation under the FSCMA, (xiv) a financial holding company under the Financial Holding Companies Act, (xv) a specialized credit financial corporation under the Specialized Credit Financial Business Act, (xvi) Korea Federation of Savings Bank and a mutual savings bank under the Mutual Savings Bank Act, (xvii) National Forest Cooperatives Federation, (xviii) Korean Federation of Community Credit Cooperatives, (xix) National Credit Union Federation, (xx) Korea Deposit Insurance Corporation and a financial resolution institution under the Depositor Protection Act, (xxi) Korea Asset Management Corporation, (xxii) Korea Housing Finance Corporation, (xxiii) Korea Investment Corporation, (xxiv) Korea Financial Investment Association, (xxv) Korea Securities Depositary, (xxvi) an electronic registration institution under the Act on Electronic Registration of Stocks, Bonds, Etc., (xxvii) Korea Exchange, (xxviii) FSS, (xxix) a collective investment vehicle (fund) established under the FSCMA, (xxx) a credit guarantee fund established under the Credit Guarantee Fund Act, (xxxi) a technology credit guarantee fund established under the Technology Credit Guarantee Fund Act, (xxxii) a fund or pension fund established pursuant to Korean law (excluding the credit guarantee fund and the technology credit guarantee fund above) or a corporation manages such fund or pension fund, (xxxiii) a corporation that operates the mutual aid business pursuant to Korean law, (xxxiv) Korean local government, (xxxv) a special purpose vehicle of the private equity fund under the FSCMA (xxxvi) Korea SMEs and Startups Agency, and (xxxvii) a privately placed collective investment scheme excluded from the definition of collective investment under Article 6, Paragraph 5(1) of the FSCMA (except for an individual investment association under the Venture Investment Promotion Act).

Furthermore, the Enforcement Decree of the FSCMA is also expected to exclude some types of the transactions from the transactions subject to the above reporting obligation, and the excluded transactions are expected to include a transaction to acquire or dispose of the securities as a result of issuance of, or exercise the exchange rights under, the exchangeable bonds among the specific securities.

Restrictions applicable to the Bonds

In order for us to issue the Bonds outside Korea, we are required to file a prior report of issuance with the MOEF. No further Korean governmental approval is necessary for the initial offering and issuance of the Bonds. In addition, no further Korean governmental approval is necessary for the delivery of the Shares deliverable upon conversion of the Bonds. Upon acquisition of such Shares by a non-Korean, such non-Korean or his or her standing proxy in Korea must immediately file an over-the-counter transaction report of such acquisition to the Governor of the FSS.

Restrictions applicable to shares

As a result of amendments to the FETL and the regulations of the FSC adopted in connection with the stock market opening from January 1992 and after that date, foreigners may invest, with limited exceptions and subject to procedural requirements, in all shares of Korean companies listed on the KRX KOSPI Market, the KRX KOSDAQ Market or the KRX KONEX Market on the Korea Exchange (the "KRX KONEX Market") unless prohibited by specific laws. Foreign investors must trade shares listed on the KRX KOSPI Market, the KRX KOSDAQ Market or the KRX KONEX Market, except in limited circumstances, including:

- odd-lot trading of shares;

- acquisition of shares by exercise of warrant, conversion right, exchange right under bonds with warrants, convertible bonds or exchangeable bonds or withdrawal right under depositary receipts issued outside of Korea by a Korean company;
- acquisition of shares as a result of inheritance, donation, bequest or exercise of shareholders' rights, including preemptive rights or rights to participate in free distributions and receive dividends;
- over-the-counter transactions between foreigners of a class of shares for which the ceiling on aggregate acquisition by foreigners, as explained below, has been reached or exceeded;
- shares acquired by way of a foreign direct investment and/or the disposal of such shares by the investor;
- the disposal of shares pursuant to the exercise of appraisal rights of dissenting shareholders;
- the acquisition or disposal of shares in connection with a tender offer;
- the acquisition of shares by a foreign depositary in connection with the issuance of depositary receipts;
- the acquisition and disposal of shares through overseas stock exchange market if such shares are simultaneously listed on the KRX KOSPI Market, the KRX KOSDAQ Market or the KRX KONEX Market and such overseas stock exchange; and
- arm's length transactions between foreigners, if all of such foreigners belong to the investment group managed by the same person.

Under current regulatory system, the foreign investors are required to obtain approval from the FSS prior to the over-the-counter transactions other than those listed above as exceptions.

Upon a foreign investor's purchase of shares through the KRX KOSPI Market, the KRX KOSDAQ Market or the KRX KONEX Market by opening a designated investment account at a foreign exchange bank in accordance with FETL, no separate report by the investor is required. However, a foreign investor's acquisition or sale of shares outside the KRX (exceptionally permitted as discussed above) must be reported by the foreign investor or his standing proxy to the Governor of the FSS at the time of each such acquisition or sale; provided, however, that a foreign investor must ensure that any acquisition or sale by it of shares outside the KRX KOSPI Market, the KRX KOSDAQ Market or the KRX KONEX Market in the case of trades in connection with a tender offer, odd-lot trading of shares, trades of a class of shares for which the aggregate foreign ownership limit has been reached or exceeded or any other case set forth in the Investment Rules, is reported to the Governor of the FSS by the investment dealer or investment broker engaged to facilitate such transaction. In the event a foreign investor desires to acquire or sell shares outside the KRX KOSPI Market, the KRX KOSDAQ Market or the KRX KONEX Market and the circumstances in connection with such sale or acquisition do not fall within the exceptions made for certain limited circumstances described above, then the foreign investor must obtain the prior approval of the Governor. Foreign investors are prohibited from engaging in margin transactions through borrowing shares from financial investment companies with respect to shares which are subject to a foreign ownership limit.

In January 2023, the FSC announced its plan to (i) abolish the foreign investor registration requirement and allow the foreign investors to open a dealing account or a brokerage account with an investment dealer or an investment broker licensed in Korea only with (in case of the foreign legal entity) LEI (Legal Entity Identifier) or (in case of the foreign individual) his or her passport number (as the case may be), (ii) expand the scope of the over-the-counter transactions exceptionally permitted such as the transactions without change of actual owner (e.g., merger of funds, transaction between feeder fund and master fund, between asset manager and fund managed by such asset manager or between funds managed by the same asset manager), (iii) facilitate the use of omnibus account for the foreign investors by abolishing the reporting requirement for trading details of the listed shares by each end-investor immediately after the settlement and (iv) simplify the post-reporting procedures applying to the over-the-counter transactions exceptionally permitted. In December 2023, the FSC announced that each plan would be implemented starting from 14 December 2023, and each plan was implemented accordingly.

A foreign investor may appoint one or more standing proxies from among the KSD, Korean foreign exchange banks, investment dealers, investment brokers, collective investment companies (including licensed branches of non-Korean banks, investment dealers, investment brokers and collective investment companies) and internationally recognized foreign custodians to exercise shareholders' rights or perform any matters relating thereto if the foreign investor does not perform these activities himself or herself. However, a foreign investor may be exempted from complying with these standing proxy rules with the approval of the Governor of the FSS in cases deemed inevitable by reason of conflict between laws of Korea and the home country of the foreign investor.

The shares of a listed Korean company owned by a foreign investor must be kept in custody (including an electronic registration under the Act on Electronic Registration of Stocks and Bonds of Korea) with an eligible custodian under the FSCMA. Only the KSD, Korean foreign exchange banks, investment dealers, investment brokers, collective investment companies (including licensed branches of non-Korean banks, investment dealers, investment brokers and collective investment companies) and internationally recognized foreign custodians are eligible to be a custodian of shares for a foreign investor; provided, however, that a foreign investor is exempted from the above requirement if it (i) acquires shares publicly offered or sold outside Korea for the purpose of listing on an overseas stock exchange or (ii) acquires or disposes of shares through an overseas stock exchange (or overseas multilateral-trade contracting companies) if such shares are simultaneously listed on the Korea Exchange and such overseas stock exchange.

Under the Investment Rules, with certain exceptions, foreign investors may acquire shares of a Korean company without being subject to any foreign investment ceiling. As one such exception, public service corporations are subject to a 40.0% ceiling on the acquisition of shares by foreigners in the aggregate. Designated public corporations may set a ceiling on the acquisition of shares by a single person by the articles of incorporation of the public service corporation. Currently, Korean Electric Power Corporation ("KEPCO") is the only designated public corporation which has set such a ceiling. Furthermore, an investment by a foreign investor of not less than 10.0% of the issued shares of a Korean company is defined as a direct foreign investment under the Foreign Investment Promotion Law, which is, in general, subject to the report to a foreign exchange bank or the Korea Trade-Investment Promotion Agency. The acquisition of shares of a Korean company by a foreign investor may also be subject to certain foreign shareholding restrictions in the event that the restrictions are prescribed in each specific law which regulates the business of the Korean company. A foreigner who has acquired shares in excess of any ceiling may not exercise his voting rights with respect to the shares exceeding the limit. However, as of the date of this Offering Circular, we are not such a designated public service corporation.

Furthermore, in case of investments amounting to Won 100 million or more, (i) an investment by a foreign investor in 10% or more of the outstanding shares with voting rights of a Korean company or (ii) an acquisition of the right by a foreign investor holding shares of a Korean company to second or appoint directors or officers of such company is defined as a foreign direct investment under the Foreign Investment Promotion Act of Korea. Generally, a foreign direct investment must be reported to the foreign exchange bank or Korea Trade-Investment Promotion Agency designated by the Ministry of Trade, Industry and Energy prior to such investment (within 60 days from the date of such investment, if the investment is made by acquiring outstanding shares of a Korean company listed on the Korea Exchange). The acquisition of shares of a Koran company by a foreign investor may also be subject to certain foreign or other shareholding restrictions in the event that the restrictions are prescribed in a specific law that regulates the business of the Korean company. Changes in ownership of shares of a Korean company by a foreign investor are subject to reporting requirements.

Under the FETL, a foreign investor who intends to trade shares of a Korean company without obtaining separate governmental approvals or submitting separate reports to the Government must designate a foreign exchange bank and open a foreign currency account and a Won account with the bank exclusively for stock investments. No approval is required for remittance of foreign currency funds into Korea or for deposit of foreign currency funds in the foreign currency account. Foreign currency funds may be transferred from the foreign currency account to a Korean Won account opened with an investment dealer or an investment broker at the time the

foreign investor is required to place a deposit for, or settle the purchase price of, a stock purchase transaction to an investment dealer or investment broker's Won account. Funds in the foreign currency account may be remitted abroad without any governmental approval.

Dividends on shares of Korean companies are paid in Korean Won. No governmental approval is required for foreign investors to receive dividends on, or the Won proceeds of the sale of, any common shares to be paid, received and retained in Korea. Dividends paid on, and the Korean Won proceeds of the sale of, any shares held by a non-resident of Korea may be deposited either in a Korean Won account with the investor's investment dealer or investment broker or his or her Korean Won account. Funds in the investor's Korean Won account may be transferred to his foreign currency account or withdrawn for local living expenses, provided that any withdrawal of local living expenses in excess of a certain amount shall be reported to the governor of the FSS by the foreign exchange bank at which the Korean Won account is maintained. Funds in the Korean Won account may also be used for future investment in shares or for payment of the subscription price of new shares obtained through the exercise of pre-emptive rights.

Investment dealers and investment brokers are allowed to open foreign currency accounts with foreign exchange banks exclusively for accommodating foreign investors' stock investments in Korea. Through these accounts, these designated securities companies may enter into foreign exchange transactions on a limited basis, such as conversion of foreign currency funds and Won funds, either as a counterparty to or on behalf of foreign investors, without the investors having to open their own accounts with foreign exchange banks.

KOREAN SECURITIES MARKET

The Korea Exchange

On 27 January 2005, the Korea Exchange was established pursuant to the Korea Securities and Futures Exchange 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. On 1 July 2013, the Korea Exchange launched the Korea New Exchange (KONEX, a new securities exchange market that focuses on small- and medium-sized enterprises). There are four different markets operated by the Korea Exchange: the KRX KOSPI Market, the KRX KOSDAQ Market, the KONEX Market and the KRX Derivatives Market. The Korea Exchange has three trading floors located in Seoul, one for the KRX KOSPI Market, one for the KRX KOSDAQ Market and one for the KONEX Market, and one trading floor in Busan for the KRX Derivatives Market. The Korea Exchange is a stock corporation ("*jusik hoesa*" in Korean), the shares of which are held by (i) investment brokers and investment dealers 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 most of the Korean investment brokers and investment dealers and some Korean branches of foreign investment brokers and investment dealers.

According to data published by the Korea Exchange, as of 31 December 2023, the aggregate market value of equity securities listed on the KRX KOSPI Market was approximately Won 2,126 trillion, and the average daily trading volume of equity securities in 2023 was approximately 538 million shares with an average daily transaction value of Won 9,603 billion.

The Korea Exchange has the power in some circumstances to suspend trading in the shares of a specific company or to de-list a security pursuant to the Regulation on Listing on the Korea Exchange. The Korea Exchange also restricts share price movements. All listed companies are required to file accounting reports annually, semi-annually and quarterly and to release immediately certain information that may affect trading in a security.

The Korea Exchange publishes the KOSPI every ten seconds, which is an index of all equity securities listed on the KRX KOSPI Market. On 1 January 1983, the method of computing KOSPI was changed from the Dow Jones method to the aggregate value method. In the new method, the market capitalizations of all listed companies are aggregated, subject to certain adjustments, and this aggregate is expressed as a percentage of the aggregate market capitalization of all listed companies as of the base date, 4 January 1980.

Movements in KOSPI are set out in the following table:

	Opening	High	Low	Closing
1979	131.28	131.28	104.38	118.97
1980	100.00	119.36	100.00	106.87
1981	97.95	165.95	93.14	131.37
1982	123.60	134.48	106.00	128.99
1983	122.52	134.46	115.59	121.21
1984	115.25	142.46	115.25	142.46
1985	139.53	163.37	131.40	163.37
1986	161.40	279.67	153.85	272.61
1987	264.82	525.11	264.82	525.11
1988	532.04	922.56	527.89	907.20
1989	919.61	1,007.77	844.75	909.72
1990	908.59	928.82	566.27	696.11
1991	679.75	763.10	586.51	610.92

	Opening	High	Low	Closing
1992	624.23	691.48	459.07	678.44
1993	697.41	874.10	605.93	866.18
1994	879.32	1,138.75	855.37	1,027.37
1995	1,013.57	1,016.77	847.09	882.94
1996	888.85	986.84	651.22	651.22
1997	653.79	792.29	350.68	376.31
1998	385.49	579.86	280.00	562.46
1999	587.57	1,028.07	498.42	1,028.07
2000	1,059.04	1,059.04	500.60	504.62
2001	520.95	704.50	468.76	693.70
2002	724.95	937.61	584.04	627.55
2003	635.17	822.16	515.24	810.71
2004	821.26	936.06	719.59	895.92
2005	893.71	1,379.37	870.84	1,379.37
2006	1,389.27	1,464.70	1,203.86	1,434.46
2007	1,435.26	2,064.85	1,355.79	1,897.13
2008	1,853.45	1,888.88	938.75	1,124.47
2009	1,157.40	1,723.17	992.69	1,682.77
2010	1,696.14	2,052.97	1,548.78	2,051.00
2011	2,070.08	2,228.96	1,652.71	1,825.74
2012	1,826.37	2,049.28	1,769.31	1,997.05
2013	2,031.10	2,059.58	1,780.63	2,011.34
2014	1,967.19	2,082.61	1,886.85	1,915.59
2015	1,926.44	2,173.41	1,829.81	1,961.31
2016	1,918.76	2,068.72	1,835.28	2,026.46
2017	2,026.16	2,557.97	2,026.16	2,467.49
2018	2,479.65	2,598.19	1,996.05	2,041.04
2019	2,010.00	2,248.63	1,909.71	2,197.67
2020	2,175.17	2,873.47	1,457.64	2,873.47
2021	2,944.45	3,305.21	2,839.01	2,977.65
2022	2,988.77	2,989.24	2,155.49	2,236.40
2023	2,225.67	2,667.07	2,218.67	2,655.28
2024 (through 22 April 2024)	2,669.81	2,757.09	2,435.90	2,629.44

Source: The Korea Exchange

Shares are quoted "ex-dividend" on the trading day immediately preceding the last trading day of the relevant company's accounting period. Since the calendar year is the accounting period for the majority of listed companies, this may account for the drop in KOSPI between the closing price of the second trading day preceding the last trading day of one calendar year and the opening price of the trading day immediately preceding the last trading day of such calendar year.

The Ministry of Justice of Korea has recently issued an official ruling to the effect that (i) a record date for determining shareholders entitled to exercise of their voting rights at the general meeting of shareholders for declaration of dividends and (ii) a record date for determining the shareholders entitled to payment of dividends so declared may be separately set. Based on the foregoing official ruling, the Government has recommended the listed companies to set the record date for determining the shareholders entitled to payment of dividends after the date of the general meeting of shareholders by resolution of their board of directors so that the investors may invest in the shares of the listed companies after checking whether the dividend is declared and the amount of dividend so declared. As a result of the recommendation of the Government, many listed companies are expected to amend their articles of incorporation which generally provide the shareholders shown at the register of shareholders as of the end of the fiscal year are entitled to both (i) exercise of their voting rights at the general

meeting of shareholders for declaration of dividends and (ii) payment of dividends so declared. The above change of the past practice is also expected to affect the practice of "ex-dividend" in the Korean securities markets including the KRX KOSPI Market.

With certain exceptions, principally to take account of a share being quoted "ex-dividend" and "ex-rights," permitted upward and downward movements in share prices of any category of shares on any trading day are limited under the rules of the Korea Exchange to 30% of the previous trading day's closing price of the shares, rounded down as set out below:

Previous trading day's closing price (Won)	Rounded down to (Won)
Less than 2,000	1
2,000 to less than 5,000	5
5,000 to less than 20,000	10
20,000 to less than 50,000	50
50,000 to less than 200,000	100
200,000 to less than 500,000	500
500,000 or more	1,000

As a consequence, if a particular closing price is the same as the price set by the fluctuation limit, the closing price may not reflect the price at which persons would have been prepared, or would be prepared to continue, if so permitted, to buy and sell shares. Orders are executed on an auction system with priority rules to deal with competing bids and offers.

Due to deregulation of restrictions on brokerage commission rates, the brokerage commission rate on equity securities transactions may be determined by the parties, subject to commission schedules being filed with the Korea Exchange by the investment brokers and the investment dealers. In addition, a securities transaction tax (including agricultural and fishery special surtax thereon) of 0.18% of the sales price will generally be imposed on the transfer of shares or certain securities representing rights to subscribe for shares on the Korea Exchange. See "Taxation—Korean Taxation".

The number of companies listed on the KRX KOSPI Market, the corresponding total market capitalization at the end of the periods indicated and the average daily trading volume for those periods are set forth in the following table:

	Market capitalization on the last day of each period		Average daily trading volume, value	
Year	Number of listed companies	(Billions of Won)	Thousands of shares	(Millions of Won)
1981	343	₩ 2,959	10,565	₩ 8,708
1982	334	3,000	9,704	6,667
1983	328	3,490	9,325	5,941
1984	336	5,149	14,847	10,642
1985	342	6,570	18,925	12,315
1986	355	11,994	31,755	32,870
1987	389	26,172	20,353	70,185
1988	502	64,544	10,367	198,364
1989	626	95,477	11,757	280,967
1990	669	79,020	10,866	183,692
1991	686	73,118	14,022	214,263
1992	688	84,712	24,028	308,246
1993	693	112,665	35,130	574,048
1994	699	151,217	36,862	776,257

Year	Market capitalization on the last day of each period		Average daily trading volume, value	
	Number of listed companies	(Billions of Won)	Thousands of shares	(Millions of Won)
1995	721	141,151	26,130	487,762
1996	760	117,370	26,571	486,834
1997	776	70,989	41,525	555,759
1998	748	137,799	97,716	660,429
1999	725	349,504	278,551	3,481,620
2000	704	188,042	306,163	2,602,211
2001	689	255,850	473,241	1,997,420
2002	683	258,681	857,245	3,041,598
2003	684	355,363	542,010	2,216,636
2004	683	412,588	372,895	2,232,108
2005	702	655,075	467,629	3,157,662
2006	731	704,588	279,096	3,435,180
2007	745	951,900	363,732	5,539,588
2008	763	592,635	355,205	5,189,643
2009	770	887,935	485,657	5,795,426
2010	777	1,141,885	380,859	5,619,768
2011	791	1,041,999	353,759	6,863,146
2012	784	1,154,294	486,480	4,823,643
2013	777	1,185,974	328,325	3,993,422
2014	773	1,119,253	278,082	3,983,580
2015	770	1,242,832	455,256	5,351,734
2016	779	1,308,440	376,772	4,523,044
2017	774	1,605,821	340,457	5,325,760
2018	788	1,343,972	397,972	6,548,622
2019	799	1,475,909	470,723	4,989,807
2020	795	1,980,543	895,256	12,200,417
2021	824	2,203,367	844,811	13,400,335
2022	826	1,767,235	595,197	9,008,398
2023	839	2,126,373	538,210	9,602,689
2024 (through 22 April 2024)	840	2,132,157	533,971	10,720,210

Source: The Korea Exchange

The Korean securities markets are principally regulated by the FSC under the regulations set forth in the FSCMA. In August 2007, the National Assembly of Korea enacted the FSCMA. The FSCMA, which came into effect on 4 February 2009, comprehensively regulates the Korean capital markets, the financial investment businesses (including collective investment businesses and trust businesses) and financial investment products (such as securities and derivatives). The FSCMA imposes, among others, restrictions on insider trading and price manipulation, requires specified information to be made available by listed companies to investors and establishes rules regarding margin trading, proxy solicitation, takeover bids, acquisition of treasury shares and reporting requirements for shareholders holding substantial interests. The FSCMA regulates the operation and monitoring of the securities and derivatives markets.

Protection of Customer's Interest in Case of Insolvency of Investment Brokers or Investment Dealers

Under Korean law, the relationship between a customer and an investment broker or an investment dealer in connection with a securities sell or buy order is deemed to be a consignment and the securities acquired by a consignment agent (i.e., the investment broker or the investment dealer) through such sell or buy order are regarded as belonging to the customer insofar as the customer and the consignment agent's creditors are

concerned. Therefore, in the event of a bankruptcy or reorganization procedure involving an investment broker or an investment dealer, the customer of the investment broker or the investment dealer is entitled to claim the securities acquired by the investment broker or the investment dealer for the customer's account.

Under the FSCMA, the Korea Exchange is obliged to indemnify any loss or damage incurred by a counterparty as a result of a breach by members of the KRX KOSPI Market or the KRX KOSDAQ Market. If an investment broker or an investment dealer that is a member of the KRX KOSPI Market or the KRX KOSDAQ Market breaches its obligation in connection with a buy order, the Korea Exchange is obliged to pay the purchase price on behalf of the breaching member. Therefore, the customer can acquire the securities subject to the buy order that it has placed with the breaching member.

When a customer places a buy order with a non-member company and the non-member company places a buy order with a member company, the customer has the legal right to the securities received by the non-member company from the member company because the purchased securities are regarded as belonging to the customer insofar as the customer and the non-member company's creditors are concerned.

As cash deposited with an investment broker or an investment dealer is regarded as belonging to the investment broker or investment dealer, which is liable to return the same at the request of its customer, the customer cannot take back deposited cash from the investment broker or the investment dealer if a bankruptcy or rehabilitation procedure is instituted in respect of the investment broker or the investment dealer and, therefore, can suffer a loss or damage as a result. However, the Depositor Protection Act provides that the Korea Deposit Insurance Corporation will, upon the request of an investor, pay the investor up to Won 50 million of cash deposited with an investment broker or an investment dealer in case of the investment broker or the investment dealer's bankruptcy, liquidation, cancellation of investment broker or investment dealer license or other insolvency events. Investment brokers and investment dealers pay premiums to the Korea Deposit Insurance Corporation for this insurance. Pursuant to the FSCMA, investment brokers or investment dealers are required to deposit cash received from its customers at the Korea Securities Finance Corporation, a special entity established pursuant to the FSCMA. Set-off or attachment of any such cash deposits by investment brokers or investment dealers is prohibited.

Clearance and Settlement

The settlement of trades on the Korea Exchange is required to be handled by a settlement agency of the Korea Exchange. The KSD is the institution commissioned by the Korea Exchange to handle all such settlement of trades.

The settlement of trades on the Korea Exchange takes place through a clearance and settlement procedure. The Korea Exchange has adopted the multilateral netting system and carries out the clearance of the trades by netting the sales and purchases of each KSD participant. The Korea Exchange is required to provide the daily net settlement results of the trades to the KSD by 6 p.m. on the business day immediately prior to the settlement date. The KSD then handles settlement of the securities and the funds based on the information received from the Korea Exchange. The securities are settled through book-entry changes in the accounts of KSD participants and the funds are settled by transfer to accounts at a bank designated by the KSD. Settlement of trades is generally required to take place on the third trading day following the day of the sale and purchase contract (with the day of the sale and purchase contract being the first trading day).

TAXATION

The following is a summary of the principal Korean tax consequences to owners of the Bonds, or our common shares, as the case may be, who are non-resident individuals or non-Korean corporations without a permanent establishment in Korea to which the relevant income is attributable or with which the relevant income is effectively connected ("Non-resident Holders"). The statements regarding Korean tax laws set forth below are based on the laws in force and as interpreted by the Korean taxation authorities as of the date of this Offering Circular. This summary is not exhaustive of all possible tax considerations which may apply to a particular investor and potential investors are advised to satisfy themselves as to the overall tax consequences of the acquisition, ownership and disposition of the Bond, and our common shares deliverable upon conversion of the Bonds, including specifically the tax consequences under Korean law, the laws of the jurisdiction of which they are resident, and any tax treaty between Korea and their country of residence, by consulting their own tax advisors.

Income taxation of Bonds

Interest

Payments of interest on the bonds by a Korean company such as us to a non-resident are generally subject to Korean withholding tax at the rate of 15.4% (including local income tax) of the gross payments or such lower rate as is applicable under a tax treaty between Korea and such non-resident's country of tax residence, subject to certain exceptions and rules. However, the payments by us of interest (the accrued interest which a Bondholder, upon exercise of the right of conversion, will be deemed to have received and which is calculated based on the applicable guaranteed interest rate at maturity) on certain foreign currency denominated bonds, such as the Bonds, to Non-resident Holders of Bonds are currently exempt from Korean income taxation (including local income tax) by virtue of the Special Tax Treatment Control Law of Korea ("STTCL"), provided that the issuance of the Bonds is deemed to be an overseas issuance under the STTCL.

Capital gains

As a general rule, capital gains earned by non-residents upon transfer of the Bonds are subject to Korean withholding tax at the lower of (i) 11.0% (including local income tax) of the gross proceeds realized or (ii) 22.0% (including local income tax) of the net realized gains (subject to the production of satisfactory evidence of the acquisition costs and certain direct transaction costs), unless exempt from Korean taxation under the effective Korean tax treaty with the non-resident's country of tax residence. However, capital gains earned by a non-resident without a permanent establishment in Korea from the transfer of the Bonds to other non-residents (other than to such transferee's permanent establishments in Korea) are not subject to Korean income taxation under the Corporation Tax Law ("CTL"). Further, capital gains earned by non-residents (with or without permanent establishments in Korea) from the transfer of the Bonds outside Korea are currently exempt from Korean income taxation by virtue of the STTCL, provided that the issuance of the Bonds is deemed to be an overseas issuance under the STTCL.

Conversion

It is likely that there is no liability for capital gains tax in respect of delivery of our common shares upon exercise of the Conversion Right (as defined in Conditions). The interpretation of the Korean tax authorities is that the acquisition cost of such common shares which are subsequently sold is to be calculated based on the acquisition cost of the relevant Bonds. In other words, it is the view of the Korean tax authorities that separate capital gains should not be recognized in case the Conversion Right is exercised, which makes it highly likely that the conversion of the Bonds into common shares will not be subject to any tax liabilities. All cash payments upon exercise of the Conversion Right, however, are likely to trigger a taxable event for Korean income tax purpose. If the exercise of the Conversion Right is deemed to trigger a taxable event for Korean income tax purpose, the

holders of Bonds will be subject to Korean withholding tax. It is not clear whether the conversion gain derived by Non-resident Holders will be treated as interest income, capital gains, or "other income" and how the amount subject to such tax would be calculated. If treated as interest income, the conversion gain will be exempt from Korean income taxation by virtue of the STTCL as discussed above. If treated as capital gains, the conversion gain may be exempt from Korean taxation under an applicable Korean tax treaty or by virtue of the CTL or STTCL as discussed above. If treated as "other income", the conversion gain will be subject to the Korean withholding tax at the rate of 22.0% (including local income tax) unless exempt under an applicable Korean tax treaty.

Income taxation of common shares

Tax on dividends

Dividends on our common stock paid (whether in cash or in shares) to a Non-resident Holder will be subject to Korean withholding taxes at the rate of 22.0% (including local income tax) or such lower rate as is applicable under a treaty between Korea and such Non-resident Holder's country of tax residence. Free distributions of shares representing a capitalization of certain capital surplus reserves may be subject to Korean withholding taxes.

Such tax is withheld by the payer of the dividend. The rates may be reduced or exempted by applicable tax treaties, conventions or agreements between Korea and the jurisdiction of the recipient of the dividend payment. See "Tax treaties" below for a discussion on the application of relevant treaties.

Tax on capital gains

As a general rule, capital gains earned by Non-resident Holders upon transfer of shares of our common stock are subject to Korean withholding tax at the lower of (i) 11.0% (including local income tax) of the gross proceeds realized or (ii) 22.0% (including local income tax) of the net realized gains (subject to the production of satisfactory evidence of the acquisition costs and certain direct transaction costs), unless exempt from Korean income taxation under the effective Korean tax treaty with the Non-resident Holder's country of tax residence. See "Tax treaties" below for a discussion on the application of relevant treaties.

However, a Non-resident Holder will not be subject to Korean income taxation on capital gains realized upon the sale of shares of our common stock through the Korea Exchange if the Non-resident Holder (i) has no permanent establishment in Korea and (ii) did not or has not owned (together with any shares owned by any entity with certain special relationships with such Non-resident Holder) 25% or more of our total issued and outstanding shares at any time during the calendar year in which the sale occurs and during the five calendar years prior to the calendar year in which the sale occurs.

Securities transaction tax

Securities transaction tax is imposed on the transfer of shares issued by a Korean corporation or the right to subscribe for such shares generally at the rate of 0.35% of the sales price. In the case of the transfer of shares listed on the Korea Exchange (such as our common shares), the securities transaction tax is imposed generally at the rate of (i) 0.18% (0.18% will be reduced to 0.15% for transfers on or after 1 January 2025) of the sales price of such shares (including agricultural and fishery special surtax thereon) if traded on the Korea Exchange or (ii) subject to certain exceptions, 0.35% of the sales price of such shares if traded outside the Korea Exchange and generally will not be subject to the agricultural and fishery special surtax.

Securities transaction tax or the agricultural and fishery special surtax is not applicable if (i) the shares or rights to subscribe for shares are listed on a designated foreign stock exchange and (ii) the sale of the shares takes place on such exchange. Furthermore, in general, no securities transaction tax or agricultural and fishery special surtax is payable on the transfer of the Bonds.

Securities transaction tax, if applicable, must be paid by the transferor of the shares or rights, in principle. When the transfer is effected through the KSD, the KSD is generally required to withhold and pay (to the tax authority) the tax, and when such transfer is made through a financial investment company (as defined in the FSCMA) only, such financial investment company is required to withhold and pay the tax. Where the transfer is effected by a Non-resident Holder without a permanent establishment in Korea, other than through the KSD or a financial investment company, the transferee is required to withhold and pay the securities transaction tax. Failure to report securities transaction tax will result in the imposition of penalties equal to 20% of the tax amount due (in case of non-filing) or 40% of the tax amount due (in certain wrongful cases), 10% of the under-reported tax amount (in case of under-reporting) or 40% of the under-reported tax amount (in certain wrongful cases), while failure to pay securities transaction tax due will result in penalties of 8.03% per annum of the due but unpaid tax.

Stamp duty

No stamp, issue or registration duties will be payable in Korea by the Holders in connection with the issue of the Bonds except for a nominal amount of stamp duty on certain documents executed in Korea which will be paid by us.

Inheritance tax and gift tax

Korean inheritance tax is imposed upon (i) all assets (wherever located) of the deceased if at the time of his death he was domiciled in Korea or had resided in Korea continuously for at least 183 days immediately prior to his death and (ii) all property located in Korea which passes on death (irrespective of the domicile of the deceased). Gift tax is imposed in similar circumstances to the above. The taxes are imposed if the value of the relevant property is above a certain limit and the rate varies from 10% to 50% according to the value of the property and the identity of the parties involved.

Under Korean inheritance and gift tax laws, securities issued by a Korean corporation are deemed to be located in Korea irrespective of where they are physically located or by whom they are owned.

At present, Korea has not entered into any tax treaty relating to inheritance or gift tax.

Tax treaties

At the date of this Offering Circular, Korea has tax treaties with, among others, Belgium, Bulgaria, Denmark, Egypt, Fiji, Hungary, Kuwait, Greece, Indonesia, the Netherlands, Russia, Portugal, Poland, Romania, Switzerland and the United States under which the rate of withholding tax on dividend and interest is reduced, generally to between 5% and 16.5% (including local income tax), and the tax on capital gains derived by a non-resident from the transfer of securities issued by a Korean company is often eliminated.

Each Non-resident Bondholder, or our common shares should inquire for itself whether it is entitled to the benefits of a tax treaty with Korea. It is the responsibility of the party claiming the benefits of a tax treaty in respect of interest, dividend or capital gains to submit to us (or our agent), the purchaser or the securities company, as the case may be, prior to or at the time of payment, such evidence of tax residence of the seller as the Korean tax authorities may require in support of its claim for treaty protection. In the absence of sufficient proof, we (or our agent), the purchaser or the securities company, as the case may be, must withhold tax at the normal rates.

In order to claim the benefit of a tax rate reduction or tax exemption available under the applicable tax treaties, a Non-resident Holder should submit to the payer of such Korean source income an application (for a reduced withholding tax rate, the "application for entitlement to reduced tax rate," and for an exemption from withholding tax, the "application for exemption" under a tax treaty along with the documents proving the beneficial owner of such Korean source income including a certificate of the Non-resident Holder's tax residence issued by a

competent authority of the Non-resident Holder's residence country) as the beneficial owner of such Korean source income ("BO Application")), provided that if such tax exemption is being sought by an entity to be applied to an amount that is Won 1 billion or more (including where the aggregate amount exempted within one year from the last day of the month in which the payment was made, is Won 1 billion or more), in addition to the certificate of tax residence issued by a competent authority of the Non-resident Holder's residence country, it will also be required to submit the names and addresses of all of the members of board of directors, the identities and shareholding percentages of all of shareholders (provided that if there are more than 100 shareholders, the Non-resident Holder may instead provide a statement showing the total number of shareholders and aggregate investment amount from each country), and audit reports for the most recent three years submitted to the country of residence (or, if the entity has been in existence for less than three years, audit reports since incorporation). Such application should be submitted to the withholding agent prior to the payment date of the relevant income. Subject to certain exceptions, where the relevant income is paid to an overseas investment vehicle (which is not the beneficial owner of such income) ("OIV"), a beneficial owner claiming the benefit of an applicable tax treaty with respect to such income must submit its BO Application to such OIV, which must submit an OIV report and a schedule of beneficial owners (as well as the BO Applications collected from each beneficial owner) to the withholding agent prior to the payment date of such income. Effective from 1 January 2022, an OIV is deemed to be a beneficial owner of the Korean source income if (i) under the applicable tax treaty, the OIV bears tax liabilities in the country in which it is established or the OIV is deemed to be the beneficial owner of the Korean source income and (ii) the Korean source income is eligible for the treaty benefits under the tax treaty. The benefits under a tax treaty between Korea and the country of such OIV's residence will apply with respect to the relevant income paid to such OIV, subject to certain application requirements as prescribed by the CTL or Individual Income Tax Law. In the case of a tax exemption application, the withholding agent is required to submit such application (together with the applicable OIV report in the case of income paid to an OIV) to the relevant district tax office by the ninth day of the month following the date of the payment of such income.

SUBSCRIPTION AND SALE

The Company has entered into a subscription agreement (the "Subscription Agreement") dated 22 April 2024 with the Manager pursuant to which, and subject to certain conditions contained therein, it has agreed to sell to the Manager and the Manager has agreed to subscribe and pay for, or to procure subscribers to subscribe and pay for, the Bonds at the issue price of 100% of the aggregate principal amount of the Bonds less a combined management and underwriting commission as agreed between the Manager and the Company.

The Company has agreed to indemnify the Manager against certain liabilities incurred in connection with the issue of the Bonds. The Subscription Agreement provides that the obligations of the Manager are subject to certain conditions precedent and entitle the Manager to terminate it in certain circumstances prior to payment of the issue price to the Company.

The Company has undertaken to the Manager that neither it nor any person acting on its behalf will, beginning from the date of the Subscription Agreement up to 90 days after the Closing Date, without the prior written consent of the Manager, (a) issue, offer, sell, pledge, contract to sell or otherwise dispose of or grant options, issue warrants or offer rights entitling persons to subscribe for or purchase any interest in, or any securities convertible into, exchangeable for or which carry rights to subscribe for or purchase, the Shares or securities of the same class as the Shares or other instruments representing interests in the Shares or other securities of the same class as them (collectively, the "Securities"), (b) enter into any swap or other agreement that transfers, in whole or in part, any of the economic consequences of the ownership of the Shares, whether any such transaction of the kind described in (a) or (b) is to be settled by delivery of Shares or other securities, in cash or otherwise, (c) enter into any transaction with the same economic effect as, or which is designed to, or which may reasonably be expected to result in, or agree to do, any of the foregoing, whether any such transaction of the kind described in (a), (b) or (c) is settled by delivery of Shares or other securities or (d) announce or otherwise make public an intention to do any of the foregoing, in any such case without the prior written consent of the Manager, between the date hereof and the date which is 90 days after the Closing Date; except for (i) the Conversion Shares delivered on conversion of the Bonds, (ii) any offer, sale and pledge of, contract to sell or other disposal of, any Securities to any of its subsidiaries or Affiliates, so long as the subsidiary or Affiliate agrees in writing to be bound by the restrictions on the Securities for the remainder of the 90 day period in the same manner as set out herein, (iii) issuance of Securities in connection with granting of stock options to the Company's directors, officers or employees, and (iv) any public announcement of an intention to effect any transaction described in (i) through (iii) above.

In connection with the offering of the Bonds, the Manager or any of its affiliates may purchase the Bonds for its own account and enter into transactions, including (i) credit derivatives (including convertible asset swaps, repackaging transactions and credit default swaps) relating to the Bonds and/or our securities and (ii) equity derivatives and stock loan transactions relating to the Shares. Such transactions may occur either at the same time as the offer and sale of the Bonds, or in secondary market transactions. Such transactions would be carried out as bilateral transactions with selected counter-parties and separately from any existing sale or resale of the Bonds to which this Offering Circular relates (notwithstanding that such selected counter-parties may also be purchasers of the Bonds).

The Manager and certain of its affiliates may have performed certain investment banking and advisory, brokerage, commercial banking, financial advisory and fiduciary services for the Company, our affiliates and/or any other persons from time to time for which they have received customary fees and expenses and may, from time to time, engage in transactions with and perform services for the Company and/or our affiliates in the ordinary course of their business and which may have conflicting interests with respect to any potential investor of the Bonds (including, without limitation, the provision of services in respect of acquiring long or short positions in the Bonds or derivatives or in the Shares or buy or sell the Bonds or derivatives or the Shares).

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 Company, a CMI or its group companies would be considered under the SFC Code as having an Association with the Company, the CMI or the relevant group company. CMIs should specifically disclose whether their investor clients have any Association when submitting orders for the Bonds. In addition, private banks should take all reasonable steps to identify whether their investor clients may have any Associations with the Company or any CMI (including its group companies) and inform the Manager 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 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 Bonds (except for omnibus orders where underlying investor information may need to be provided to any OCs when submitting orders). Failure to provide underlying investor information for omnibus orders, where required to do so, may result in that order being rejected. CMIs should not place "X-orders" into the order book.

CMIs should segregate and clearly identify their own proprietary orders (and those of their group companies, including private banks as the case may be) in the order book and book messages.

CMIs (including private banks) should not offer any rebates to prospective investors or pass on any rebates provided by the Company. In addition, CMIs (including private banks) should not enter into arrangements which may result in prospective investors paying different prices for the Bonds.

The SFC Code requires that a CMI disclose complete and accurate information in a timely manner on the status of the order book and other relevant information it receives to targeted investors for them to make an informed decision. In order to do this, the Manager in control of the order book should consider disclosing order book updates to all CMIs.

When placing an order for the Bonds, private banks should disclose, at the same time, if such order is placed other than on a "principal" basis (whereby it is deploying its own balance sheet for onward selling to investors). Private banks who do not provide such disclosure are hereby deemed to be placing their order on such a "principal" basis. Otherwise, such order may be considered to be an omnibus order pursuant to the SFC Code. Private banks should be aware that placing an order on a "principal" basis may require the Manager to categorize 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);
- Whether any underlying investor order is a duplicate order.

Underlying investor information in relation to omnibus order should be sent to: ol-ubs-asia-ecm-syndicate@ubs.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 Company, 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 Manager 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 Manager with such evidence within the timeline requested.

SELLING RESTRICTIONS

General

No representation is made by the Company that any action has been or will be taken in any jurisdiction by the Company that would permit a public offering of the Bonds, or possession or distribution of this Offering Circular in any country or jurisdiction where action for that purpose is required.

United States

The Bonds and the Shares to be issued upon conversion of the Bonds have not been and will not be registered under the Securities Act and may not be offered or sold within the United States except in accordance with Regulation S or pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. The Manager has represented, warranted and agreed that it has not offered or sold, and will not offer or sell, any Bonds constituting part of its allotment within the United States except in reliance on Regulation S. Accordingly, neither it nor its affiliates nor any persons acting on its or their behalf have engaged or will engage in any directed selling efforts with respect to the Bonds. Terms used in this paragraph have the meanings given to them by Regulation S.

Korea

The Bonds have not been and will not be registered under the FSCMA. The Manager represents and agrees that it has not offered, sold or delivered and will not offer, sell or deliver, directly or indirectly, any Bonds in Korea or to, or for the account or benefit of, any Korean resident (as such term is defined in the Foreign Exchange Transactions Act of Korea and the decree, rules and regulations promulgated thereunder), except as otherwise permitted under applicable Korean laws and regulations. Furthermore, the Manager is aware that a holder of any Bonds will be prohibited from offering, selling or delivering any Bonds, directly or indirectly, in Korea or to any resident of Korea (as such term is defined in the Foreign Exchange Transactions Act of Korea and the decree, rules and regulations promulgated thereunder) for a period of one (1) year from the date of issuance of the Bonds, except as otherwise permitted by applicable Korean laws and regulations; provided that any investor to which any Manager sells the Bonds confirms that it is purchasing such Bonds as principal and agrees that it will comply

with the restrictions described above. The Manager further represents that it will take commercially reasonable best measures as underwriter in the ordinary course of its business to prevent any Bonds from being offered, sold or delivered to any resident of Korea within one (1) year from the issuance of the Bonds.

Singapore

The Manager has acknowledged that this Offering Circular has not been registered as a prospectus with the Monetary Authority of Singapore. Accordingly, the Manager represents, warrants and agrees that it has not offered or sold any Bonds or caused the Bonds to be made the subject of an invitation for subscription or purchase, and will not offer or sell any Bonds or cause the Bonds to be made the subject of an invitation for subscription or purchase, and has not circulated or distributed, nor will it circulate or distribute, this Offering Circular or any other document or material in connection with the offer or sale, or invitation for subscription or purchase, of the Bonds, whether directly or indirectly, to any person in Singapore other than (i) to an institutional investor (as defined in Section 4A of 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

The 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 Bonds 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 Bonds, which is directed at, or the contents of which are likely to be accessed or read by, the public of Hong Kong (except if permitted to do so under the securities laws of Hong Kong) other than with respect to Bonds which are or are intended to be disposed of only to persons outside Hong Kong or only to "professional investors" as defined in the SFO and any rules made under the SFO.

United Kingdom

The Manager has represented, warranted and agreed that:

(a) it has only communicated or caused to be communicated and will only communicate or cause to be communicated an invitation or inducement to engage in investment activity (within the meaning of Section 21 of the Financial Services and Markets Act 2000 (the "FSMA")) received by it in connection with the issue or sale of any Bonds in circumstances in which section 21(1) of the FSMA does not apply to the Company; 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 Bonds in, from or otherwise involving the United Kingdom.

Prohibition of Sales to EEA Retail Investors

The Manager has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Bonds to any retail investor in the European Economic Area. For the purposes of this provision, the expression "retail investor" means a person who is one (or more) of the following:

(a) a retail client as defined in point (11) of Article 4(1) of MiFID II; or

(b) a customer within the meaning of the Insurance Distribution Directive, where that customer would not qualify as a professional client as defined in point (10) of Article 4(1) of MiFID II.

Consequently, no key information document required by the PRIIPs Regulation for offering or selling the Bonds or otherwise making them available to retail investors in the EEA has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the EEA may be unlawful under the PRIIPs Regulation.

Prohibition of Sales to UK Retail Investors

The Manager has represented and agreed that it has not offered, sold or otherwise made available and will not offer, sell or otherwise make available any Bonds to any retail investor in the United Kingdom. For the purposes of this provision, the expression "retail investor" means a person who is one (or more) of the following:

(a) a retail client as defined in point (8) of Article 2 of Regulation (EU) No 2017/565 as it forms part of domestic law by virtue of the EUWA; or

(b) a customer within the meaning of the provisions of the Financial Services and Markets Act 2000 (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 the UK PRIIPs Regulation for offering or selling the Bonds or otherwise making them available to retail investors in the UK has been prepared and therefore offering or selling the Bonds or otherwise making them available to any retail investor in the UK may be unlawful under the UK PRIIPs Regulation.

TRANSFER RESTRICTIONS

Because of the following restrictions, purchasers are advised to consult with legal counsel prior to making any offer, resale, pledge or other transfers of the Bonds, or the Shares deliverable upon conversion of the Bonds.

Transfer restrictions under Korean law

Each purchaser of the Bonds, by accepting delivery of this Offering Circular, will be deemed to have acknowledged, represented and agreed that the Bonds have not been registered under the FSCMA, and that accordingly, the Bonds may not be offered, sold or delivered, directly or indirectly, in Korea or to, or for the account or benefit of, any resident of Korea (as such term is defined under the Foreign Exchange Transaction Act of Korea and the decree, rules and regulations promulgated thereunder), for a period of one year from the date of issuance of the Bonds, except as otherwise permitted under applicable Korean laws and regulations. In addition, until the expiration of one year after the issuance of the Bonds, the Bonds may not be transferred to any resident of Korea.

Transfer restrictions applicable to the Bonds, and the Shares deliverable upon conversion of the Bonds

The Bonds, and the Shares deliverable upon conversion of the Bonds have not been and will not be registered under the Securities Act. The Bonds and the Shares deliverable upon conversion of the Bonds may not be offered or sold to any person in the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act. In addition, no transfer of any interest in the Bond may be made to any U.S. person (as defined in Regulation S) or for the account or benefit of a U.S. person for a period of 40 days after the later of when the Bonds were first offered to persons other than distributors or the Closing Date.

Except in certain limited circumstances, interests in the Bonds may only be held through interests in the Global Certificate. Such interests in the Global Certificate will be shown on, and transfers thereof will be effected only through, records maintained by Euroclear and Clearstream and their respective direct and indirect participants. See "Terms and Conditions of the Bonds" and "The Global Certificate."

Each purchaser of the Bonds, by accepting delivery of this Offering Circular, will be deemed to have acknowledged and represented and agreed as follows:

1. The Bonds, and the Shares deliverable upon conversion of the Bonds, have not been and will not be registered under the Securities Act or with any securities regulatory authority of any state of the United States and are subject to significant restrictions on transfer.

2. Until 40 days after the commencement of offering of the Bonds, an offer or sale of Bonds or Shares to be delivered upon conversion of the Bonds within the United States by any dealer (whether or not participating in the offering of the Bonds) may violate the registration requirements of the Securities Act.

3. Such purchaser will not offer, sell, pledge or otherwise transfer any interest in the Bonds, or the Shares deliverable upon conversion of the Bonds, except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act.

4. The Bonds will bear legends to the following effect, unless the Company determines otherwise in compliance with applicable law, and such purchaser will observe the restrictions contained therein:

THE BONDS EVIDENCED HEREBY (THE "BONDS") HAVE NOT BEEN AND WILL NOT BE REGISTERED UNDER THE UNITED STATES SECURITIES ACT OF 1933, AS AMENDED (THE "SECURITIES ACT").

PRIOR TO THE EXPIRATION OF 40 DAYS AFTER THE LATER OF THE COMMENCEMENT OF THE OFFERING OF THE BONDS AND THE LATEST CLOSING DATE (THE "DISTRIBUTION COMPLIANCE PERIOD"), THE BONDS MAY NOT BE OFFERED, SOLD, PLEDGED OR OTHERWISE TRANSFERRED TO ANY U.S. PERSON OUTSIDE THE UNITED STATES OR ANY PERSON IN THE UNITED STATES. EACH HOLDER AND BENEFICIAL OWNER, BY ITS ACCEPTANCE OF THE BONDS EVIDENCED HEREBY, REPRESENTS THAT IT UNDERSTANDS AND AGREES TO THE FOREGOING AND FOLLOWING RESTRICTIONS.

THE FOREGOING PARAGRAPH WILL BE NO LONGER EFFECTIVE AFTER THE END OF THE DISTRIBUTION COMPLIANCE PERIOD WITH RESPECT TO THE BONDS, AFTER WHICH THE BONDS EVIDENCED HEREBY WILL NO LONGER BE SUBJECT TO THE RESTRICTIONS SET FORTH THEREIN, PROVIDED THAT AT SUCH TIME AND THEREAFTER THE OFFER OR SALE OF THE BONDS EVIDENCED HEREBY WOULD NOT BE RESTRICTED UNDER ANY APPLICABLE SECURITIES LAWS OF THE UNITED STATES OR OF THE STATES OR TERRITORIES OF THE UNITED STATES.

THE BONDS HAVE NOT BEEN REGISTERED UNDER THE FINANCIAL INVESTMENT SERVICES AND CAPITAL MARKETS ACT OF KOREA. ACCORDINGLY, THE BONDS MAY NOT BE OFFERED, SOLD OR DELIVERED, DIRECTLY OR INDIRECTLY, IN KOREA OR TO, OR FOR THE ACCOUNT OR BENEFIT OF, ANY RESIDENT OF KOREA (AS SUCH TERM IS DEFINED UNDER THE FOREIGN EXCHANGE TRANSACTIONS ACT OF KOREA AND THE DECREE, RULES AND REGULATIONS PROMULGATED THEREUNDER), FOR A PERIOD OF ONE YEAR FROM THE DATE OF ISSUANCE OF THE BONDS, EXCEPT AS OTHERWISE PERMITTED UNDER APPLICABLE KOREAN LAWS AND REGULATIONS. IN ADDITION, UNTIL THE EXPIRATION OF ONE YEAR AFTER THE ISSUANCE OF THE BONDS, THE BONDS MAY NOT BE TRANSFERRED TO ANY RESIDENT OF KOREA.

LEGAL MATTERS

Certain legal matters relating to the offering of the Bonds will be passed upon for us by Shin & Kim LLC, Korean counsel to the Company, and Paul Hastings LLP, U.S. and English law counsel to the Company. Certain legal matters relating to the offering of the Bonds will be passed upon for the Manager by Kim & Chang, Korean counsel to the Manager, and Linklaters LLP, U.S. and English law counsel to the Manager.

INDEPENDENT ACCOUNTANTS

Our consolidated financial statements as of and for the years ended 31 December 2021 and 2022 included in this Offering Circular have been audited by KPMG Samjong Accounting Corp., independent auditors, as stated in their report appearing herein, which includes emphasis-of-matter paragraphs regarding restatements to the consolidated financial statements due to corrections of misstatements and change in accounting treatment and other matter paragraphs regarding the audit of the restated consolidated financial statements, and non-reliance on their previously issued audit report.

Our consolidated financial statements as of and for the year ended 31 December 2023 in this Offering Circular have been audited by Samil PricewaterhouseCoopers, independent accountants, as stated in their report appearing herein.

INDEX TO FINANCIAL STATEMENTS

Audited Consolidated Financial Statements: 31 December 2023 and 2022

Independent Auditor's Report F-2
Consolidated Statements of Financial Position F-7
Consolidated Statements of Comprehensive Income F-9
Consolidated Statements of Changes in Equity F-10
Consolidated Statements of Cash Flows F-12
Notes to the Consolidated Financial Statements F-13
Independent Auditor's Report on Internal Control over Financial Reporting for Consolidation Purposes F-207
Management's Report on the Effectiveness of Internal Control over Financial Reporting for Consolidation Purposes F-209

Audited Consolidated Financial Statements: 31 December 2022 and 2021

Independent Auditors' Report F-210
Consolidated Statements of Financial Position F-214
Consolidated Statements of Comprehensive Income F-216
Consolidated Statements of Changes in Equity F-217
Consolidated Statements of Cash Flows F-219
Notes to the Consolidated Financial Statements F-221

Independent Auditor's Report

To the Board of Directors and Shareholders of
KAKAO CORP.

Opinion

We have audited the accompanying consolidated financial statements of KAKAO CORP. and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as at December 31, 2023, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and notes to the consolidated financial statements, including material accounting policy information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2023, and its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

We also have audited, in accordance with Korean Standards on Auditing, the Company's Internal Control over Financial Reporting for consolidation purposes as at December 31, 2023, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*, and our report dated March 20, 2024 expressed an unqualified opinion.

Basis for Opinion

We conducted our audit in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Consolidated Financial Statements* section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. These matters were addressed in the context of our audit of the consolidated financial statements as a whole and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

(1) Impairment of goodwill of cash-generating units of internet portal service and other services, e-commerce services, game business, other mobile services, music services and entertainment services

Reason why the matter was determined to be a Key Audit Matter

We focused on this area due to the significance of size of goodwill balance as at December 31, 2023 and because the assessment of the 'value in use' of the Group's cash generating units involves management's judgements about the future results of the business and the discount rates applied to future cash flow forecast. Details are described in Note 19.

In particular, we focused our audit effort on the remaining goodwill balance as at December 31, 2023, in relation to the significant cash generating units including internet portal services and other services, e-commerce services, game business, other mobile services, music services, and entertainment services. We identified accounting for the forementioned goodwill as a key audit matter due to its significant magnitude, and due to the significant judgements required for the Group's managements in determining the assumptions such as discount rates, growth rates and future cash flow forecasts to estimate the value-in-use.

How our audit addressed the Key Audit Matter

We have performed the following audit procedures to address the Key Audit Matter.

- Obtained an understanding of and evaluated the accounting policies and internal controls in connection with the impairment tests.
- Evaluated the effectiveness of design and operation of internal controls including review and approval by management for future cash flow estimates and significant assumptions in connection with the impairment tests.
- Evaluated the eligibility and independence of an external specialist hired by management.
- Evaluated the adequacy of valuation model used by management to estimate value-in-use.
- Evaluated the reasonableness of key assumptions used to estimate value-in-use.
- Confirmed that future cash flow estimates in connection with the impairment tests are consistent with the business plan approved by management, except for certain cash flows adjusted from the perspective of market participants.
- Reviewed the appropriateness of the carrying amount allocated to the cash generating units.
- Assessed the result of sensitivity analysis of the discount rates and permanent growth rates used by management in order to assess the impacts of changes in key assumptions on the impairment tests.

(2) Accounting for business combination with SM Entertainment Co., Ltd.

Reason why the matter was determined to be a Key Audit Matter

On March 28, 2023, the Group acquired 40.54% of interests in SM Entertainment Co., Ltd. ("SME") for ₩ 1,360,132 million and obtained control over SME. The Group accounted for the acquisitions in accordance with Korean IFRS 1103 *Business Combinations* (Note 39). The purchase consideration was allocated to various assets and liabilities acquired. The purchase price allocation relies on fair value estimates. The Group engaged an independent external expert to assist the Group in valuation of the main intangible assets acquired. We considered that the forementioned accounting for business combination is a key audit matter given the size of the purchase consideration and the significant level of management's judgment involved for the allocation of purchase consideration.

How our audit addressed the Key Audit Matter

We have performed the following audit procedures to address the Key Audit Matter.

- Obtained an understanding of and evaluated the accounting policies and internal controls in connection with the business combination.
- Evaluated the eligibility and independence of an external specialist hired by management for the purchase price allocation.
- Performed the following procedures for assessment of the fair value,
  - Assessed the appropriateness of the methodology applied by management in determining the fair value of identifiable intangible assets and other assets and liabilities acquired
  - Evaluated whether the underlying assumptions and variables used in determining fair value are consistent with those used in other type of valuations.
  - Tested the mathematical accuracy of the fair value calculation
- Assessed the appropriateness of the Group's disclosures related to the business combination in the notes to the consolidated financial statements.

Other Matters

The consolidated financial statements of the Group for the year ended December 31, 2022, were audited by another auditor who expressed an unqualified opinion on those statements on March 19, 2024 (March 20, 2023 except for the emphasis of matters regarding the restatement of financial statements). The Group's consolidated financial statements for the year ended December 31, 2022 another auditor audited did not reflect the effects of adjustments described in Note 2.(2).5) to the consolidated financial statements. The Group's consolidated financial statements for the year ended December 31, 2022, presented herein for comparative purposes, were restated to reflect these adjustments.

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with Korean IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Korean Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and to communicate with them all relationships and other matters that may reasonably be thought to bear on our independence, and where applicable, related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditor's report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditor's report is Seung Whan Lee, Certified Public Accountant.

/s/ Samil PricewaterhouseCoopers
Seoul, Korea
March 20, 2024

This report is effective as at March 20, 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 consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

KAKAO CORP. and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2023 and 2022

(in millions of Korean won)	Notes	2023	2022
Assets			
Current assets			
Cash and cash equivalents	4,7,8	₩ 5,268,779	₩ 4,780,244
Short-term financial instruments	4,7,8	1,661,509	1,210,213
Financial assets at fair value through profit or loss	4,5,7,10	154,695	565,644
Derivative financial assets	4,5,7,10,26	220	351
Trade receivables	4,7,10	622,027	440,899
Other current financial assets	4,7,10	575,469	361,873
Income tax receivable		4,275	-
Inventories	15	138,644	160,328
Other current assets	14	468,099	236,181
Assets held for sale	42	49,543	-
		8,943,260	7,755,733
Non-current assets			
Long-term financial instruments	4,7,8	12,992	10,131
Financial assets at fair value through profit or loss	4,5,7,10	484,753	502,078
Financial assets at fair value through other comprehensive income	5,7,10	1,658,868	1,449,567
Investments in associates and joint ventures	16	2,941,239	2,651,898
Non-current derivative financial assets	4,5,7,10,26	12,340	6,211
Other non-current financial assets	4,7,10	289,480	269,788
Property and equipment	17	1,322,051	885,397
Intangible assets	19	5,688,508	6,022,352
Investment property	18	73,807	20,878
Right-of-use assets	20	1,770,900	1,715,592
Net defined benefit assets	22	60,429	69,448
Other non-current assets	14	255,674	353,770
Deferred income tax assets	24	519,146	493,981
		15,090,187	14,451,091
Assets of financial services business			
Cash and cash equivalents	4,7,8	120,412	55,665
Deposits	4,7,8	108,797	66,511
Financial assets at fair value through profit or loss	4,5,7,10	677,902	496,616
Financial assets at amortized cost	4,7	67,375	16,175
Property and equipment	17	14,878	15,037
Intangible assets	19,39	80,379	70,561
Right-of-use assets	20	2,256	3,093
Net defined benefit assets	22	1,212	289
Reinsurance assets		199	-
Other financial assets	4,7,10	71,055	15,590
Other assets	14	2,057	17,181
		1,146,522	756,720
Total Assets		₩ 25,179,969	₩ 22,963,544

KAKAO CORP. and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2023 and 2022

(in millions of Korean won)	Notes	2023	2022
Liabilities			
Current liabilities			
Trade and other payables	4,7,12	₩ 1,799,199	₩ 1,373,954
Short-term borrowings	4,7,21,37	1,629,452	1,096,884
Deposits received	4,7,13	521,689	442,303
Other current financial liabilities	4,7,13	1,556,291	38,623
Other current liabilities	14	802,219	1,801,744
Income tax payable	24	144,441	157,670
Provisions	25	20,652	20,574
Derivative financial liabilities	5,7,26	8,195	34,076
Short-term lease liabilities	4,20,37	284,615	244,391
		6,766,753	5,210,219
Non-current liabilities			
Non-current trade and other payables	4,7,12	67,666	110,592
Long-term borrowings	4,7,21,37	845,628	1,176,181
Non-current provisions	25	80,962	70,152
Long-term lease liabilities	4,20,37	1,730,858	1,643,416
Net defined benefit liabilities	22	22,455	18,514
Other long-term employee benefits liabilities	23	69,997	73,168
Non-current derivative financial liabilities	5,7,26	-	3,540
Deferred income tax liabilities	24	719,233	606,586
Other non-current financial liabilities	4,7,13	161,765	25,620
Other non-current liabilities	14	38,620	70,105
		3,737,184	3,797,874
Liabilities of financial services business			
Deposits received	4,7,13	714,931	394,287
Other long-term employee benefits liabilities	23	4,485	2,845
Provisions	25	845	1,124
Insurance contract liabilities		2,763	152
Lease liabilities	4,20,37	1,711	2,327
Other financial liabilities	4,5,7,13	88,019	33,109
Other liabilities	14	4,679	5,890
		817,433	439,733
Total Liabilities		11,321,370	9,447,827
Equity			
Share capital	1,27	44,535	44,592
Share premium	27	8,839,891	8,116,372
Other components of equity	29	7,571	41,031
Accumulated other comprehensive income(loss)	30	(1,050,415)	(1,249,666)
Retained earnings	31	1,922,137	3,031,388
Equity attributable to owners of the Parent Company		9,763,719	9,983,717
Non-controlling interests	41	4,094,880	3,532,000
Total Equity		13,858,599	13,515,717
Total Equity and Liabilities		₩ 25,179,969	₩ 22,963,544

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

KAKAO CORP. and Subsidiaries
Consolidated Statements of Comprehensive Income
Years Ended December 31, 2023 and 2022

(in millions of Korean won, except for share amounts)	Notes	2023	2022
Revenue	6,11	₩ 7,557,002	₩ 6,798,742
Operating expenses	32	7,096,144	6,229,351
Operating profit		460,858	569,391
Other non-operating income	33	192,325	2,013,527
Other non-operating expenses	33	2,314,424	1,111,461
Finance income	34	317,437	342,770
Interest income		190,163	122,729
Other finance income		127,274	220,041
Finance costs	34	308,396	487,663
Gain of associates and joint ventures accounted for using equity method	16	122,169	100,294
Loss of associates and joint ventures accounted for using equity method	16	118,209	157,923
Profit (loss) before tax	6	(1,648,240)	1,268,935
Income tax expense	24	168,429	201,906
Profit (loss) for the year	6	(1,816,669)	1,067,029
Profit attributable to:			
Equity holders of the Parent Company		(1,012,551)	1,358,019
Non-controlling interests		(804,118)	(290,990)
Other comprehensive income			
Other comprehensive income, before tax, that will not be reclassified to profit or loss			
Remeasurements of net defined benefit liabilities		(26,603)	(2,244)
Gain (loss) on valuation of equity instruments at fair value through other comprehensive income		137,432	(1,721,801)
Share of other comprehensive income (loss) of associates, net of tax		33,447	(52,476)
Other comprehensive income, before tax, that will be reclassified to profit or loss			
Share of other comprehensive income (loss) of associates, net of tax		(145)	1,927
Foreign currency translation adjustments, net of tax		(42,007)	44,799
Net financial gain on insurance contract assets (liabilities) through other comprehensive income		-	-
Other comprehensive income (loss) for the year, net of tax		102,124	(1,729,795)
Total comprehensive income (loss) for the year		₩ (1,714,545)	₩ (662,766)
Total comprehensive income (loss) for the year is attributable to:			
Equity holders of the Parent Company		₩ (883,798)	₩ (262,475)
Non-controlling interests		(830,747)	(400,290)
Earnings (losses) per share to the equity holders of the Parent Company (in Korean won)			
Basic earnings (losses) per share	35	₩ (2,315)	₩ 3,118
Diluted earnings (losses) per share	35	(2,315)	3,066

The above consolidated statements of comprehensive income should be read in conjunction with the accompanying notes.

KAKAO CORP. and Subsidiaries

Consolidated Statements of Changes in Equity

Years Ended December 31, 2023 and 2022

(in millions of Korean won)

		Attributable to owners of the Parent							
	Notes	Share capital	Share premium	Other components of equity	Accumulated Other comprehensive Income	Retained Earnings	Total	Non-controlling Interests	Total Equity
Balance at January 1, 2022		₩ 44,641	₩ 7,781,648	₩ 77,071	₩ 371,824	₩ 1,689,445	₩ 9,964,629	₩ 3,603,705	₩ 13,568,334
Total comprehensive income (loss)									
Profit (loss) for the year		-	-	-	-	1,358,019	1,358,019	(290,990)	1,067,029
Foreign currency translation adjustments, net of tax	30	-	-	-	29,702	-	29,702	15,097	44,799
Share of other comprehensive loss of associates, net of tax		-	-	-	(32,859)	-	(32,859)	(17,690)	(50,549)
Loss on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(1,615,956)	-	(1,615,956)	(105,845)	(1,721,801)
Reclassification of gains on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(991)	991	-	-	-
Remeasurements of net defined benefit liabilities		-	-	-	(1,386)	5	(1,381)	(863)	(2,244)
Total comprehensive income (loss) for the year		-	-	-	(1,621,490)	1,359,015	(262,475)	(400,290)	(662,765)
Transactions with equity holders :									
Exercise of stock options		276	110,372	(39,607)	-	-	71,041	41,273	112,314
Share-based compensation	28	-	-	84,564	-	-	84,564	74,584	159,148
Retirement of treasury shares		(324)	81,318	(80,996)	-	-	(2)	-	(2)
Cash dividends	36	-	-	-	-	(22,990)	(22,990)	-	(22,990)
Change in ownership interest over subsidiaries		-	(23,138)	-	-	-	(23,138)	101,728	78,590
Change from share premium to retained earnings		-	(5,918)	-	-	5,918	-	-	-
Change in scope of consolidation		-	(11,461)	-	-	-	(11,461)	(25,743)	(37,204)
Change in corporate tax effect		-	183,551	-	-	-	183,551	136,742	320,293
Total transactions with equity holders		(48)	334,724	(36,039)	-	(17,072)	281,565	328,584	610,149
Balance at December 31, 2022		₩ 44,592	₩ 8,116,372	₩ 41,031	₩ (1,249,666)	₩ 3,031,388	₩ 9,983,718	₩ 3,532,000	₩ 13,515,717

KAKAO CORP. and Subsidiaries

Consolidated Statements of Changes in Equity

Years Ended December 31, 2023 and 2022

(in millions of Korean won)

		Attributable to owners of the Parent							
	Notes	Share capital	Share premium	Other Components of equity	Accumulated Other Comprehensive Income	Retained Earnings	Total	Non-controlling Interests	Total Equity
Balance at January 1, 2023		₩ 44,592	₩ 8,116,372	₩ 41,031	₩ (1,249,666)	₩ 3,031,388	₩ 9,983,718	₩ 3,532,000	₩ 13,515,717
Total comprehensive income (loss)									
Profit (loss) for the year		-	-	-	-	(1,012,551)	(1,012,551)	(804,118)	(1,816,669)
Foreign currency translation adjustments, net of tax	30	-	-	-	(20,578)	-	(20,578)	(21,429)	(42,007)
Share of other comprehensive income of associates, net of tax		-	-	-	29,136	556	29,692	3,609	33,301
Gain on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	138,270	-	138,270	(837)	137,433
Reclassification of losses on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	71,484	(71,484)	-	-	-
Net profit on insurance contract assets (liabilities) through other comprehensive income	30	-	-	-	-	-	-	-	-
Remeasurements of net defined benefit liabilities		-	-	-	(18,631)	-	(18,631)	(7,972)	(26,603)
Reclassification of remeasurements of net defined benefit liabilities		-	-	-	(430)	430	-	-	-
Total comprehensive income (loss)		-	-	-	199,251	(1,083,049)	(883,798)	(830,747)	(1,714,545)
Transactions with owners									
Exercise of stock options		132	60,014	(29,823)	-	-	30,323	15,729	46,052
Change of equity related to stock options		-	(930)	-	-	-	(930)	(2,236)	(3,166)
Share-based compensation	28	-	-	43,287	-	-	43,287	39,998	83,285
Retirement of treasury shares		(189)	47,112	(46,925)	-	-	(2)	-	(2)
Cash dividends	36	-	-	-	-	(26,202)	(26,202)	-	(26,202)
Change in ownership interest over subsidiaries		-	584,480	-	-	-	584,480	369,628	954,108
Change in scope of consolidation		-	-	-	-	-	-	928,316	928,316
Change in income tax effect		-	32,843	-	-	-	32,843	42,193	75,036
Total transactions with owners		(57)	723,519	(33,461)	-	(26,202)	663,799	1,393,628	2,057,427
Balance at December 31, 2023		₩ 44,535	₩ 8,839,891	₩ 7,571	₩ (1,050,415)	₩ 1,922,137	₩ 9,763,719	₩ 4,094,880	₩ 13,858,599

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

KAKAO CORP. and Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2023 and 2022

(in millions of Korean won)	Notes	2023	2022
Cash flows from operating activities			
Cash generated from operations	37	₩ 1,600,533	₩ 935,230
Interest received		167,452	118,713
Interest paid		(168,396)	(113,101)
Dividend received		44,839	55,458
Income taxes paid		(303,330)	(317,923)
Cash flows provided by operating activities		1,341,098	678,376
Cash flows from investing activities			
Decrease (increase) in short-term financial instruments		(221,801)	342,616
Decrease (increase) in long-term financial instruments		(3,051)	7
Purchase of property and equipment		(575,150)	(452,916)
Disposal of property and equipment		13,898	14,340
Purchase of intangible assets		(147,080)	(189,960)
Disposal of intangible assets		11,852	99,340
Purchase of financial assets at fair value through profit or loss		(395,575)	(2,161,219)
Disposal of financial assets at fair value through profit or loss		826,779	1,744,502
Purchase of financial assets at fair value through other comprehensive income		(13,968)	(63,014)
Disposal of financial assets at fair value through other comprehensive income		25,032	43,396
Purchase of investments in associates and joint ventures		(86,477)	(58,343)
Disposal of investments in associates and joint ventures		77,180	79,372
Acquisition of subsidiaries, net of cash acquired		(1,215,429)	(174,036)
Disposal of subsidiaries, net of cash transferred		(7,048)	34,851
Decrease in other current financial assets		6,892	18,982
Increase in other non-current financial assets		(26,518)	(66,252)
Decrease in financial liabilities at fair value through profit or loss		-	(754,073)
Other cash outflow from investing activities		(49,468)	(31,698)
Cash flows used in investing activities		(1,779,932)	(1,574,105)
Cash flows from financing activities			
Proceeds from short-term borrowings	21	1,386,091	1,263,672
Repayments of short-term borrowings	21	(1,444,749)	(1,560,734)
Proceeds from long-term borrowings	21	202,000	710,478
Repayments of long-term borrowings	21	(3,012)	(413)
Principal elements of lease payments		(215,478)	(148,175)
Exercise of stock options		34,257	72,490
Payments of dividends		(54,575)	(22,990)
Cash inflows from transactions with non-controlling interests		1,181,314	281,706
Cash outflows from transactions with non-controlling interests		(52,068)	(209,035)
Other cash inflow (outflow) from financing activities		(14,193)	24,822
Cash flows provided by financing activities		1,019,587	411,821
Effects of exchange rate changes on cash and cash equivalents		(27,471)	(5,884)
Increase (decrease) in cash and cash equivalents		553,282	(489,791)
Cash and cash equivalents at the beginning of year		4,835,909	5,325,700
Cash and cash equivalents at the end of year		₩ 5,389,191	₩ 4,835,909

The above consolidated statements of cash flows should be read in conjunction with the accompanying notes.

1. General Information

Kakao Corp. (the "Parent Company") has prepared the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS) 1110 *Consolidated Financial Statements*, and its consolidated subsidiaries include Daum Global Holdings and 174 entities (collectively referred to as the "Group").

(1) Description of the Parent Company

The Parent Company was incorporated in February 1995 for the purpose of computer program developments and online services, and provides advertising services, contents offerings including emoticons, games and music, and other online services through its online platforms.

The Parent Company was listed on the KOSDAQ market in Korea on November 9, 1999, and was transferred to the KOSPI market in Korea on July 10, 2017.

The Parent Company's headquarters are located in Youngpyong-dong, Jeju City, in Jeju Province, Korea. As at December 31, 2023, the Parent Company's paid capital amounted to ₩ 44,535 million and the Parent Company's shareholders are as follows:

	Number of shares (in shares)	Percentage of ownership (%)
Kim Bum Soo	59,068,747	13.3
K Cube Holdings Co., Ltd.	46,253,222	10.4
National Pension Service	25,307,322	5.7
MAXIMO PTE. LTD.	26,396,880	5.9
Others	287,823,707	64.7
	444,849,878	100.0

(2) Consolidated Subsidiaries

1) Details of the consolidated subsidiaries as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
Daum Global Holdings	₩ 2,554	Holding company	Korea	December	100.0
KAKAO BRAIN Corp.	963	Software development	Korea	December	100.0
Kakao Ventures Corp.	26,456	Holding company	Korea	December	100.0
KAKAO Venture Fund[2,6]	3,000	Investment/holding company	Korea	December	36.7
Kakao digital contents Fund[2,6]	18,179	Investment/holding company	Korea	December	40.4
Kakao Game Growth Share Fund[6]	12,000	Investment/holding company	Korea	December	100.0
Kakao Copilot Fund No. 1[7]	32,300	Investment/holding company	Korea	December	99.1
Kakao Copilot Fund No. 2[1,6]	12,168	Investment/holding company	Korea	December	98.6

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
KAKAO_CCVC Jeju Creative Economy Innovative Fund	2,000	Investment/holding company	Korea	December	95.0
KnWorks Co., Ltd.	1,611	Service operations	Korea	December	100.0
DK Techin	9,450	Service operations	Korea	December	100.0
DK CHINA Co., Ltd.	1,093	Service operations	China	December	100.0
Seoul Arena Co., Ltd	20,400	Real estate development	Korea	December	98.0
Kakao healthcare Corp.	60,900	Information communication services	Korea	December	100.0
LINKAGE LAB Co., Ltd.	149	Services	Korea	December	100.0
Kakao Investment Co., Ltd.	7,460	Holding company	Korea	December	100.0
KI SG PTE. LTD.[5]	3,928	Holding company	Singapore	December	100.0
Kakao Piccoma Corp.	273,597	Software development and services	Japan	December	91.3
piccoma Kumamoto Corp. (formerly, DK CORPAORATION.)[3]	587	Advertising agency and others	Japan	December	100.0
Piccoma Europe[3]	55,710	Application software development and distribution	France	December	100.0
Studio1pic Corp.[3]	275	Application software development and distribution	Korea	December	100.0
Sherpa Studio Corp.[3]	1,993	Electronic publishing	Japan	December	60.0
Voithru Inc.[3]	222	Information communication services	Korea	December	74.7
Voithru Japan Inc.[4]	48	Information communication services	Japan	December	100.0
Kakao Space Corp.	1,853	Real estate development and consulting	Korea	December	100.0
KAKAO IX CHINA CO.,LTD.	33,573	Wholesale and retail sales	China	December	100.0
KAKAO IX HK LTD.	53	Retail sales	Hong Kong	December	100.0
Kakao G Corp.	83,934	Software development and services	Japan	December	100.0
PANZEA Pte. Ltd. [24]	150,042	Software development	Singapore	December	100.0
KRUST UNIVERSE PTE. LTD.[25]	147,069	Software development	Singapore	December	100.0
Ground X Corp. [26]	6,285	E-commerce, internet information services	Korea	December	97.4
Kakao Mobility Corp.[30]	25,480	Software development and distribution	Korea	December	57.3
KM Solution Corp.[21]	35	Services	Korea	December	100.0
KM parking and space Corp.[21]	159	Services	Korea	December	70.0
CMNP Corp.[21]	1,009	Transportation service	Korea	December	100.0
K Drive Corp.[23]	3,020	Services	Korea	December	100.0
TJ Partners Corp.[21]	762	Transportation service	Korea	December	100.0
KM ONE Corp.[22]	69	Taxi services	Korea	December	100.0
KM Two Corp.[22]	82	Taxi services	Korea	December	100.0

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
KM Three Corp.[22]	80	Taxi services	Korea	December	100.0
KM Four Corp.[22]	71	Taxi services	Korea	December	100.0
KM Five Corp.[22]	71	Taxi services	Korea	December	100.0
KM SIX Corp.[22]	93	Taxi services	Korea	December	100.0
KM Seven Corp.[22]	61	Taxi services	Korea	December	100.0
Donggo Taxi Corp.[22]	103	Taxi services	Korea	December	100.0
Jinhwa Corp.[22]	693	Taxi services	Korea	December	100.0
KM PARK.CO., Ltd[21]	23,000	Services	Korea	December	100.0
RS Solutions Corp[21]	232	Software development and consulting	Korea	December	100.0
Korea freight forwarders association Corp.[2,21]	50	Services	Korea	December	49.0
Kakao Entertainment Corp.[30]	22,162	Software development and services	Korea	December	66.1
SamyangCNC Co., Ltd.[8]	50	Contents production and distribution	Korea	December	100.0
Daon Creative inc.[8]	283	Contents production and distribution	Korea	December	73.7
PT. Neo Bazar Indonesia[9]	12,908	Software development and services	Indonesia	December	100.0
Feelyeon Management[8]	24	Contents production and distribution	Korea	December	72.7
Intime[8]	200	Contents production and distribution	Korea	December	70.0
PAGE LAB Inc.[8]	4	Contents production and distribution	Korea	December	79.0
KWBOOKS[8]	101	Contents production and distribution	Korea	December	50.5
IST Entertainment Corp.[8]	50	Entertainment management	Korea	December	100.0
EDAM Entertainment Corp.[8]	50	Entertainment management	Korea	December	52.5
OOTB Incorporated[8]	13	Movies and videos production	Korea	December	100.0
Mega Monster Corporations[8]	256	Contents production	Korea	December	94.1
J,WIDE-COMPANY[8]	53	Entertainment management	Korea	December	100.0
BH Entertainment[8]	574	Entertainment management	Korea	December	100.0
READY ENTERTAINMENT[8]	450	Entertainment management	Korea	December	100.0
Shanghai Ready Entertainment Co.,Ltd.[20]	290	Entertainment management	China	December	100.0
SOOP ENTERTAINMENT CO., LTD.[8]	1,372	Entertainment management	Korea	December	100.0
AWESOMEENT CO., LTD.[8]	547	Entertainment management	Korea	December	100.0
Moonlight film Corp.[8]	1	Movies production	Korea	December	81.0
SANAI PICTURES[8]	2	Movies production	Korea	December	81.0
VAST.CO., Ltd.[8]	50	Entertainment management	Korea	December	100.0
Antenna Corp.[8]	65	Entertainment management	Korea	December	57.9
Baram Pictures Corp.[8]	152	Broadcast programs	Korea	December	100.0

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
		production			
Logos Film Corporation[8]	50	Broadcast programs production	Korea	December	100.0
STORY & PICTURES MEDIA[8]	100	Broadcast programs production	Korea	December	100.0
STARSHIP ENTERTAINMENT CORP.[8]	64	Record production and entertainment management	Korea	December	58.2
SHOWNOTE Inc.[18]	324	Performance planning	Korea	December	100.0
KAKAO ENTERTAINMENT ASIA CO., LTD.[19]	2,032	Digital contents production and distribution in Thailand	Thailand	December	100.0
Kakao Entertainment (Thailand) Ltd.[8]	1,081	Publishing and electronic publishing	Thailand	December	100.0
Kiwi Vine Corp.[8]	124	Translation services	Korea	December	80.9
Cradle Studio Corp.[8]	10	Entertainment management	Korea	December	51.0
STUDIO PHEONIX CO., LTD.[29]	1,079	VR CONTENTS DEVELOPMENT	Thailand	December	100.0
STUDIO ORANGE CO., LTD.[29]	1,079	Animation studio	Thailand	December	100.0
3Y Corporation[8]	14	Broadcast programs production	Korea	December	100.0
TAPAS ENTERTAINMENT, INC.[8]	-	Publishing and electronic publishing	USA	December	98.5
Wuxiaworld Limited[31]	2	Information communication services	Hong Kong	December	100.0
Wuxiaworld Publishing USA Ltd.[32]	12	Information communication services	USA	December	100.0
INISOFT Co., Ltd.[8]	1,250	IT Biz including video streaming	Korea	December	100.0
Kross Pictures Corp.[8]	498	Contents production and distribution	Korea	December	100.0
KROSS COMICS INDIA PRIVATE LIMITED[8]	117	Information communication services	India	December	100.0
KROSS TELEVISION INDIA PRIVATE LIMITED[27]	1,190	Information communication services	India	December	100.0
KROSS PICTURES INDIA PRIVATE LIMITED[28]	63	Information communication services	India	December	100.0
Glink Media Corp.[8]	30	Advertising agency	Korea	December	100.0
Gleline Corp.[8]	20	Creation and art related services	Korea	December	70.0
Dolphiners Films[8]	-	Advertisements and movie videos productions	Korea	December	100.0
Studio K110 Co., Ltd.[8]	100	Advertisements production and advertising agency	Korea	December	100.0
Zip Cinema Corp.[8]	84	Movies production	Korea	December	100.0
Nextlevelstudio Inc.[8]	21	Print publishing	Korea	December	61.2
Kakao Games Corp.[2,30]	8,252	Game development and services	Korea	December	41.3

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
Kakao Games Europe B.V.[10]	716,579	Game software development and distribution	Netherlands	December	100.0
Kakao Games USA, Inc.[14]	2,305	Game software development and distribution	USA	December	100.0
Kakao Games Japan Corp.[10]	2,024	Game software development and distribution	Japan	December	100.0
GLOHOW HOLDINGS PTE. LTD.[14]	1,669	Game software distribution	Singapore	December	54.9
GLOHOW Co., Ltd.[16]	343	Game software distribution	Thailand	December	100.0
Glohow Co., Ltd. Taiwan[16]	209	Game software distribution	Taiwan	December	100.0
Glohow Joint Stock Company[16]	60	Game software distribution	Vietnam	December	80.0
Kakao VX[10]	22,516	Software development and distribution	Korea	December	65.2
TAESIK MAUMGOLF. CO., LTD.[15]	578	Golf simulator sales	China	December	100.0
GSWING SPORTING GOODS CO., LTD.[15]	574	Golf simulator sales	China	December	100.0
Gaseung Development Company[15]	100	Golf course development and operation	Korea	December	55.0
Beagle Co., Ltd.[15]	650	Software development and distribution	Korea	December	100.0
FRIENDS GOLF HOLDINGS VN JOINT STOCK COMPANY[15]	3,815	Golf simulator sales	Vietnam	December	51.0
METABORA Co., Ltd.[10]	1,790	Game software development and distribution	Korea	December	57.7
METABORA SINGAPORE PTE. LTD.[11]	-	System software development and distribution	Singapore	March 31	100.0
Bora Ecosystem Fund LP[59]	12,672	Fund management	Singapore	December	86.7
NGLE CORPORATION[11]	205	Software planning, development and distribution	Korea	December	51.2
Dalian Technology Co., Ltd.[12]	374	Software planning, development and distribution	China	December	100.0
XLGAMES Inc.[10]	4,341	Game software development and distribution	Korea	December	52.8
Sena Technologies Co., Ltd.[10]	2,485	Electronic/communication/ computer products manufacturing and sales	Korea	December	54.3
SENA Technologies, Inc.[33]	10,804	Home appliances, telecommunication equipment wholesale and retail business	USA	December	100.0
Shenzhen Sena Technologies Co., Ltd.[34]	386	Telecommunication equipment manufacturing and development, wholesale and retail business	China	December	100.0
SENA Europe GmbH[34]	258	Home appliances, telecommunication equipment wholesale and retail business	Germany	December	100.0
SENA SAS[34]	259	Home appliances, telecommunication equipment	France	December	100.0

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
		wholesale and retail business			
Qingyuan SENA smart Helmets, Inc.[34]	10,557	Telecommunication equipment manufacturing and development, wholesale and retail business	China	December	100.0
Lionheart Studio Corp.[10]	37,451	Game software development and distribution	Korea	December	55.0
Ocean Drive Studio Corp.[10]	5	Game software development and distribution	Korea	December	65.2
OCEAN DRIVE GAMES, INC.	733	Game software development and distribution	USA	December	100.0
Kakaopay Corp.[2]	67,133	Software development and distribution	Korea	December	46.4
KP Insurance Services Corp.[13]	761	Financial services and insurance services	Korea	December	97.0
Kakaopay Securities Corp.[13]	53,834	Financial services	Korea	December	67.4
Kakaopay Insurance Corp.[13]	200,000	Financial services	Korea	December	100.0
Paymint Inc.[13,57]	1,712	Electronic payment agency	Korea	December	87.7
Kakao Enterprise Corp.	8,328	Software development and distribution	Korea	December	85.1
EXNTU Corp.[17]	100	Software development and distribution	Korea	December	100.0
SM Entertainment Co., Ltd. [2,35]	11,915	Music planning, recording business and entertainment management	Korea	December	40.5
SM Studios Co., Ltd. [35,36]	978	Holding business	Korea	December	100.0
SM Culture & Contents Co., Ltd.[2,35,37]	48,353	Advertising, video contents production and distribution, entertainment management	Korea	December	30.4
HANEUL DAMDA CO., LTD. [35,40]	70	Cosmetics manufacturing and sales	Korea	December	60.0
KEYEAST Co., Ltd.[2,35,38]	9,774	Video contents planning and production, copyright business, entertainment management	Korea	December	33.7
SM Life Design Group Co, Ltd.[2,35,39]	55,667	Print manufacturing and contents distribution	Korea	December	29.3
MOA L&B Internatinal Co., Ltd.[35,41]	1,380	Import and export of alcoholic beverages	Korea	December	100.0
SMTOWN PLANNER Co., Ltd.[35,36]	3,800	Real estate investment and development consulting	Korea	December	100.0
S.M. ENTERTAINMENT USA, INC.[35,36]	18,871	Entertainment management	USA	December	100.0
S.M. Innovative Holdings, LLC[35,42]	14,476	Holding business	USA	December	100.0
S.M. Innovative Amusement, LLC[35,43]	5,547	Real estate development	USA	December	100.0
Creative Space Development, LLC[35,43]	1,562	Real estate investment and restaurant business	USA	December	100.0

(in millions of Korean won)

Name of entity	Share capital	Primary business	Location	Closing month	Percentage of ownership (%)
Creative Space Development Property, LLC[35,43]	4,960	Real estate development	USA	December	100.0
Creative Space Entertainment, Inc.[2,35,43]	4,227	Investment/holding company	USA	December	50.0
Creative Space Innovation, LLC[35,44]	4,153	Real estate investment and development consulting	USA	December	100.0
S.M. ENTERTAINMENT JAPAN, INC.[35,36]	556	Holding business	Japan	December	100.0
Stream Media Corporation[35,45]	71,595	Broadcast programs distribution	Japan	December	82.2
everysing Japan Co., Ltd.[35,47]	855	Mobile application development and operation	Japan	December	59.5
SMEJ Plus, Inc.[35,46]	19,261	Fan club planning and operation	Japan	December	69.9
DREAM MAKER Entertainment Ltd.[35,36]	1,421	Domestic and overseas performance business	Hong Kong	December	77.0
Dream With Us Co., Ltd.[35,48]	100	Personal protection services and facility security services	Korea	December	100.0
S.M.(BEIJING) ENTERTAINMENT MEDIA CO., LTD.[35,48]	5,191	Entertainment management, broadcast programs production services	China	December	100.0
Beyond Live Corporation[35,49]	1,114	Internet transmission and sales of music/image/video contents, etc.	Japan	December	63.0
Beyond Live Japan[35,50]	106	Invitation of domestic and foreign artists, internet transmission and sales of music/image/video contents, etc.	Japan	December	51.0
DREAM MAKER ENTERTAINMENT U.S.A. INC.[35,48]	3,545	Entertainment management	USA	December	100.0
STUDIO KWANGYA CO., Ltd.[35,36]	9,000	Metaverse contents production	Korea	December	100.0
STUDIO A Co.,Ltd.[35,51]	1,000	VR contents production	Korea	December	51.0
Studio CLON[35,51]	267	Broadcast program post production, entertainment production	Korea	December	51.0
Catchers Cultural Industry Company[35,52]	10	Broadcast programs production	Korea	December	100.0
SM CULTURE PARTNERS CO., Ltd.[35,36]	50,000	Venture investment	Korea	December	100.0
Kreation Music Rights CO., Ltd.[35,36t]	27,100	Fan club planning and operation	Korea	December	100.0
MonoTree Inc.[35,53]	86	Music production and publishing, copyright agency brokerage	Korea	December	100.0
Kreation Music Rights Europe AB[1,35,53]	13	Copyright agency brokerage	Sweden	December	100.0
SM Universe Co., Ltd.[35,36]	8,100	Applied music academy	Korea	December	70.3

(in millions of Korean won)

Name of entity	Share capital	Primary business operation	Location	Closing month	Percentage of ownership (%)
KAKAO SM ENTERTAINMENT (SHANGHAI) CO., LTD.[1,35,36]	4,580	Culture and entertainment brokerage services	China	December	100.0
SM BRAND MARKETING Co., LTD.[35,36]	3,717	Intellectual property licensing, performance venue operation, clothing design and manufacturing and wholesale/retail sales	Korea	December	84.4
SM BRAND MARKETING SE ASIA Holdings PTE.LTD.[35,54]	8,268	Holding company in Southeast Asia	Singapore	December	100.0
SM LIFESTYLE JOINT STOCK COMPANY[35,55]	1,781	MD sales and CAFÉ operation using artist IP	Vietnam	December	100.0
PT. SMBM INDONESIA CORPORA[35,55]	1,961	MD sales and CAFÉ operation using artist IP	Indonesia	December	99.3
Urban Coconut Inc.[35,54]	1,867	Sales of albums and MD products in the USA	USA	December	100.0
SM & Kakao Entertainment America Corp. (formerly, Kakao Entertainment America Corp.)[35,36,58]	2,560	Performance planning	USA	December	100.0
MADE IN KOREA MEDIA LIMITED[1,35,56]	-	Entertainment management	UK	December	66.7

[1] Newly established in 2023.

[2] The Group has classified the investee as a subsidiary because its shareholding is 50% or less, but the Group has determined that it can exercise substantial control based on the potential voting rights it has over the investee.

[3] As a subsidiary of Kakao Piccoma Corp., the percentage of ownership represents Kakao Piccoma Corp.'s ownership as at December 31, 2023.

[4] As a subsidiary of Voithru Inc., the percentage of ownership represents Voithru Inc.'s ownership as at December 31, 2023.

[5] As a subsidiary of Kakao Investment Co., Ltd., the percentage of ownership represents Kakao Investment Co., Ltd.'s ownership as at December 31, 2023.

[6] As a subsidiary of Kakao Ventures Corp., the percentage of ownership represents the Parent Company and Kakao Ventures Corp.'s ownership as at December 31, 2023.

[7] As a subsidiary of Kakao Ventures Corp., the percentage of ownership represents the Parent Company, Kakao Ventures Corp. and KAKAO BRAIN Corp.'s ownership as at December 31, 2023.

[8] As a subsidiary of Kakao Entertainment Corp., the percentage of ownership represents Kakao Entertainment Corp.'s ownership as at December 31, 2023.

[9] As a subsidiary of Kakao Entertainment Corp., the percentage of ownership represents Kakao Entertainment Corp. and Kakao Investment Co., Ltd. 's ownership as at December 31, 2023.

[10] As a subsidiary of Kakao Games Corp., the percentage of ownership represents Kakao Games Corp.'s ownership as at December 31, 2023.

[11] As a subsidiary of METABORA Co., Ltd., the percentage of ownership represents METABORA Co., Ltd.'s ownership as at December 31, 2023.

[12] As a subsidiary of NGLE CORPORATION., the percentage of ownership represents the Parent Company and NGLE CORPORATION's ownership as at December 31, 2023.

[13] As a subsidiary of Kakaopay Corp., the percentage of ownership represents Kakaopay Corp.'s ownership as at December 31, 2023.

[14] As a subsidiary of Kakao Games Europe B.V., the percentage of ownership represents Kakao Games Europe B.V.'s ownership as at December 31, 2023.

[15] As a subsidiary of Kakao VX, the percentage of ownership represents Kakao VX's ownership as at December 31, 2023.

[16] As a subsidiary of GLOHOW HOLDINGS PTE. LTD., the percentage of ownership represents GLOHOW HOLDINGS PTE. LTD.'s ownership as at December 31, 2023.

[17] As a subsidiary of Kakao Enterprise Corp., the percentage of ownership represents Kakao Enterprise Corp.'s ownership as at December 31, 2023.

[18] As a subsidiary of STARSHIP ENTERTAINMENT CORP., the percentage of ownership represents STARSHIP ENTERTAINMENT CORP.'s ownership as at December 31, 2023.

[19] As a subsidiary of Kakao Entertainment Corp., the percentage of ownership represents Kakao Entertainment Corp., STUDIO PHEONIX CO., LTD. and STUDIO ORANGE CO., LTD.'s ownership as at December 31, 2023.

[20] As a subsidiary of READY ENTERTAINMENT, the percentage of ownership represents READY ENTERTAINMENT's ownership as at December 31, 2023.

[21] As a subsidiary of Kakao Mobility Corp., the percentage of ownership represents Kakao Mobility Corp.'s ownership as at December 31, 2023.

[22] As a subsidiary of TJ Partners Corp., the percentage of ownership represents TJ Partners Corp.'s ownership as at December 31, 2023.

[23] As a subsidiary of CMNP Corp., the percentage of ownership represents CMNP Corp.'s ownership as at December 31, 2023.

[24] As a subsidiary of Kakao G Corp., the percentage of ownership represents Kakao G Corp.'s ownership as at December 31, 2023.

[25] As a subsidiary of PANZEA Pte. Ltd., the percentage of ownership represents PANZEA Pte. Ltd.'s ownership as at December 31, 2023.

[26] As a subsidiary of KRUST UNIVERSE PTE. LTD., the percentage of ownership represents KRUST UNIVERSE PTE. LTD.'s ownership as at December 31, 2023.

[27] As a subsidiary of Kross Pictures Corp., the percentage of ownership represents Kross Pictures Corp.'s ownership as at December 31, 2023.

[28] As a subsidiary of KROSS TELEVISION INDIA PRIVATE LIMITED, the percentage of ownership represents KROSS TELEVISION INDIA PRIVATE LIMITED's ownership as at December 31, 2023.

[29] As a subsidiary of Kakao Entertainment Corp., the percentage of ownership represents STUDIO ORANGE CO., LTD. and STUDIO PHEONIX CO., LTD.'s ownership as at December 31, 2023.

[30] In accordance with the agreements with non-controlling interests of some of the above subsidiaries, the Group should obtain a pre-approval from investors, when the Group wants to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer to the third party or other methods not determined in the agreements such as exercise of tag-along right.

[31] As a subsidiary of TAPAS ENTERTAINMENT, INC., the percentage of ownership represents

TAPAS ENTERTAINMENT, INC.'s ownership as at December 31, 2023.

[32] As a subsidiary of Wuxiaworld Limited, the percentage of ownership represents Wuxiaworld Limited's ownership as at December 31, 2023.

[33] As a subsidiary of Sena Technologies Co., Ltd. (Korea), the percentage of ownership represents Sena Technologies Co., Ltd. (Korea)'s ownership as at December 31, 2023.

[34] As a subsidiary of SENA Technologies, Inc. (USA), the percentage of ownership represents SENA Technologies, Inc. (USA)'s ownership as at December 31, 2023.

[35] SM Entertainment Co., Ltd. and its subsidiaries have been included in the Group's subsidiaries but may be excluded from the consolidation scope depending on the approval results of M&A review by the Korea Fair Trade Commission which is currently in progress.

[36] As a subsidiary of SM Entertainment Co., Ltd., the percentage of ownership represents SM Entertainment Co., Ltd.'s ownership as at December 31, 2023.

[37] As a subsidiary of SM Studios Co., Ltd., the percentage of ownership represents SM Studios Co., Ltd. and DREAM MAKER ENTERTAINMENT LIMITED's ownership as at December 31, 2023.

[38] As a subsidiary of SM Studios Co., Ltd., the percentage of ownership represents SM Studios Co., Ltd. and S.M.ENTERTAINMENT JAPAN, INC.'s ownership as at December 31, 2023.

[39] As a subsidiary of SM Studios Co., Ltd., the percentage of ownership represents SM Studios Co., Ltd.'s ownership as at December 31, 2023.

[40] As a subsidiary of SM Culture & Contents Co., Ltd., the percentage of ownership represents SM Culture & Contents Co., Ltd.'s ownership as at December 31, 2023.

[41] As a subsidiary of SM Life Design Group Co., Ltd., the percentage of ownership represents SM Life Design Group Co., Ltd.'s ownership as at December 31, 2023.

[42] As a subsidiary of S.M. ENTERTAINMENT USA, INC., the percentage of ownership represents S.M. ENTERTAINMENT USA, INC.'s ownership as at December 31, 2023.

[43] As a subsidiary of S.M. Innovative Holdings, LLC, the percentage of ownership represents S.M. Innovative Holdings, LLC's ownership as at December 31, 2023.

[44] As a subsidiary of Creative Space Entertainment, Inc., the percentage of ownership represents Creative Space Entertainment, Inc.'s ownership as at December 31, 2023.

[45] As a subsidiary of S.M.ENTERTAINMENT JAPAN, INC., the percentage of ownership represents S.M.ENTERTAINMENT JAPAN, INC. and KEYEAST Co., Ltd.'s ownership as at December 31, 2023.

[46] As a subsidiary of S.M.ENTERTAINMENT JAPAN, INC., the percentage of ownership represents S.M.ENTERTAINMENT JAPAN, INC.'s ownership as at December 31, 2023.

[47] As a subsidiary of Stream Media Corporation, the percentage of ownership represents Stream Media Corporation's ownership as at December 31, 2023.

[48] As a subsidiary of DREAM MAKER ENTERTAINMENT LIMITED, the percentage of ownership represents DREAM MAKER ENTERTAINMENT LIMITED's ownership as at December 31, 2023.

[49] As a subsidiary of DREAM MAKER ENTERTAINMENT LIMITED, the percentage of ownership represents DREAM MAKER ENTERTAINMENT LIMITED and Stream Media Corporation's ownership as at December 31, 2023.

[50] As a subsidiary of Beyond Live Corporation, the percentage of ownership represents Beyond Live Corporation's ownership as at December 31, 2023.

[51] As a subsidiary of STUDIO KWANGYA CO., Ltd., the percentage of ownership represents STUDIO KWANGYA CO., Ltd.'s ownership as at December 31, 2023.

[52] As a subsidiary of Studio CLON, the percentage of ownership represents Studio CLON and Kakao Entertainment Corp.'s ownership as at December 31, 2023.

[53] As a subsidiary of Kreation Music Rights CO., Ltd., the percentage of ownership represents Kreation Music Rights CO., Ltd.'s ownership as at December 31, 2023.

[54] As a subsidiary of SM BRAND MARKETING Co., LTD., the percentage of ownership represents SM BRAND MARKETING Co., LTD.'s ownership as at December 31, 2023.

[55] As a subsidiary of SM BRAND MARKETING SE ASIA Holdings PTE.LTD., the percentage of ownership represents SM BRAND MARKETING SE ASIA Holdings PTE.LTD.'s ownership as at December 31, 2023.

[56] As a subsidiary of SM & Kakao Entertainment America Corp., the percentage of ownership represents SM & Kakao Entertainment America Corp.'s ownership as at December 31, 2023.

[57] As it was determined that the Group had potential voting rights for the remaining interests, 100% of ownership has been reflected at the closing.

[58] It was a subsidiary of Kakao Entertainment Corp., but the interests were transferred to SM Entertainment Co., Ltd. and entity name was changed for year ended December 31, 2023.

[59] As a subsidiary of METABORA SINGAPORE PTE. LTD., the percentage of ownership represents METABORA SINGAPORE PTE. LTD.'s ownership as at December 31, 2023.

2) Subsidiaries newly included in the consolidation for the year ended December 31, 2023:

Name of entity	Reason
SM Entertainment Co., Ltd.	Included to a subsidiary through acquisition of control
SM Studios Co., Ltd.	Included to a subsidiary through acquisition of control
SMTOWN PLANNER Co., Ltd.	Included to a subsidiary through acquisition of control
S.M. ENTERTAINMENT USA, INC.	Included to a subsidiary through acquisition of control
S.M.ENTERTAINMENT JAPAN, INC.	Included to a subsidiary through acquisition of control
DREAM MAKER ENTERTAINMENT LIMITED	Included to a subsidiary through acquisition of control
STUDIO KWANGYA CO., Ltd.	Included to a subsidiary through acquisition of control
SM CULTURE PARTNERS CO., Ltd.	Included to a subsidiary through acquisition of control
Kreation Music Rights CO., Ltd.	Included to a subsidiary through acquisition of control
SM Culture & Contents Co., Ltd.	Included to a subsidiary through acquisition of control
Dream With Us Co., Ltd.	Included to a subsidiary through acquisition of control
S.M.(BEIJING) ENTERTAINMENT MEDIA CO., LTD.	Included to a subsidiary through acquisition of control
Beyond Live Corporation	Included to a subsidiary through acquisition of control
DREAM MAKER ENTERTAINMENT U.S.A. INC.	Included to a subsidiary through acquisition of control
Beyond Live Japan	Included to a subsidiary through acquisition of control
S.M. Innovative Holdings, LLC	Included to a subsidiary through acquisition of control
S.M. Innovative Amusement, LLC	Included to a subsidiary through acquisition of control
Creative Space DEVELOPMENT, LLC	Included to a subsidiary through acquisition of control
Creative Space Development Property, LLC	Included to a subsidiary through acquisition of control
Creative Space Entertainment, Inc.	Included to a subsidiary through acquisition of control
Creative Space Innovation, LLC	Included to a subsidiary through acquisition of control
KEYEAST Co., Ltd.	Included to a subsidiary through acquisition of control
SM Life Design Group Co., Ltd.	Included to a subsidiary through acquisition of control
HANEUL DAMDA CO., LTD.	Included to a subsidiary through acquisition of control
MOA L&B International Co., Ltd.	Included to a subsidiary through acquisition of control
Stream Media Corporation	Included to a subsidiary through acquisition of control
SMEJ Plus, Inc.	Included to a subsidiary through acquisition of control
everysing Japan Co., Ltd.	Included to a subsidiary through acquisition of control
STUDIO A Co., Ltd.	Included to a subsidiary through acquisition of control
beaconholdings	Included to a subsidiary through acquisition of control
Studio CLON	Included to a subsidiary through acquisition of control
SM Universe Co., Ltd.	Included to a subsidiary through acquisition of control
Catchers Cultural Industry Company	Included to a subsidiary through acquisition of control
Bora Ecosystem Fund LP	Included to a subsidiary through acquisition of control
Kakao Copilot Fund No. 2	Newly established

SM BRAND MARKETING Co., LTD.	Included to a subsidiary through acquisition of control
SM BRAND MARKETING SE ASIA Holdings PTE.LTD.	Included to a subsidiary through acquisition of control
SM LIFESTYLE JOINT STOCK COMPANY	Included to a subsidiary through acquisition of control
Urban Coconut Inc.	Included to a subsidiary through acquisition of control
PT.SMBM INDONESIA CORPORA	Included to a subsidiary through acquisition of control
Ocean Drive Studio Corp.	Included to a subsidiary through acquisition of control
OCEAN DRIVE GAMES, INC.	Included to a subsidiary through acquisition of control
FRIENDS GOLF HOLDINGS VN JOINT STOCK COMPANY	Included to a subsidiary through acquisition of control
MADE IN KOREA MEDIA LIMITED	Newly established
Kakao SM ENTERTAINMENT (SHANGHAI) CO., LTD.	Newly established
MonoTree Inc.	Included to a subsidiary through acquisition of control
Kreation Music Rights Europe AB	Newly established
Paymint Inc.	Included to a subsidiary through acquisition of control

3) Subsidiaries excluded from the consolidation for the year ended December 31, 2023:

Name of entity	Reason
Linewalks Corp.	Merged with Kakao healthcare Corp., a subsidiary
Magenta Works Inc.	Merged with EXNTU Corp., a subsidiary
Legendaries Corp.	Excluded from consolidation due to loss of control
Soundist Entertainment.Co., Ltd.	Excluded from consolidation due to loss of control
LOC&ALL. INC.	Liquidation
Kross Comics Corp.	Liquidation
KAKAO IX JAPAN Corp.	Liquidation
Life MMO Corp.	Liquidation
WithONE's Inc	Merged with Kakao Mobility Corp., a subsidiary
KLAYBAY PTE. LTD.	Liquidation
Kids Note Co., Ltd.	Excluded from consolidation due to loss of control
AWINS	Excluded from consolidation due to loss of control
RS MEDIA Co., Ltd.	Excluded from consolidation due to loss of control
TAPAS ENTERTAINMENT, Inc. (formerly, Radish Korea Inc.)	Liquidation
beaconholdings	Excluded from consolidation due to loss of control

(3) Summarized Financial Information

Summarized financial information for consolidated subsidiaries as at and for the years ended December 31, 2023 and 2022, is as follows:

(in millions of Korean won)

	2023					
Subsidiary[1]	**Assets**	**Liabilities**	**Equity**	**Revenue**	**Profit (loss) for the year**	**Total comprehensive income (loss)**
Kakaopay Corp.	₩ 3,287,180	₩ 1,205,932	₩ 2,081,247	₩ 555,635	₩ 66,103	₩ 63,688
Kakao Entertainment Corp.	2,778,031	1,480,275	1,297,756	1,356,276	(1,219,262)	(1,230,703)
Kakao Games Corp.	1,636,576	662,810	973,766	685,952	(459,574)	(451,677)
Kakao investment Corp.	1,599,829	79,431	1,520,398	17	27,422	186,173
Kakao Mobility Corp.	1,315,545	309,455	1,006,090	399,909	(83,764)	(84,589)
Kakaopay Securities Corp.	1,017,532	825,814	191,718	79,313	(51,668)	(52,190)
Kakao Games Europe B.V.	876,867	648,559	228,308	6,651	(508,255)	(483,826)
SM Entertainment Co., Ltd.	871,215	328,928	542,287	619,490	64,924	62,503
Kakao Piccoma Corp.	826,288	169,452	656,836	551,407	2,563	(1,191)
Lionheart Studio Corp.	419,846	66,468	353,378	118,326	66,716	66,035
Kakao VX	332,566	98,581	233,985	146,381	(10,854)	(12,911)

[1] The above amounts are presented based on the respective separate financial statements.

(in millions of Korean won)

	2022					
Subsidiary[1]	**Assets**	**Liabilities**	**Equity**	**Revenue**	**Profit (loss) for the year**	**Total comprehensive income (loss)**
Kakao Entertainment Corp.	₩ 2,924,805	₩ 1,551,876	₩ 1,372,929	₩ 1,292,527	₩ (438,074)	₩ (443,248)
Kakaopay Corp.	2,896,844	973,164	1,923,680	482,769	96,342	99,079
Kakao Games Corp.	2,053,988	631,922	1,422,066	753,476	(69,308)	(254,057)
Kakao Mobility Corp.	1,392,137	303,091	1,089,046	304,325	(68,774)	(69,933)
Kakao Investment Co., Ltd.	1,384,142	45,945	1,338,197	21	(18,838)	(22,089)
Kakao Games Europe B.V.	1,287,290	627,407	659,882	7,127	(27,359)	(27,715)
Kakaopay Securities Corp.	691,954	448,045	243,909	62,604	(48,026)	(48,013)
Kakao Piccoma Corp.	826,467	139,620	686,847	531,245	33,592	33,837
Kakao VX	363,760	119,541	244,219	173,508	15,087	14,246
Kakao Enterprise Corp.	221,883	167,412	54,471	160,742	(161,225)	(161,188)
Kakao G Corp.	159,059	13	159,046	-	5,371	5,426
Gaseung Development Company	84,874	84,726	148	-	(4,273)	(4,273)

[1] The above amounts are presented based on the respective separate financial statements.

2. Material Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(1) Basis of Preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Group's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

During the year ended December 31, 2020, the Group newly acquired Kakaopay Securities Corp., which engages in financial services business. Accordingly, assets and liabilities for non-financial services and financial services business are separately presented in the consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

The financial statements have been prepared on a historical cost basis, except for the following:

· Certain financial assets and liabilities (including derivative instruments),

· Liabilities for cash-settled share-based compensation – measured at fair value,

· Defined benefit pension plans – net defined benefit assets measured at fair value and other long-term and short-term employee benefits liabilities, and

· Non-current assets held for sale – measured at fair value less costs to sell

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group’s accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

(2) Changes in Accounting Policies and Disclosures

- New and amended standards adopted by the Group

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2023.

1) Korean IFRS 1001 *Presentation of Financial Statements* - Disclosure of Accounting Policies

The amendments to Korean IFRS 1001 define and require entities to disclose their material accounting policy information (being information that, when considered together with other information included in an entity's financial statements, can reasonably be expected to influence decisions that the primary users of financial statements make on the basis of those financial statements). The amendments did not have a significant impact on the financial statements.

2) Korean IFRS 1001 *Presentation of Financial Statements* - Disclosure of gain or loss on valuation of financial liabilities subject to adjustment of exercise price

If the entire or a part of financial instrument, whose exercise price is subject to change due to the issuer's share price, is classified as a financial liability, the carrying amount of the financial liability and related gains and losses shall be disclosed. The Group disclosed relevant information of the financial instruments issued by the Group in Note 26.

3) Korean IFRS 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* – Definition of Accounting Estimates

The amendments define accounting estimates and clarify how to distinguish them from changes in accounting policies. The amendments did not have a significant impact on the financial statements.

4) Korean IFRS 1012 *Income Taxes* – Deferred Income Tax related to Assets and Liabilities arising from a Single Transaction

The amendments include an additional condition to the exemption to initial recognition of an asset or liability that a transaction does not give rise to equal taxable and deductible temporary differences at the time of the transaction. The amendments did not have a significant impact on the financial statements.

5) New Standard: Korean IFRS 1117 *Insurance Contracts*

Korean IFRS 1117 *Insurance Contracts* replaces Korean IFRS 1104 *Insurance Contracts*. This standard estimates future cash flows of an insurance contract and measures insurance liabilities using discount rates applied with assumptions and risks at the measurement date. The entity recognizes insurance revenue on an accrual basis including services (insurance coverage) provided to the policyholder by each annual period. In addition, investment components (Refunds due to termination/maturity) repaid to a policyholder even if an insured event does not occur, are excluded from insurance revenue, and insurance financial income or expense and the investment income or expense are presented separately to enable users of the information to understand the sources of

income or expenses.

In accordance with the amendments to this standard, the comparative December 31, 2022 consolidated financial statements have been restated, and the impacts on the consolidated financial statements are described in Note 2.26.

If the Group applies Korean IFRS 1117 to insurance liabilities as at December 31, 2022, insurance (reinsurance) contract liabilities are changed to ₩ 177 million. In addition, insurance revenue of ₩ 18 million and insurance service expenses of ₩ 26,328 million on insurance contracts are recognized in the consolidated statements of comprehensive income. Compared to Korean IFRS 1104, the Group's assets, liabilities and equity decreased by ₩ 107 million, decreased by ₩ 142 million and increased by ₩ 35 million, respectively. Also, revenue and the profit for the year ended December 31, 2022 decreased by ₩ 306 million and increased by ₩ 35 million, respectively.

6) Korean IFRS 1012 *Income Taxes* – International Tax Reform – Pillar Two Model Rules

The amendments provide a temporary relief from the accounting for deferred income taxes arising from legislation enacted to implement the Pillar Two model rules, which aim to reform international corporate taxation for multinational enterprises, and require disclosure of related current tax effects.

The Group applies the exception to recognizing and disclosing information about deferred income tax assets and liabilities related to Pillar Two income taxes. Since the Pillar Two legislation is scheduled to be effective from January 1, 2024, the Group has no current tax expense related to Pillar Two. The impact of the Pillar Two income taxes is described in Note 24.

- New standards and interpretations not yet adopted by the Group

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2023 reporting periods and have not been early adopted by the Group.

1) Amendments to Korean IFRS 1001 *Presentation of Financial Statements* – Classification of Liabilities as Current or Non-current, Non-current Liabilities with Covenants

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. In addition, covenants that an entity is required to comply with after the end of the reporting period would not affect classification of a liability as current or non-current at the reporting date. When an entity classifies a liability that is subject to the covenants which an entity is required to comply with within twelve months of the reporting date as non-current at the end of the reporting period, the entity shall disclose information in the notes to understand the risk that non-current liabilities with covenants could become repayable within twelve months after the reporting period. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group does not expect that these amendments have a

significant impact on the financial statements.

2) Amendments to Korean IFRS 1007 *Statement of Cash Flows*, Korean IFRS 1107 *Financial Instruments: Disclosures* – Supplier finance arrangements

When applying supplier finance arrangements, an entity shall disclose information about its supplier finance arrangements that enables users of financial statements to assess the effects of those arrangements on the entity's liabilities and cash flows and on the entity's exposure to liquidity risk. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group is in review for the impact of these amendments on the financial statements.

3) Amendments to Korean IFRS 1116 *Leases* – Lease Liability in a Sale and Leaseback

When subsequently measuring lease liabilities arising from a sale and leaseback, a seller-lessee shall determine lease payments or revised lease payments in a way that the seller-lessee would not recognize any amount of the gain or loss that relates to the right of use retained by the seller-lessee. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group is in review for the impact of these amendments on the financial statements.

4) Amendments to Korean IFRS 1001 *Presentation of Financial Statements* – Disclosure of Crypto assets

The amendments require an additional disclosure if an entity holds crypto assets, or holds crypto assets on behalf of the customer, or issues crypto assets. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group is in review for the impact of these amendments on the financial statements.

5) Amendments to Korean IFRS 1021 *The Effects of Changes in Foreign Exchange Rates* and 1101 *First-time Adoption of International Financial Reporting Standards* – Lack of Exchangeability

When an entity estimates a spot exchange rate because exchangeability between two currencies is lacking, the entity shall disclose related information. The amendments should be applied for annual periods beginning on or after January 1, 2025, and earlier application is permitted. The Group is in review for the impact of these amendments on the financial statements.

(3) Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110 *Consolidated Financial Statements*.

1) Subsidiaries

Subsidiaries are all entities over which the Parent Company has control. The Group controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee.

Consolidation of a subsidiary begins from the date the Group obtains control of a subsidiary and ceases when the Group loses control of the subsidiary.

The Group applies the acquisition method to account for business combinations. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are initially measured at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquiree on an acquisition-by-acquisition basis in the event of liquidation, either at fair value or at the non-controlling interest's proportionate share of the recognized amounts of acquiree's identifiable net assets. All other non-controlling interests are measured at their acquisition-date fair values, unless another measurement basis is required by standards. Acquisition-related costs are expensed as incurred.

Goodwill is recognized as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree over the identifiable net assets acquired. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Balances of receivables and payables, income and expenses and unrealized gains on transactions between the Parent Company and its subsidiaries are eliminated during the consolidation. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

In transactions with non-controlling interest, which do not result in loss of control, the Group recognizes directly in equity any difference between the amount of the non-controlling interests and the fair value of the consideration paid or received, and attributes it to the equity holders of the Parent Company.

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value and the different between its fair value and carrying amount is recognized in profit or loss.

2) Associates

Associates are entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. If the Group's share of losses of an associate equals or exceeds its interest in the associate (including long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognizing its share of further losses. After the Group's interest is reduced to zero, additional losses are provided for, and a liability is recognized, only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate. If there is objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss. If an associate uses accounting policies other than those of the Group for like transactions and events in similar

circumstances, if necessary, adjustments shall be made to make the associate's accounting policies conform to those of the Group when the associate's financial statements are used by the Group in applying the equity method.

3) Joint arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator has rights to the assets, and obligations for the liabilities, relating to the joint operation and recognizes the assets, liabilities, revenues and expenses relating to its interest in a joint operation. A joint venturer has rights to the net assets relating to the joint venture and accounts for that investment using the equity method.

(4) Segment Reporting

Information of each operating segment is reported in a manner consistent with the business segment reporting provided to the chief operating decision maker. As it is disclosed in Note 6, the Group has eight reportable segments including advertising, game and entertainment. The chief operating decision maker is responsible for allocating resources and assessing performance of the operating segments.

(5) Foreign Currency Translation

1) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

2) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss. They are deferred in other comprehensive income if they relate to qualifying cash flow hedges and qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit or loss, within finance costs. All other foreign exchange gains and losses are presented in the statement of profit or loss within 'other non-operating income or other non-operating expenses'.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on nonmonetary assets and liabilities such as equities held at fair value

through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

3) Translation into the presentation currency

The results of operations and financial position of the Group's entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- Assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period; and
- Income and expenses for each statement of comprehensive income are translated at average rates; and
- Equity is translated at the historical exchange rate; and
- All resulting exchange differences are recognized in other comprehensive income.

(6) Material Accounting Policies

1) Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits in banks, and other short-term highly liquid investments with original maturities of three months or less.

2) Financial Assets

i) Classification

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income. Changes in fair value of the

investments in equity instruments that are not accounted for as other comprehensive income are recognized in profit or loss.

ii) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

① Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- Amortized cost: Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.

- Fair value through other comprehensive income: Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other non-operating income or expenses' and impairment losses are presented in 'other non-operating expenses'.

- Fair value through profit or loss: Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'finance income and costs' in the year in which it arises.

  On initial recognition, the Group may irrevocably designate a financial asset that otherwise meets the requirements to be measured at amortized cost or at fair value through other comprehensive income as at fair value through profit or loss if doing so eliminates or significantly reduces an

accounting mismatch that would otherwise arise.

The Group evaluates the way business is being managed, and the purpose of the business model for managing a financial asset best reflects the way information is provided to management at its portfolio level. Such information considers the following:

- The accounting policies and purpose specified for the portfolio, the actual operation of such policies. This includes strategy of management focusing on the receipt of contractual interest revenue, maintaining a certain level of interest income, matching the duration of financial assets and the duration of corresponding liabilities to obtain the asset, and outflow or realization of expected cash flows from disposal of assets.

- The way the performance of a financial asset held under the business model is evaluated, and the way such evaluation is being reported to management.

- The risk affecting the performance of the business model (and financial assets held under the business model), and the way such risk is being managed.

- The compensation plan for management (e.g., whether management is being compensated based on the fair value of assets or based on contractual cash flows received).

- Frequency, amount, timing and reason for sale of financial assets in the past, and forecast of future sale activities.

Transfers of financial assets to third parties in transactions that do not qualify for derecognition are not considered sales for this purpose.

Financial assets that qualify the definition of trading or portfolio performance is evaluated on a fair value basis shall be measured at fair value through profit or loss.

The principal is defined to be the fair value of a financial assets at initial recognition. Interest is not only composed of consideration for the time value of money, consideration for the credit risk related to remaining principal at a certain period of time, and consideration for other cost (e.g. liquidity risk and cost of operation) and fundamental risk associated with lending, but also profit.

When evaluating whether contractual cash flows are solely payments of principal and interests, the Group considers the contractual terms of the financial instrument. When a financial asset contains contractual conditions that modify the timing and amount of contractual cash flows, it is required to determine whether contractual cash flows that arise during the remaining life of the financial instrument due to such contractual condition are solely payments of principal and interest.

The Group considers the following elements when evaluating the above:

- Conditions that lead to modification of timing or amount of cash flows

- Contractual terms that adjust contractual nominal interest, including floating rate features

- Early payment features and maturity extension features

- Contractual terms that limit the Group's claim on cash flows arising from certain assets (e.g. non-recourse feature)

A prepayment feature is consistent with the solely payments of principal and interest criterion if the prepayment amount substantially represents unpaid amounts of principal and interest on the principal amount outstanding, which may include reasonable additional compensation for early termination of the contract.

Additionally, for a financial asset acquired at a discount or premium to its contractual par amount, a feature that permits or requires prepayment at an amount that substantially represents the contractual par amount plus accrued (but unpaid) contractual interest (which may also include reasonable additional compensation for early termination) is treated as consistent with this criterion if the fair value of the prepayment feature is insignificant at initial recognition.

② Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'finance income and costs' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

iii) Impairment

The Group assesses on a forward-looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. The impairment methodology applied depends on whether there has been a significant increase in credit risk.

The Group measures loss allowances at an amount equal to lifetime expected credit losses, except for the following, which are measured at 12-month expected credit losses:

- debt securities that are determined to have low credit risk at the reporting date; and
- other debt securities and bank balances for which credit risk (i.e., the risk of default occurring over the expected life of the financial instrument) has not increased significantly since initial recognition.

For trade receivables and lease receivables, the Group applies the simplified approach, which

requires expected lifetime losses to be recognized from initial recognition of the receivables.

When assessing whether a financial asset's credit risk has increased significantly since initial recognition and when estimating expected credit losses, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes qualitative, quantitative information and analysis based on the Group's historical experience and informed credit assessment, including forward-looking information.

① Measurement of expected credit losses

Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured at the present value of all cash shortfalls (i.e., the differences between all contractual cash flows to be received in accordance with the contract and the contractual cash flows that the Group expects to receive). Expected credit losses are discounted at the effective interest rate of the financial asset.

② Credit-impaired financial assets

At the end of each reporting period, the Group assesses whether the credit of financial assets measured at amortized cost and debt securities measured at fair value through other comprehensive income are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

③ Presentation of allowance for expected credit losses in the consolidated statement of financial position

The loss allowance for a financial asset measured at amortized cost is deducted from the gross carrying amount of the asset.

For debt instruments measured at fair value through other comprehensive income, the loss allowance is included in profit or loss and recognized in other comprehensive income.

④ Write-off

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

vi) Recognition and derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Group has retained substantially all the risks

and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as “borrowings” in the consolidated statement of financial position.

v) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the 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. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

3) Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently re-measured at their fair value. Changes in the fair value of the derivatives that are not qualified for hedge accounting are recognized in the consolidated statement of comprehensive income as ‘finance income (costs)’ according to the nature of transactions.

4) Trade Receivables

Trade receivables are recognized initially at the amount of consideration that is unconditional, unless they contain significant financing components when they are recognized at fair value. Trade receivables are subsequently measured at amortized cost using the effective interest method, less loss allowance. See Note 10 for further information about the Group’s accounting for trade receivables.

5) Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the moving-weighted average method.

6) Non-current Assets (or Disposal Group) Held for Sale

Non-current assets (or disposal group) are classified as held for sale when their carrying amount will be recovered principally through a sale transaction rather than through continuing use and a sale is considered highly probable. The assets are measured at the lower amount between their carrying amount and the fair value less costs to sell.

7) Property and Equipment

Property and equipment are stated at its historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Depreciation on property and equipment, except land, is calculated using the straight-line method to allocate the difference between their cost and their residual values over their estimated useful lives,

as follows:

	Useful lives
Buildings	20 – 40 years
Structures	3 – 20
Machinery and equipment	4 – 6
Vehicles	4 – 6
Furniture	2 – 5

The depreciation method, residual values and useful lives of property and equipment are reviewed and adjusted at each financial year-end, if appropriate, accounted for as changes in accounting estimates.

8) Borrowing Costs

General and specific borrowing costs that are directly attributable to the acquisition or construction of a qualifying asset are capitalized during the period of time that is required to complete and prepare the asset for its intended use or sale. Investment income earned on the temporary investment of specific borrowings on qualifying assets is deducted from the borrowing costs eligible for capitalization. Other borrowing costs are expensed in the period in which they are incurred.

9) Government Grants

Government grants are recognized at their fair values when there is reasonable assurance that the grant will be received and the Group will comply with the conditions attached to it. Government grants related to assets are presented by deducting the grants in arriving at the carrying amount of the assets, and grants recognized as income are deferred and presented by deducting the expenses related to the purpose of the government grants.

10) Intangible Assets

i) Goodwill

Goodwill arises on the acquisition of subsidiaries, associates and business combination are included in intangible assets. Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of the net identifiable assets of the acquired subsidiary, associates, joint ventures and businesses at the date of acquisition. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Any impairment is recognized immediately as an expense and is not subsequently reversed.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the CGUs, or group of CGUs, that is expected to benefit from the synergies of the combination. Goodwill is monitored at the operating segment level. Goodwill impairment reviews are

undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. The carrying amount of goodwill is compared to the recoverable amount, which is the higher of value in use and the fair value less costs to sell.

ii) Membership and brand

Membership and brand are regarded as intangible assets with indefinite useful life and not amortized because there is no foreseeable limit to the period over which the asset is expected to be utilized.

iii) Other intangible assets

Other intangible assets such as development costs and industrial property rights are initially recognized at its historical costs and amortized using the straight-line method over their estimated useful lives and the unit of production method. Other intangible assets have definite useful life and are carried at cost less accumulated amortization.

Their estimated useful lives of other intangible assets are as follows:

	Useful lives
Industrial property rights	5 – 10 years
Others	Indefinite, 2 – 15
Development costs	5
Exclusive rights	Contractual period

iv) Crypto assets

① Issuer of crypto assets (KLAY)

The Group recorded development costs as expenses at the time of expenditure since it was not deemed that the development activities of platforms and crypto assets meet the recognition criteria of intangible assets prescribed in Korean IFRS 1038 paragraph 57. Relevant development costs were not recorded as assets.

As the issuance cost for the Group's crypto assets does not qualify for the definition of assets, costs expensed in the course of the issuance of crypto assets have been recorded as expenses.

The Group distributed and retired the issued KLAY to third parties and itself through sales with consideration, business development and R&D investment and distribution volume for developers.

No amounts were recognized as assets in relation to the reserved portion held as an issuer.

While developing the Klaytn Mainnet in 2019, the Group also completed its development for the crypto asset named KLAY. KLAY was developed using blockchain focused technologies for the purpose of being used as a payment means for various fees incurred while using Klaytn Mainnet. It is used to pay fees when creating and implementing Smart Contract within Klaytn Mainnet, or transmitting, recording and uploading transactions through Dapp registered in Klaytn Mainnet, and using services provided

by Dapp.

In accordance with the announced White Paper, Klaytn Position Paper, the Group completed its roadmap including upgrades and user-friendly interface development for the advancement in Mainnet through various tasks related to supporting major toolkits, platform advancement and ecosystem expansion, began the governance transfer and completed its performance obligations in 2021.

Meanwhile, the Group implemented the Klaytn governance roadmap which was established from the beginning of 2019 and realized the decentralization of Klaytn, which is entered into the maturity stage of Decentralization Phase during the current period. At the same time, through the KLAY tokenomics restructuring (KGP-6), the Group retired inter-company undistributed reserved volume held and paid pre-agreed volume. As a result, no undistributed reserved volume is held by the Group as at December 31, 2023. The Group is not an issuer of KLAY as at December 31, 2023.

a. Issuance and distribution of crypto assets

The Group issued 10 billion units of KLAY at the point of development completion of Klaytn Mainnet in 2019, and through the process of distribution and retirement, there are no undistributed reserved volumes as at December 31, 2023.

(in units)

		Distributed volume (cumulative)				
	Total volume issued[2]	Sales with consideration	Business development, R&D and development service investment	Others[3]	Total	Undistributed reserved volume
2022	10,000,000,000	1,631,586,994	869,759,242	-	2,501,346,236	7,498,653,764
2023[1]	10,000,000,000	1,637,682,258	1,045,966,578	7,316,351,164	10,000,000,000	-

[1] As at December 31, 2023, there are no undistributed reserved volumes other than distributed volumes acquired and held by the Group.

[2] Quantity of KLAY which is not issued by the Group but created as Block rewards is not included.

[3] Others consist of the retired volume through KIP-103 rebalancing.

b. Recognition of revenue from sales of crypto assets with consideration

In accordance with the announced White Paper, Klaytn Position Paper, the Group completed its roadmap including upgrades and user-friendly interface development for the advancement in Mainnet through various tasks related to supporting major toolkits, platform advancement and ecosystem expansion, began the governance transfer and completed its performance obligations and recognized revenues in 2021.

(in millions of Korean won)

Name of crypto assets	Distribution method	Distribution period	Amount recognized as revenue			
			2023	2022	2021	Total
KLAY	Sales with consideration, business development and R&D investment, etc.	2019~2023	₩ 1,615	₩ 91,645	₩ 71,940	₩ 165,199

c. Current status and future management plan for reserved volumes

As at December 31, 2023, there are no in-company undistributed reserved volumes other than distributed volumes acquired and held by the Group as a holder.

② Issuer of crypto assets (BORA)

On July 1, 2021, the Group acquired crypto assets through business combination with Way2bit Co., Ltd.

Way2bit Co., Ltd. Issued crypto assets through METABORA SIGNAPORE PTE. LTD. (formerly known as BORANETWORK PTE. LTD.), a subsidiary domiciled in Singapore. Relevant development costs were not recorded as assets.

The Group's crypto assets were issued before the business combination. As the issuance cost for the Group's crypto assets does not qualify for the definition of assets, costs expensed in the course of the occurrence have been recorded as expenses.

The volumes of the crypto assets issued have been allocated to exchange with other crypto assets, sales with consideration, distribution for the purpose of ecosystem revitalization and distribution for developers. The amounts arising from sales with consideration are recorded as a contract liabilities and revenues are recorded at the point of fulfilling performance obligations prescribed in the White Paper regarding the crypto assets.

No amounts were recognized as assets in relation to the reserved portion held by an issuer.

When the assets re-enter into the issuer at a stage before the completion of performance obligations, if there are outstanding balances of contract liabilities, the contract liabilities and the paid consideration shall be offset first.

BORA was issued based on Ethereum chain in 2018 before the merger with Way2bit Co., Ltd.. After

the merger, Mainnet was transferred to Klaytn chain in 2021.

BORA developed by the Group can be exchangeable with game tokens of games operated in the BORA platform. The Group is continuously onboarding various games to the BORA platform so that the value of BORA is maintained and the ecosystem is activated, and efforts are being made to ensure that a large number of users can enjoy the games. This aims to connect various games through one platform and satisfy common interests based on interaction between users.

The reserved volumes of BORA as at December 31, 2023, account for 24% of total volumes issued, and if distributed through additional sales, etc., it may act as a dilution factor in the exchange market price.

a. Issuance and distribution of crypto assets

A total of 1,325,000,000 units of BORA was issued in 2018, and 119,250,000 units were retired, resulting in distributable volumes of 1,205,750,000 units. Of these, 548,711,967 units were allocated to sales with consideration and 197,683,684 units were allocated to distribution volumes for developers. The volumes reserved and held as at December 31, 2023, are 314,922,193 units.

(in units)

		Distributed volumes (cumulative)							
	Total volume issued	Sales with consideration	Distribution without consideration	Volumes for developers	Retirement	Investment	Consideration for services	Total	Volumes reserved and held
2022	1,325,000,000	540,938,476	37,890,802	197,683,684	119,250,000	22,461,692	56,131,943	974,356,597	350,643,403
2023	1,325,000,000	548,711,967	38,769,397	197,683,684	119,250,000	44,722,440	60,940,319	1,010,077,807	314,922,193

Upon initial private sales before the business combination, 925,770,641 units were distributed including 530,000,000 units for exchange disposal, and after the business combination, 84,307,166 units were distributed to the Group.

The volumes collected through the platform are 72,066 units and 45,623 units in 2022 and 2023, respectively.

b. Recognition of revenue from sales of crypto assets with consideration

After the issuance, 548,711,967 units of BORA were allocated to sales with consideration (including 530 million units for exchange sales through private sales when issued in 2018 before the business combination and subsequent exchange sales with other crypto assets), 44,722,440 units to investing activities for ecosystem revitalization and 60,940,319 units to consideration for services.

The Group recognizes contract liabilities for 18,711,967 units for sales with consideration (including exchange sales), 44,722,440 units for investment and 6,771,826 units for consideration for services that have been carried out since the business combination dated July 1, 2021.

The Group collected 72,066 units and 45,623 units of BORA in 2022 and 2023, respectively, as a consideration for service usages within the platform, which results in recognizing revenues with deduction of contract liabilities.

In cases where the holders of crypto assets distributed through sales with consideration and without consideration use the crypto assets when paying fees for the service usage within the platform, the Group recognizes the revenues based on the collected volumes.

(in units and in millions of Korean won)

	Sales with consideration, etc.				Volumes used in the platform			Amount recognized as revenue			Outstanding balances of contract liabilities
Total volume distributed[1]	Sales with consideration	Consideration for services	Others[2]	Total	2022	2023	Cumulative	2022	2023	Cumulative	
1,010,077,807	548,711,967	60,940,319	44,722,440	654,374,726	72,066	45,623	117,689	₩ 32	₩ 7	₩ 39	₩ 28,785

[1] Total volume distributed after the issuance of BORA in 2018

[2] Investment for ecosystem revitalization is included.

c. Current status and future management plan for reserved volumes

The reserved volumes of BORA issued by the Group as at December 31, 2023, are 314,922,193 units. 6 million units are expected to be paid as a node compensation (consideration for services) of GC participating company, and there are no other specific plans.

③ Holder of crypto assets

The Group holds crypto assets through platform operations and acquisition with consideration based on the smart contracts.

The Group classifies the acquired crypto assets as intangible assets. Initial acquisition cost is recognized at fair value depending on the types of acquisition or by adding the costs that are reliably measurable and directly attributable to the acquisition to the purchasing price.

The crypto assets classified as intangible assets are considered to have an indefinite useful life and are not amortized, and their cost is determined using the moving average method.

Impairment test is performed for crypto assets classified as intangible assets annually or when there is an indicator of impairment. The crypto assets are carried at cost less accumulated impairment losses.

Impairment loss and gains or losses on disposal of crypto assets are classified as non-operating income or expenses.

11) Investment Properties

Investment property is a property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. The Group depreciates investment properties, except for land, using the straight-line method over their useful lives of 40 years.

12) Impairment of Non-financial Assets

Goodwill or intangible assets with indefinite useful lives are not subject to amortization and are tested annually for impairment. Assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Non-financial assets, other than goodwill, that suffered impairment are reviewed for possible reversal of the impairment at each reporting date.

The goodwill acquired in a business combination is allocated to each cash-generating unit that is expected to benefit from the synergy effect of the business combination. Impairment losses on cash-generating units allocated first to reduce the carrying amount of goodwill allocated to the cash-generating unit, and then to reduce the carrying amounts of the other asset in the cash-generating unit on a pro rata basis. An impairment loss recognized for goodwill is not reversible in a subsequent period.

13) Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

14) Financial Liabilities

i) Classification and measurement

The Group's financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not a designated as hedging instruments and an embedded derivative that is separated are also classified as held for trading.

Subsequent to initial recognition, financial liabilities at fair value through profit or loss are measured at fair value, and changes therein are recognized in profit or loss. Upon initial recognition, any directly attributable transaction costs are recognized in profit or loss as incurred.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings' and 'other financial liabilities' in the statement of financial position. These financial liabilities are initially measured at fair value deducting the transaction costs directly attributable to the issue. Other financial liabilities are subsequently measured at amortized cost using the effective interest method, and interest expenses are recognized using the effective interest method.

Borrowings are initially recognized at fair value, net of transaction costs incurred. Borrowings are subsequently measured at amortized cost. Any difference between the proceeds (net of transaction

costs) and the redemption amount is recognized in profit or loss over the period of the borrowings using the effective interest method. Fees paid on the establishment of loan facilities are recognized as transaction costs of the loan to the extent that it is probable that some or all of the facility will be drawn down. In this case, the fee is deferred until the draw-down occurs. To the extent there is no evidence that it is probable that some or all of the facility will be drawn down, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

Preferred shares that require mandatory redemption at a particular date are classified as liabilities. Interest expenses on these preferred shares using the effective interest method are recognized in the statement of profit or loss as 'finance costs', together with interest expenses recognized from other financial liabilities.

Borrowings are classified as current liabilities unless the Group has an unconditional right to defer settlement of the liability for at least 12 months after the reporting period.

ii) Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any noncash assets transferred or liabilities assumed) is recognized in profit or loss.

15) Provisions

Provisions for service warranties, make good obligation, and legal claims are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

16) Current and Deferred Income Tax

Income tax expense for the period consists of current and deferred income tax. Income tax is recognized as income or expense for the period in the consolidated statement of comprehensive income, except to the extent that it relates to items recognized in other comprehensive income or directly in equity, or it relates to a business combination. In this case, income tax is also recognized in other comprehensive income or directly in equity, respectively.

The current income tax expense is measured at the amount expected to be paid to the taxation authorities, using the tax rates (and tax laws) that have been enacted or substantively enacted by the

end of the reporting period. Management periodically evaluates positions taken in tax returns with respect to situations in which applicable tax regulation is subject to interpretation, and considers whether it is probable that a taxation authority will accept an uncertain tax treatment. The Group measures its tax balances either based on the most likely amount or the expected value, depending on which method provides a better prediction of the resolution of the uncertainty.

When the Parent Company and subsidiaries are economically combined, the Group considers the Parent Company and subsidiaries as a single taxable unit and applies the consolidated tax return to pay corporate tax based on the aggregated income.

In accordance with the consolidated tax return, the Group calculates the current income tax of the Group including domestic subsidiaries wholly owned by the Parent Company. This amount is recognized as the current income tax liability of the Parent Company, which is obligated to pay, and the amount of Group's current income tax allocated to the Company is recognized as the current income tax.

Current income tax is calculated through calculating taxable income after i) calculating taxable income for each consolidated entity, ii) eliminating consolidation adjustment items for each consolidated entity, iii) adjusting intercompany transaction gains and losses between consolidated entities, and vi) allocating consolidation adjustment items for each consolidated items. After calculating the taxable income, the tax amount is calculated by applying the tax rate to the tax base which calculated by deducting the amount of net operating loss, non-taxable income and income deduction. Finally, current income tax is calculated by adding or deducting tax credits, tax deductions and additions. Taxable income differs from the income stated in the statement of comprehensive income as it excludes gains or losses that will be added or deducted in other taxable periods and items that are not taxable or deductible from the pre-tax income in the statement of comprehensive income. Income tax payable related to the Group's current income tax is calculated at the tax rates that have been enacted or substantively enacted.

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred income tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred income tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. In addition, The Group recognizes a deferred income tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The Group reviews the carrying amount of the deferred income tax asset at the end of each reporting

period and reduces the carrying amount of the deferred income tax asset if it is no longer probable that sufficient taxable income will be available to allow the benefits of the deferred income tax asset to be utilized.

Deferred income tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax laws that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred income tax liabilities and deferred income tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

Deferred income tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred income tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset when the Group has a legally enforceable right to offset and intends either to settle on a net basis, or to realize the assets and settle the liability simultaneously.

17) Employee Benefits

i) Post-employment benefits

The Group operates pension plans. The Group has both defined contribution plans and defined benefit plans.

A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The contributions are recognized as employee benefit expenses when an employee has rendered service.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries 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 and that have terms to maturity approximating to the terms of the related pension obligation. On the other hand, remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (excluding interest), are recognized in other comprehensive income.

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

ii) Share-based compensation

Equity-settled share-based compensation granted to employees are estimated at fair value of equity

instruments at the grant date and recognized as employee benefit expenses over the vesting period. The number of equity instruments expected to vest is remeasured with consideration to non-market vesting conditions at the end of the reporting period, with any changes from the original measurement recognized in profit or loss for the year and equity.

When the options are exercised, the Group issues new shares. The proceeds received, net of any directly attributable transaction costs, are recognized as capital stock (nominal value) and capital surplus.

Under cash-settled share-based compensation plan, the Group compensates the difference of the fair value and exercise price of option as the consideration for employee services received. Total expense that will be recognized over the vesting period is determined by reference to the fair value of the option grated. Until the liability is settled, the Group is required to remeasure the fair value of the liability at the end of each reporting period and at the date of settlement, with any changes in value recognized in profit or loss for the year.

iii) Other long-term employee benefits

The Parent Company and certain subsidiaries provide long-term employee benefits, which are entitled to employees with service period for at least three years. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Group recognizes service cost, net interest on other long-term employee benefits liabilities and remeasurement as profit or loss for the year. These liabilities are valued annually by independent and qualified actuaries.

iv) Short-term employee benefits

Short-term employee benefits are recognized at the amount expected to be settled within 12 months from the end of the reporting period in which the employee has provided service in exchange for the service, and are recognized in profit or loss when the service is provided. Short-term employee benefits are recognized at an undiscounted amount.

18) Paid Capital

The Group classifies ordinary shares as equity. Incremental costs directly attributable to the equity transactions are recognized as a deduction from equity, net of any tax effects.

When the Group repurchases its equity instruments, the amount of the consideration paid is recognized as a deduction from equity and classified as treasury shares. The profits or losses from the purchases, disposal, reissue, or retirement of treasury shares are not recognized as current profit or loss. If the Group acquires and retains treasury shares, the consideration paid or received is directly recognized in equity.

19) Revenue Recognition

Revenues are mainly comprised of advertisement, content, commerce revenue and merchandise sales.

i) Advertising revenue

The Group generally provides advertising services to a customer during the period of a contract and recognizes the allocated transaction price for a performance obligation over the period of service as revenue. However, in the case of a contract in which advertising services are priced based on the sum of the total number of advertising services provided other than the contracted period, the Group recognizes revenue when it satisfies its performance obligation. Advertising revenue is either prepaid by the customer at the set transaction price, or charged afterwards as the Group satisfies its obligations.

ii) Contents revenue

The Group provides a variety of contents to a customer including games, music, videos and webtoon. Transaction prices are immediately paid when a customer purchases contents online. The Group recognizes revenue at the time when contents are used at which point the right to use contents are transferred and controlled by the customer and there are no unfulfilled obligations of the Group that may affect the use of contents.

The Group recognizes revenue over the time when there are obligations of the Group that may affect the use of contents over the period over which contents are used by customers.

The Group pays the commission fees when a customer pays for the game services provided by the Group. The incremental costs are those commission fees that the Group incurs to acquire a contract with a customer that would not have been incurred if the contract had not been acquired. In accordance with the application of Korean IFRS 1115, the Group recognizes the incremental costs as an asset and amortizes it over the expected period of providing the game service to customers.

iii) Commerce revenue and goods sales

The Group sells goods or provides services as a principal or agent through KakaoTalk platforms and recognizes revenue when the performance obligation is satisfied.

iv) Fintech revenue

The Group runs a comprehensive fintech service business that provides payment agency through the platform. In accordance with the application of Korean IFRS 1115, services provided by the Group are identified as separate performance obligations and recognized as revenues at the point when the control is transferred.

v) Other revenues

The Group mainly engages in database-oriented information providing services. The revenue consists of the fair value of the consideration received or receivable for the sales of goods and rendering of services from the Group’s ordinary activities.

20) Finance Income and Finance Costs

The Group's finance income and finance cost include:

- Interest income

- Interest expense

- Dividend income

- Net gains or losses on the disposal of investments in debt securities measured at fair value through other comprehensive income

- Net gains or losses on financial assets measured at fair value through profit or loss

- Foreign currency gains and losses on financial assets and financial liabilities

- Impairment loss (or reversal of impairment loss) on investments in debt securities measured at amortized cost or fair value through other comprehensive income

Interest income or interest expense is recognized using the effective interest method. Dividend income is recognized when the Group's right to receive dividends is established.

The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the gross carrying amount of the financial asset (when the asset is not credit-impaired) or to the amortized cost of the financial liability.

In calculating interest income and expense, the effective interest rate is applied to the gross carrying amount of the asset (when the asset is not credit-impaired) or to the amortized cost of the liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

21) Dividend

Dividend to the Group’s shareholders is recognized as a liability in the consolidated financial statements in the year in which the dividends are approved by the Group’s shareholders.

22) Leases

i) Lessor

The Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices at inception or on modification of a contract that contains a lease component.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the

case, then the lease is a finance lease; if not, it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies Korean IFRS 1115 to allocate the consideration in the contract.

When the Group is a lessor, the Group recognizes lease payments received under operating leases as income on a straight-line basis over the lease term. Initial direct cost incurred by the Group in arranging an operating lease are added to the carrying amount of the underlying asset and recognized as an expense on the same basis as the lease income. Each leased asset is presented in the consolidated statement of financial position on the basis of its characteristics.

ii) Lessee

The Group leases offices, vehicles and machinery. Lease contracts are typically made for fixed periods of 3 to 8 years, but may have extension options.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, with respect to real estate leases for which the Group is a lessee, the Group applied a practical expedient and elected not to separate a non-lease component from a lease component, and instead account for them as a single lease component.

Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as collaterals for the borrowings.

The Group determines the lease term by including the enforceable extended period when the lessee is reasonably certain to exercise an extension option within the non-cancellable period of lease and when the lessee is reasonably certain not to exercise a termination option. When assessing the enforceable period, the Group considers economic penalties imposed on the lessee and lessor when they have right to terminate the lease contract without the counterparty's consent.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable,
- Variable lease payment that are based on an index or a rate, initially measured using the index or rate as of the commencement date,
- Amounts expected to be payable by the Group (the lessee) under residual value guarantees,
- The exercise price of a purchase option if the Group (the lessee) is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the Group (the lessee) exercising that option.

Measurement of lease liability also includes payments to be made in optional periods if the lessee is reasonably certain to exercise an option to extend the lease.

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

The Group calculates the incremental borrowing interest rate as follows.

- If possible, reflect the change in financial position after receiving third-party financing in the latest third-party financial interest rate received by individual lessees.
- Reflect lease-specific adjustments such as country, currency, collateral, and guarantee.

When an individual lessee can readily observe the interest rate on a loan with a same term but a different payment profile (via recent financing sources or market data), the Group sets that interest rate as a starting point for calculating the incremental borrowing interest rate.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset. When the carrying amount of a right-of-use asset decreases to zero, the remeasurement amount is recognized in profit or loss.

Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability,
- any lease payments made at or before the commencement date less any lease incentives received,

- any initial direct costs, and
- restoration costs.

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. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life.

Payments associated with short-term leases of equipment and vehicles and leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT-equipment and small items of office furniture.

iii) Variable lease payments

Some leases contain variable payment terms that are linked to usage and revenue. Variable payment terms are used for a variety of reasons, including minimizing the fixed costs base for machinery. Variable lease payments that depend on usage are recognized in profit or loss when machinery is used and when the usage is confirmed by the settlement.

iv) Extension and termination options

Extension and termination options are included in a property across the Group. These terms are used to maximize operational flexibility in terms of managing contracts. Most of the extension and termination options held by the Group can be exercised upon agreement between the lessors and the Group.

23) Earnings per Share

Basic earnings per share is calculated by dividing net profit for the year available to ordinary shareholders by the weighted-average number of ordinary shares outstanding during the year. Diluted earnings per share are calculated using the weighted-average number of ordinary shares outstanding adjusted to include the potentially dilutive effect of ordinary equivalent shares outstanding.

24) Business Combinations between Entities under a Common Control

Book value method applies to a business combination under a common control. Related assets and liabilities are measured at book value of the consolidated financial statements. In addition, the difference between the sum of book values of the assets and liabilities transferred and the consideration paid is recognized as share premium.

25) Compound Financial Instruments

Compound financial instruments are convertible bonds, convertible preferred shares and redeemable convertible preferred shares that can be converted into equity instruments of the Parent Company at the option of the holder and exchangeable bond that can be converted into equity instruments of the subsidiary at the option of the holder.

The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have equity conversion rights and exchange rights. The equity component is recognized initially on the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Subsequent to the initial recognition, it will not be remeasured. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts. Meanwhile, the entire amount of compound financial instruments may be accounted for liability as the event of default of these instruments is considered contingent settlement provisions.

In accordance with the Interpretation Statements No.00094 issued by the Financial Supervisory Service in Korea, the Group recognized some conversion rights and exchange rights (pre-emptive rights) as equity. This accounting treatment is applicable within Korean IFRS as defined in item1 of paragraph1 of Article 13 of Acts on External Audit for Stock Companies.

26) Insurance Contracts

(Scope of application)

The Group applies Korean IFRS 1117 *Insurance Contracts* to issued insurance contracts and reinsurance contracts, ceded reinsurance contracts, investment contract with discretionary participation features issued by the entity issuing the insurance contracts.

In addition, Korean IFRS 1117 determines whether a set or series of contracts should be regarded as a single contract when identifying contracts within scope. Also, it is necessary to determine whether the embedded derivatives, the investment component, and the goods and services component should be separated and accounted for in accordance with other standards.

(Level of aggregation)

After identifying a portfolio of insurance contracts consisting of contracts that are exposed to similar risks and managed together, the Group classifies contracts with similar profitability within the portfolio to groups of insurance contracts. Each portfolio is divided into annual cohorts based on the year of issuance, and each annual cohort is further divided into the following three sets.

- a group of contracts that are onerous at initial recognition

- a group of contracts that at initial recognition have no significant possibility of becoming onerous subsequently

- a group of remaining contracts in the annual cohort

(Measurement: Premium allocation approach)

In accordance with Korean IFRS 1117, the Group simplifies the measurement of a group of insurance contracts using the premium allocation approach for a group of contracts if it is expected that there will be no material difference from the liability for remaining coverage applied the general model of a group of insurance contracts, or the coverage period of each contract in the group (including

insurance contract services within the contract boundary) is one year or less at the inception of the group.

Contracts applying the premium allocation approach are initially recognized considering the premiums received and the cash flows from insurance acquisition, and subsequently, the insurance liability is amortized over the period in which insurance services are provided. If at any time during the coverage period, facts and circumstances indicate that a group of insurance contracts is onerous, the Group shall calculate the difference between the carrying amount of the liability for remaining coverage and the current estimate of the fulfillment cash flows related to it and add it to the liability for remaining coverage, and recognize a loss in profit or loss.

The Group uses all available information neutrally at the end of the reporting period and updates the assumptions to be applied to the settlement, considering the accumulated experience. When calculating assumptions, actuarial methods are applied by considering calculation units, product characteristics, and actuarial properties.

The discount rate used for the valuation of insurance contracts in accordance with Korean IFRS considers the time value of money, the characteristics of the cash flows of the insurance contracts, and the degree of liquidity. The Group determines the discount rate taking into account factors such as the final observation maturity, the final convergence point, the long-term forward interest rate, and the liquidity premium.

The discount rate applied to the valuation of insurance contracts is an interest rate with a liquidity premium added to the basic risk-free interest rate term structure, and may change in the future depending on changes in estimates of future inflation rates and economic growth rates. The basic risk-free interest rate term structure is calculated using the Smith-Wilson interpolation method based on the yield of government bonds until the final observation maturity and the long-term forward interest rate after the initial convergence point.

The non-financial risk adjustment is calculated by multiplying the best estimate by the risk adjustment ratio, and the risk adjustment ratio is calculated by applying a confidence level (75% Percentile), considering the statistical period and calculation unit. However, if there are additional requirements from the supervisory authority, these will be taken into consideration to determine the final risk adjustment ratio. In addition, changes in in non-financial risk adjustment are presented separately into insurance service components and insurance finance components.

The Group identifies the investment component of the contract by determining the amount to be repaid to the policyholder even if an insurance event does not occur, and the investment component is not recognized as insurance revenue. Guarantee insurance, a type of general insurance, does not have a refund payable to the policyholder if an insurance event does not occur, and thus the original insurance contract may not have an investment component. The Group classifies the nature of services by dividing them into guaranteed services or investment services according to cash flow.

The carrying amount of a group of insurance contracts is exposed to the time value of money and financial risk. The Group includes time value of money and financial risk, and the effect of changes in the time value of money and financial risk related to the groups of insurance contracts in the insurance finance income or expenses, and presents the insurance finance income and expenses for

the period by systematically allocating them to the profit or loss and other comprehensive income for each contract group.

The Group reflects the effects calculated by applying the discount rate at the date of occurrence of the insurance event to the contract group in profit or loss, and presents the effects of discount rate changes applied on the settlement date in other comprehensive income. However, in the case of liabilities for remaining coverage of a group of contracts applying the premium allocation approach, the time value of money, financial risk, and their fluctuating effects are recognized in profit or loss for the relevant period.

Meanwhile, a reinsurance contract refers to an insurance contract issued by the reinsurer to compensate another entity for claims arising from insurance contracts issued by that other entity (underlying contracts). For the group of reinsurance contracts held, assumptions that are consistent with the groups of underlying insurance contracts are used when measuring the estimates of the present value of the future cash flows for the group of reinsurance contracts.

(Accounting policy related to transition of insurance contracts)

According to the transition of Korean IFRS 1117, an insurance company shall apply a fully retrospective approach, modified retrospective approach or fair value approach for a group of insurance contracts issued before the transition date (January 1, 2022, the beginning of the annual reporting period immediately preceding the date of initial application) and adjust the existing historical cost-based valuation to the valuation at the measurement date. Transitional provisions related to transition have not been applied since the Group started its operation after January 1, 2022.

27) Approval of Issuance of the Financial Statements

The issuance of the consolidated financial statements of the Group was initially approved by the Board of Directors on February 14, 2024, and re-approved due to revision on March 15, 2024, which is subject to change with approval at the annual shareholders' meeting.

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

(1) Subsidiaries

Subsidiaries are all 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 involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity.

(2) Associates and joint ventures

In determining whether the Group has significant influence, the Group takes into account whether the Group directly or indirectly holds 20% or more of the voting rights over the investee, whether the Group participates in the board or other decision-making body equivalent thereto of the investees, or whether the Group's potential voting rights will affect these rights.

(3) Impairment loss on goodwill

The Group tests annually whether goodwill has suffered any impairment. The recoverable amounts of cash-generating units are determined based on value-in-use calculations (Note 19).

(4) Income taxes

The Group's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain (Note 24).

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the relevant taxation law, the Group is liable to pay additional income tax calculated based on the tax laws. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

(5) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period (Note 5).

(6) Impairment of financial assets

The provisions for impairment for financial assets are based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's experience, existing market conditions as well as forward looking estimates at the end of each reporting period (Note 4).

(7) Provisions

As at December 31, 2023, the Group recognizes provisions as explained in Notes 2 (6) 15). These provisions are estimated based on experience.

(8) Net defined benefit liabilities (assets)

The present value of net defined benefit liabilities (assets) depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 22).

(9) Other long-term employee benefits liabilities

The present value of other long-term employee benefits liabilities depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 23).

(10) Share-based compensation

The Group measures equity-settled share-based compensation at the fair value at the date of grant of equity instruments. The fair value is estimated by using the evaluation model which considers grant condition of equity instruments. In addition, the Group measures cash-settled share-based compensation based on the fair value of share options granted by considering condition of service provision. The amount of liability is re-estimated at the end of each reporting period and at the settlement date until the liability is settled.

(11) Revenue recognition

As points provided to customers provide material rights that customers would not have received without entering into the contract, the promise to provide points is a separate performance obligation. The transaction price is allocated to products and points on a relative stand-alone selling price basis. Management estimates the stand-alone selling price of points based on the discount applied when points are redeemed, and likelihood of point redemption expected on the basis of past experience. The standalone selling price of products are estimated based on the retail price.

(12) Leases

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For leases of office, vehicles and machinery, the following factors are normally the most relevant:

- If there are significant penalties to terminate (or not extend), the Group is typically reasonably certain to extend (or not terminate).
- If any leasehold improvements are expected to have a significant remaining value, the Group is typically reasonably certain to extend (or not terminate).
- Otherwise, the Group considers other factors including historical lease durations and the costs and business disruption required to replace the leased asset.

Most extension options in offices, vehicles and machinery leases have not been included in the lease liability, because the Group could replace the assets without significant cost or business disruption.

The lease term is reassessed if an option is actually exercised (or not exercised) or the Group becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

(13) Fair value of assets and liabilities from business combination

The fair value of identifiable assets and liabilities acquired in a business combination is measured based on management's assumptions about the selection of valuation methods and input variables.

4. Financial Risk Management

(1) Financial risk factors

The Group's activities expose it to a variety of financial risks: market risk (including interest rate risk, price risk and foreign exchange risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Group's financial performance.

1) Market risk

i) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises through floating rate deposits and borrowings. The objective of interest rate risk management lies in maximizing corporate value by minimizing uncertainty caused by fluctuations in interest rates.

As at December 31, 2023, if the market interest rate of floating rate deposits had increased/decreased by 1.0%p with other variables held constant, the effect on profit before income tax for the year ended December 31, 2023, would have been increased/decreased by ₩ 21,367 million (2022: ₩ 15,442 million) and ₩ 18,521 million (2022: ₩ 17,071 million) due to increased/decreased interest income of floating rate deposits and borrowings, respectively.

ii) Price risk

The Group invests in debt and equity securities for managing liquidity, operational needs and others. The Group 's investment portfolio consists of direct and indirect investments in listed and non-listed securities.

As at December 31, 2023, if all other variables were constant and the value of marketable equity had increased or decreased by 5.0%, gain and loss on valuation of equity securities at fair value (before income tax) and other comprehensive income (before income tax) would have been increased or decreased by ₩ 41,974 million (2022: ₩ 35,448 million).

Impacts of investment financial instruments of the Group on profit or loss and other comprehensive income are described in Note 10.

iii) Foreign exchange risk

Foreign exchange risk is defined as the risk that the fair value of financial instruments or future cash flows fluctuate because of changes in foreign exchange rates. Foreign exchange risk arises from financial instruments presented in currencies other than functional currency. Therefore, foreign exchange risk does not arise from non-monetary financial instruments or financial instruments presented in functional currency.

The Group's exposure to foreign currency risk at the end of the reporting period, expressed in Korean won, was as follows:

(in millions of Korean won)	2023						
	USD	**JPY**	**CNY**	**EUR**	**GBP**	**HKD**	**NZD**
Financial assets							
Cash and cash equivalents	₩ 114,530	₩ 43,314	₩ 6,042	₩ 423	₩ 16	₩ -	₩ -
Short-term financial instruments	20,160	-	886	-	-	-	-
Trade receivables	53,815	100,763	11,634	18,013	-	1	-
Other financial asset	205,505	22,962	-	12,126	-	-	-
	₩ 394,010	₩ 167,039	₩ 18,562	₩ 30,561	₩ 16	₩ 1	₩ -
Financial liabilities							
Trade and other payables	₩ 13,612	₩ 87,915	₩ 324	₩ 1,192	₩ 29	₩ -	₩ -
Other financial liabilities	101,488	31,977	3,450	12,126	-	-	-
	₩ 115,100	₩ 119,892	₩ 3,774	₩ 13,318	₩ 29	₩ -	₩ -

(in millions of Korean won)	2023						
	IDR	**SGD**	**THB**	**TWD**	**VND**	**CAD**	**BRL**
Financial assets							
Cash and cash equivalents	₩ 15	₩ 79	₩ -	₩ 60	₩ -	₩ 4	₩ -
Short-term financial instruments	-	-	-	-	-	-	-
Trade receivables	307	-	-	62	-	1	-
Other financial asset	-	-	-	-	-	-	-
	₩ 322	₩ 79	₩ -	₩ 122	₩ -	₩ 5	₩ -
Financial liabilities							
Trade and other payables	₩ 11	₩ -	₩ 458	₩ 27	₩ 4	₩ -	₩ -
Other financial liabilities	-	-	-	-	-	-	-
	₩ 11	₩ -	₩ 458	₩ 27	₩ 4	₩ -	₩ -

If the Korean won has weakened/strengthened by 5% with all other variables held constant, the effect on profit before income tax for the year ended December 31, 2023, would have been increased/decreased by ₩ 17,905 million (2022: ₩ 12,633 million).

2) Credit risk

Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks or financial institutions, as well as credit exposures to customers, including outstanding receivables.

i) Risk management

For banks and financial institutions, only independently rated parties with a minimum rating of 'A' are accepted.

If corporate customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors.

There are no significant concentrations of credit risk, whether through exposure to individual customers, specific industry sectors and/or regions.

The Group's investments in debt instruments are considered to be low risk investments.

ii) Security

Some trade receivables are provided with guarantees or credit enhancements such as letters of credit that may require performance if the counterparty fails to comply with the contract.

iii) Impairment of financial assets

The Group has two types of financial assets that are subject to the expected credit loss model:

- trade receivables for sales of goods and provision of services, and
- other financial assets carried at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified impairment loss was immaterial.

- Non-financial services business

A. Trade receivables

The Group applies the simplified approach to measuring expected credit losses which uses a lifetime expected allowance for credit losses for all trade receivables.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. The expected credit losses include forward-looking information.

On that basis, the allowance for credit losses as at December 31, 2023 was determined as follows for trade receivables:

(in millions of Korean won)	Current	Within 3 months past due	Within 6 months past due	Within 9 months past due	More than 9 months past due	Total
Trade receivables						
Expected loss rate	0.27%	7.46%	18.29%	19.84%	45.08%	3.66%
Gross carrying amount	₩ 568,096	₩ 21,077	₩ 9,307	₩ 9,603	₩ 37,594	₩ 645,678
Allowance for credit losses	(1,522)	(1,572)	(1,702)	(1,905)	(16,949)	(23,651)

Trade receivables are excluded when collection is no longer reasonably anticipated. Indicators that can no longer reasonably anticipate recovery include failure to comply with the debt adjustment with the Group and others.

Impairment on trade receivables is presented net amount of bad debt expenses in the consolidated income statement. The subsequent collection of the written off amount is recognized as a deduction for the same account.

Movements in the allowance for credit losses provision for trade receivables for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023	2022
Beginning balance	₩ 12,390	₩ 8,072
Changes in scope of consolidation	(13)	(133)
Increase in allowance for credit losses recognized in profit or loss during the year	15,042	4,783
Reversal	(2,488)	(38)
Write-off	(912)	(1,107)
Reclassification	(420)	843
Others (effects of exchange rate changes)	52	(30)
Ending balance	₩ 23,651	₩ 12,390

Maximum exposure to credit risk of the Group as at December 31, 2023 are the entire carrying amounts.

B. Other financial assets at amortized cost

Other financial assets at amortized cost include non-trade receivables, loans and other receivables.

Movements in allowance for credit losses for other financial assets at amortized cost for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	38,812	₩	43,442
Increase in allowance for credit losses recognized in profit or loss during the year		18,602		996
Others (changes in scope of consolidation and effects of exchange rate changes)		10,160		(5,626)
Ending balance	₩	67,575	₩	38,812

All financial assets at amortized costs other than lease receivables are considered to have low credit risk, and the allowance for credit losses recognized during the period was, therefore, limited to 12 months expected losses. Financial instruments are considered to be low credit risk when they have a low risk of default and the issuer has a strong capacity to meet its contractual cash flow obligations in the near term.

Bad debt expenses recognized in profit or loss in relation to impaired financial assets for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Trade receivables				
Changes in loss allowance of trade receivables	₩	15,042	₩	4,783
Other financial assets				
Changes in loss allowance of other financial assets		18,602		996
Other current assets				
Changes in loss allowance of other current assets		(11,660)		5,016
	₩	21,984	₩	10,795

Maximum exposure to credit risk of the Group as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Cash equivalents	₩	5,268,550	₩	4,780,115
Short-term financial instruments		1,661,509		1,210,213
Trade receivables		622,027		440,899
Current derivative financial assets		220		351
Non-current derivative financial assets		12,340		6,211
Financial assets at fair value through profit or loss		370,706		1,067,722
Other current financial assets		575,469		361,873
Long-term financial instruments		12,992		10,132
Other non-current financial assets		289,480		269,788
	₩	8,813,294	₩	8,147,304

- Financial services business

A. Other financial assets at amortized cost

Other financial assets at amortized cost include non-trade receivables, loans and other receivables.

Movements in allowance for credit losses for other financial assets at amortized cost for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	265	₩	265
Increase in allowance for credit losses recognized in profit or loss during the year		687		-
Reversal		(229)		-
Ending balance	₩	723	₩	265

Maximum exposure to credit risk of the Group as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Cash equivalents	₩	120,412	₩	55,665
Deposits		108,797		66,511
Financial assets at fair value through profit or loss		677,902		496,616
Financial assets at amortized cost		68,037		16,175
Other financial assets		71,055		15,590
	₩	1,046,203	₩	650,558

3) Liquidity Risk

Cash flow forecasting is performed by the Group finance department. The Group finance department monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while always maintaining sufficient headroom on its undrawn committed borrowing facilities so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. Such forecasting takes into consideration the Group's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and, if applicable external regulatory or legal requirements.

- Non-financial services business

Details of the Group's liquidity risk analysis as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 1,799,199	₩ -	₩ -	₩ 1,799,199
Short-term and long-term borrowings[1]	1,708,461	712,534	158,811	2,579,807
Derivative financial liabilities	8,196	-	-	8,196
Other current financial liabilities	142,293	-	-	142,293
Brokerage deposits	1,413,998	-	-	1,413,998
Deposits received	521,689	-	-	521,689
Short-term lease liabilities	289,961	-	-	289,961
Non-current trade and other payables	-	5,839	61,830	67,669
Other non-current financial liabilities	-	922	160,893	161,814
Long-term lease liabilities	-	264,047	2,042,064	2,306,111
Financial guarantee liabilities[2]	65,080	-	-	65,080
Financing arrangements[2]	19,763	-	-	19,763
	₩ 5,968,639	₩ 983,342	₩ 2,423,599	₩ 9,375,580

[1] For convertible bonds and exchangeable bonds, total cash flow is disclosed with the contractual early repayment date as maturity.

[2] Cash flows from financial guarantee contracts and financing arrangements that are not presented in the consolidated financial statements are presented.

(in millions of Korean won)	2022			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 1,373,954	₩ -	₩ -	₩ 1,373,954
Short-term and long-term borrowings[1]	1,127,965	105,870	1,073,221	2,307,056
Derivative financial liabilities	34,075	3,540	-	37,616
Other current financial liabilities	38,623	-	-	38,623
Deposits received	442,303	-	-	442,303
Short-term lease liabilities	248,075	-	-	248,075
Non-current trade and other payables	-	84,577	26,015	110,592
Other non-current financial liabilities	-	482	25,138	25,620
Long-term lease liabilities	-	119,157	2,062,091	2,181,248
Financial guarantee liabilities[2]	907	5,552	-	6,459
	₩ 3,265,902	₩ 319,178	₩ 3,186,466	₩ 6,771,546

[1] For convertible bonds and exchangeable bonds, total cash flow is disclosed with the contractual early repayment date as maturity.

[2] Cash flows from financial guarantee contracts that are not presented in the consolidated financial statements are presented.

The table above analyses the Group's non-derivative financial liabilities into relevant maturity. The amounts disclosed in the table are the contractual undiscounted cash flows including interest.

- Financial services business

Details of the Group's liquidity risk analysis as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Deposits received	₩ 714,931	₩ -	₩ -	₩ 714,931
Other financial liabilities	88,019	-	-	88,019
Lease liabilities	436	369	1,023	1,829
	₩ 803,387	₩ 369	₩ 1,023	₩ 804,779

(in millions of Korean won)	2022			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Deposits received	₩ 394,287	₩ -	₩ -	₩ 394,287
Other payables	15,821	-	-	15,821
Other financial liabilities	18,087	-	-	18,087
Lease liabilities	1,481	697	256	2,434
	₩ 429,676	₩ 697	₩ 256	₩ 430,630

(2) Capital risk management

The Group's objectives when managing capital are to maintain an optimal capital structure. The Group monitors financial ratios such as debt-to-capital ratio, which is calculated by dividing total liabilities by total equity.

The debt-to-capital ratios as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Total liabilities (A)	₩ 11,321,370	₩ 9,447,827
Total equity (B)	13,858,599	13,515,717
Debt-to-capital ratio (A/B)	81.69%	69.90%

(3) Offsetting financial assets and financial liabilities

The following table presents the recognized financial assets that are offset, or subject to enforceable master netting arrangements and other similar agreements but not offset, as at December 31, 2023 and 2022.

(in millions of Korean won)	**2023**				
	Gross assets	**Gross liabilities set off**	**Net amounts presented in the consolidated statement of financial position**	**Amounts not offset**	**Net amount**
Non-trade receivables[1]	₩ 319,347	₩ 253,002	₩ 66,344	₩ 35,975	₩ 30,370

(in millions of Korean won)	**2023**				
	Gross liabilities	**Gross assets set off**	**Net amounts presented in the consolidated statement of financial position**	**Amounts not offset**	**Net amount**
Non-trade payables[1]	₩ 320,652	₩ 253,002	₩ 67,650	₩ 35,975	₩ 31,675

[1] The amount of sales/purchase due to difference in consignment sales and settlement was offset and calculated.

(in millions of Korean won)	2022				
	Gross assets	Gross liabilities set off	Net amounts presented in the consolidated statement of financial position	Amounts not offset	Net amount
Trade receivables[1]	₩ 1	₩ -	₩ 1	₩ -	₩ 1
Non-trade receivables[2]	84,682	73,432	11,250	-	11,250

(in millions of Korean won)	2022				
	Gross liabilities	Gross assets set off	Net amounts presented in the consolidated statement of financial position	Amounts not offset	Net amount
Non-trade payables[2]	₩ 84,682	₩ 56,963	₩ 27,719	₩ -	₩ 27,719

[1] The amount presented includes the amount after offsetting trade receivables from media reps and agency fee.

[2] The amount of sales/purchase due to difference in consignment sales and settlement was offset and calculated.

5. Fair Value

(1) Fair value of financial instruments

There are no significant changes in the business environment and economic environment that affect the fair value of the Group's financial assets and financial liabilities during the current year.

(2) Fair value hierarchy

The Group classifies financial instruments into three levels specified in the standard in order to provide information on the reliability of inputs used to measure fair value. The Group classifies fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in measurements.

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date. The quoted market price incorporates the market's assumptions with respect to changes in economic climate such as rising interest rates and inflation, as well as changes due to ESG risk (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).

- Unobservable inputs for the asset or liability. This is the case for unlisted equity securities and for instruments where ESG risk gives rise to a significant unobservable adjustment (Level 3).

If the inputs used to measure the fair value of an asset or a liability might be categorized in different levels of the fair value hierarchy, then the fair value measurement is categorized in its entirety in the same level of the fair value hierarchy as the lowest level input that is significant to the entire measurement. And, the Group recognizes the movements within levels of fair value hierarchy at the end of the reporting period in which changes occur.

Fair value hierarchy classifications of the financial instruments that are measured at fair value as at December 31, 2023 and 2022, are as follows:

- Non-financial services business

(in millions of Korean won)	2023			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets				
Financial assets at fair value through profit or loss	₩ 2,164	₩ 67,612	₩ 569,671	₩ 639,448
Financial assets at fair value through other comprehensive income	836,863	-	822,005	1,658,868
Derivative financial assets	-	5,289	7,272	12,560
	₩ 839,028	₩ 72,901	₩ 1,398,948	₩ 2,310,876
Financial liabilities				
Financial liabilities at fair value through profit or loss	₩ -	₩ -	₩ 215,487	₩ 215,487
Derivative financial liabilities	-	-	8,196	8,196
	₩ -	₩ -	₩ 223,682	₩ 223,682

There were no transfers between levels for fair value measurements during the current year.

(in millions of Korean won)	2022			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets				
Financial assets at fair value through profit or loss[1]	₩ 2,367	₩ 140,614	₩ 924,741	₩ 1,067,722
Financial assets at fair value through other comprehensive income[2,3]	706,350	-	743,217	1,449,567
Derivative financial assets[4]	-	-	6,562	6,562
	₩ 708,717	₩ 140,614	₩ 1,674,521	₩ 2,523,851
Financial liabilities				
Derivative financial liabilities	₩ -	₩ -	₩ 37,616	₩ 37,616
	₩ -	₩ -	₩ 37,616	₩ 37,616

[1] During 2022, the Group acquired shares of Smart Korea's UTC BioHealthcare Venture Investment

Fund and others.

[2] During 2022, the Group acquired 806,400 shares of the former shares of the Japanese content company, Kadokawa Corporation.

[3] During 2022, the Group lost significant influence over Dunamu Inc. and reclassified the 5,181,167 shares held to financial assets at fair value through other comprehensive income.

[4] During 2022, the stock options of Grip Company held by the Group was classified as derivative financial asset.

- Financial services business

(in millions of Korean won)	2023			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets				
Financial assets at fair value through profit or loss	₩ 456	₩ 674,177	₩ 3,269	₩ 677,902
Financial liabilities				
Financial liabilities at fair value through profit or loss	-	-	14,890	14,890

(in millions of Korean won)	2022			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets				
Financial assets at fair value through profit or loss	₩ 236	₩ 494,161	₩ 2,219	₩ 496,616
Financial liabilities				
Financial liabilities at fair value through profit or loss	-	-	15,073	15,073

Changes in level 3 for fair value measurements for the years ended December 31, 2023 and 2022, are as follows:

- Non-financial services business

(in millions of Korean won)

	2023				
	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Financial liabilities at fair value through profit or loss	Derivative financial assets	Derivative financial liabilities
Beginning balance	₩ 924,741	₩ 743,217	₩ -	₩ 6,562	₩ 37,616
Acquisitions	425,467	5,618	-	4,252	1,762
Disposals	(760,682)	(30,106)	-	-	(24,639)
Total profit or loss					
Amount recognized in profit or loss	(59,715)	-	(3,401)	1,746	(8,820)
Amount recognized in other comprehensive income	-	101,222	-	-	-
Changes in scope of consolidation	38,973	1,861	2,521	-	2,277
Others[1]	887	193	216,366	(5,289)	-
Ending balance	₩ 569,671	₩ 822,005	₩ 215,487	₩ 7,272	₩ 8,196

[1] Others include accounts transfer due to changes in the percentage of ownership of financial assets at fair value held by the Group.

(in millions of Korean won)

	2022				
	Financial assets at fair value through profit or loss	Financial assets at fair value through other comprehensive income	Financial liabilities at fair value through profit or loss	Derivative financial assets	Derivative financial liabilities
Beginning balance	₩ 606,932	₩ 52,509	₩ 542,900	₩ 352	₩ 11,912
Acquisitions	3,604,220	528,280	-	6,562	26,334
Disposals	(3,285,100)	(489,592)	-	-	-
Total profit or loss					
Amount recognized in profit or loss	(3,920)	-	-	(352)	(630)
Amount recognized in other comprehensive income	-	(988,169)	-	-	-
Changes in scope of consolidation	(568)	(2,179)	-	-	-
Others[1]	3,177	1,642,368	(542,900)	-	-
Ending balance	₩ 924,741	₩ 743,217	₩ -	₩ 6,562	₩ 37,616

[1] Others include accounts transfer due to changes in the percentage of ownership of financial assets at fair value held by the Group.

- Financial services business

(in millions of Korean won)	2023		2022	
	Financial assets at fair value through profit or loss	Financial liabilities at fair value through profit or loss	Financial assets at fair value through profit or loss	Financial liabilities at fair value through profit or loss
Beginning balance	₩ 2,219	₩ 15,073	₩ 1,547	₩ 17,748
Acquisitions	990	-	700	-
Disposals	-	-	(204)	-
Amount recognized in profit or loss	60	(183)	176	(2,676)
Ending balance	₩ 3,269	₩ 14,890	₩ 2,219	₩ 15,073

(3) Valuation techniques and the inputs

The fair value of financial instruments traded in active markets is based on quoted market prices at the statement of financial position date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, a company 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. The quoted market price used for financial assets held by the Group is the current bid price. These instruments are included in Level 1. Instruments included in Level 1 consist primarily of KOSPI and KOSDAQ equity investments classified as trading securities or available-for-sale.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3.

Valuation techniques and inputs used in the fair value measurements categorized within Level 2 and Level 3 of the fair value hierarchy as at December 31, 2023, are as follows. The Group periodically reviews the adjustments of evaluation by determining the adequacy of unobservable inputs with significant risks.

- Non-financial services business

(in millions of Korean won)

	2023			
	Fair value	**Level**	**Valuation techniques**	**Inputs**
Financial assets at fair value through profit or loss				
Beneficiary certificates	₩ 67,612	2	Present value technique and others	Discount rate and others
Non-listed equity securities	266,577	3	DCF model, Net asset value method and others	Net asset value, discount rate, estimated cash flow and others
Beneficiary certificates and others	303,094	3	DCF model and others	Discount rate, estimated cash flow and others
	₩ 637,283			
Financial assets at fair value through other comprehensive income				
Non-listed equity securities and others	₩ 822,005	3	DCF model, Net asset value method and others	Net asset value, discount rate, estimated cash flow and others
	₩ 822,005			
Financial liabilities at fair value through profit or loss				
Other financial liabilities	₩ 215,487	3	DCF model and others	Discount rate, estimated cash flow and others
	₩ 215,487			
Derivative financial assets				
Forward exchange and others	₩ 5,289	2	DCF model	Discount rate and others
Call options and others	7,272	3	Binominal tree method	Probability of risk neutral, price of underlying assets and others
	₩ 12,560			
Derivative financial liabilities				
Put options and others	₩ 8,196	3	Binominal tree method	Probability of risk neutral, price of underlying assets and others
	₩ 8,196			

- Financial services business

(in millions of Korean won)	2023			
	Fair value	Level	Valuation techniques	Inputs
Financial assets at fair value through profit or loss				
Other deposits	₩ 674,177	2	Market approach	Interest rate and others
Convertible bonds	443	3	Income approach	Stock price of underlying assets and others
Equity securities	1,816	3	DCF model and Present value technique	Estimated cash flow and others
Joint fund for damages	1,010	3	Present value technique	-
	₩ 677,446			
Financial liabilities at fair value through profit or loss				
Contingent consideration[1]	₩ 14,890	3	DCF model	Estimated cash flow and others

[1] Consideration committed to pay to non-interest shareholders of Kakaopay Securities Corp., a subsidiary.

(4) Valuation processes and sensitivity analysis for fair value measurements categorized as Level 3

The financial division of the Group performs the fair value measurements required for financial reporting purposes, including level 3 fair values. This division reports to the Chief Financial Officer ("CFO") and the Audit Committee, and discusses valuation processes and results with CFO and Audit Committee at least once every year depending on the materiality.

The results of the sensitivity analysis for the effect on profit or loss (before income tax) or other comprehensive income (before income tax) from changes in fair value (1%) for each financial instrument for the year ended December 31, 2023, are as follows:

- Non-financial services business

(in millions of Korean won)	Favorable changes	Unfavorable changes
Financial assets[1]		
Financial assets at fair value through profit or loss	₩ 7,036	₩ (5,945)
Financial assets at fair value through other comprehensive income	14,701	(9,124)
Derivative financial assets	211	(171)
	₩ 21,949	₩ (15,241)

[1] Sensitivity analysis on the change of fair value is calculated by increasing or decreasing the discount rate, which is a major unobservable input, by 1% or increasing or decreasing the volatility of the underlying asset by 10%.

- Financial services business

(in millions of Korean won)		Favorable changes		Unfavorable changes
Financial liabilities				
Financial liabilities at fair value through profit or loss[1]	₩	15,622	₩	(14,198)

[1] The fair value of contingent consideration is calculated by increasing or decreasing the investee company's cost of capital, which is a major unobservable input, by 1%.

6. Segment Information

The financial information reported to the chief operating decision-maker to allocate resources to operating segment and to evaluate the performance of operating segment is consistent with the disclosed financial statements.

The following summary describes the operations of each reportable segment.

(1) Kakao Corp.: Advertising, platform based service provision
(2) Kakao Games Corp.: Game development and publishing
(3) Kakao Entertainment Corp.: Entertainment management and contents production and distribution
(4) Kakao Mobility Corp.: Database information provision
(5) Kakaopay Corp.: Mobile platform based financial services
(6) Kakao Piccoma Corp.: Platform provision and webtoon distribution
(7) SM Entertainment Co., Ltd.: Entertainment management and contents production and distribution
(8) Others: Application software development and distribution

(in millions of Korean won)	2023				
	Kakao Corp.	Kakao Games Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.	Kakaopay Corp.[1]
Revenue	₩ 2,499,600	₩ 1,025,086	₩ 1,873,535	₩ 601,811	₩ 615,363
Revenue from intercompany transactions	(186,952)	(28,627)	(99,930)	(13,754)	(158,224)
Net revenue	₩ 2,312,648	₩ 996,458	₩ 1,773,605	₩ 588,057	₩ 457,139
Segment profit (loss) before tax	₩ 201,283	₩ (365,122)	₩ (1,242,184)	₩ (46,479)	₩ (5,646)
Segment profit (loss)	102,109	(322,406)	(1,223,466)	(124,183)	(22,907)
Segment assets	11,354,868	3,471,016	3,305,195	1,437,546	3,966,487
Segment liabilities	4,171,696	1,845,489	1,878,486	417,741	2,031,711
Segment depreciation	237,431	34,614	36,390	92,688	27,719
Segment amortization	20,199	61,407	69,077	2,698	18,881

[1] ₩ 70,158 million of financial services business revenue is included.

(in millions of Korean won)	2023				
	Kakao Piccoma Corp.	SM Entertainment Co., Ltd.	Others	Consolidation adjustments	Total
Revenue	₩ 577,215	₩ 756,076	₩ 319,598	₩ (711,282)	₩ 7,557,002
Revenue from intercompany transactions	(10,565)	(15,327)	(197,902)	711,282	-
Net revenue	₩ 566,650	₩ 740,749	₩ 121,695	₩ -	₩ 7,557,002
Segment profit (loss) before tax	₩ 2,578	₩ 89,670	₩ (248,765)	₩ (33,575)	₩ (1,648,240)
Segment profit (loss)	(25,251)	59,671	(257,075)	(3,161)	(1,816,669)
Segment assets	858,097	1,540,974	3,233,013	(3,987,228)	25,179,969
Segment liabilities	181,836	631,576	791,648	(628,813)	11,321,370
Segment depreciation	9,918	15,600	46,975	(12,104)	489,231
Segment amortization	462	3,786	7,711	87,204	271,424

(in millions of Korean won)	2022				
	Kakao Corp.	Kakao Games Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.	Kakaopay Corp.[1]
Revenue	₩ 2,456,591	₩ 1,147,693	₩ 1,864,791	₩ 483,692	₩ 521,364
Revenue from intercompany transactions	(175,869)	(32,542)	(86,466)	(8,101)	(150,139)
Net revenue	₩ 2,280,722	₩ 1,115,151	₩ 1,778,324	₩ 475,591	₩ 371,226
Segment profit (loss) before tax	₩ 1,872,117	₩ (194,688)	₩ (592,334)	₩ (29,681)	₩ (7,631)
Segment profit (loss)	1,611,790	(196,108)	(629,795)	(27,695)	26,830
Segment assets	10,791,496	3,873,942	3,454,284	1,546,540	3,331,422
Segment liabilities	3,720,642	1,859,048	1,835,250	403,512	1,423,163
Segment depreciation	206,634	19,936	29,257	61,918	25,446
Segment amortization	18,255	63,555	99,175	2,395	13,737

[1] ₩ 49,772 million of financial services business revenue is included.

(in millions of Korean won)	2022				
	Kakao Piccoma Corp.	KAKAO G Corp.	Others	Consolidation adjustments	Total
Revenue	₩ 531,245	₩ 106,364	₩ 319,691	₩ (632,689)	₩ 6,798,742
Revenue from intercompany transactions	(3,011)	(28)	(176,533)	632,689	-
Net revenue	₩ 528,234	₩ 106,336	₩ 143,158	₩ -	₩ 6,798,742
Segment profit (loss) before tax	₩ 60,479	₩ 93,223	₩ (68,978)	₩ 136,428	₩ 1,268,935
Segment profit (loss)	33,592	85,920	(116,542)	279,037	1,067,029
Segment assets	826,467	367,280	2,642,504	(3,870,392)	22,963,544
Segment liabilities	139,620	101,674	531,219	(566,302)	9,447,827
Segment depreciation	5,690	3,547	28,783	(15,414)	365,798
Segment amortization	265	704	5,415	265	203,766

For the years ended December 31, 2023 and 2022, the Group's revenues are primarily generated in Korea, and the most of non-current assets held by the group are located in Korea.

The geographic information below analyses the Group's revenue by the Company's country of domicile and other countries except for domestic revenues.

(in millions of Korean won)	Korea	Asia	North America	Europe	Others	Total
Revenue	₩ 6,080,792	₩ 958,520	₩ 313,433	₩ 148,110	₩ 56,147	₩ 7,557,002

There was no external customer contributing more than 10% of the total revenue for the years ended December 31, 2023 and 2022.

7. Financial Instruments by Category

- Non-financial services business

Carrying amounts of financial assets and liabilities by category as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Financial assets				
Financial assets at fair value through profit or loss	₩	639,448	₩	1,067,722
Financial assets at fair value through other comprehensive income		1,658,868		1,449,567
Financial assets at amortized cost				
Cash and cash equivalents		5,268,779		4,780,244
Trade receivables		622,027		440,899
Short-term financial instruments		1,661,509		1,210,213
Long-term financial instruments		12,992		10,132
Other current financial assets		575,469		361,873
Other non-current financial assets		289,480		269,788
		8,430,257		7,073,150
Derivative financial assets				
Current derivative financial assets		220		351
Non-current derivative financial assets		12,340		6,211
		12,560		6,562
	₩	10,741,133	₩	9,597,001

(in millions of Korean won)		2023		2022
Financial liabilities				
Financial liabilities at fair value through profit or loss	₩	215,487	₩	-
Financial liabilities at amortized cost				
Trade and other payables		1,799,199		1,373,954
Short-term borrowings		1,629,452		1,096,884
Deposits received		521,689		442,303
Brokerage deposits		1,413,998		-
Other current financial liabilities[1]		55,066		38,623
Non-current trade and other payables		67,666		110,592
Long-term borrowings		845,628		1,176,181
Other non-current financial liabilities[1]		33,506		25,620
		6,366,203		4,264,158
Derivative financial assets				
Current derivative financial assets		8,196		34,075
Non-current derivative financial assets		-		3,540
		8,196		37,616
	₩	6,589,885	₩	4,301,773

[1] As at December 31, 2023, the Group recognized non-controlling interests in fund with maturity as financial liabilities amounting to ₩ 24,254 million (2022: ₩ 35,735 million).

Net gains or losses on each category of financial instruments for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023					
	Gain (loss) on valuation (other comprehensive income (loss))	**Gain (loss) on valuation / sales (profit or loss)**	**Interest income (expenses)**	**Dividend income**	**Impairment loss (reversal)**	**Gain (loss) on foreign currency translation and transaction**
Financial assets						
Financial assets at fair value through profit or loss	₩ -	₩ (42,016)	₩ 935	₩ 2,752	₩ -	₩ (1)
Financial assets at fair value through other comprehensive income	137,433	-	-	26,827	-	-
Financial assets at amortized cost and other financial assets	-	-	185,378	-	(3,252)	(1,856)
Derivative financial assets	-	5,644	-	-	-	-
Financial liabilities						
Financial liabilities at fair value through profit or loss	-	-	(6)	-	-	28
Financial liabilities at amortized cost	-	-	(95,937)	-	-	(2,242)
Derivative financial liabilities	-	7,548	-	-	-	-

(in millions of Korean won)	2022					
	Gain (loss) on valuation (other comprehensive income (loss))	**Gain (loss) on valuation / sales (profit or loss)**	**Interest income (expenses)**	**Dividend income**	**Impairment loss (reversal)**	**Gain (loss) on foreign currency translation and transaction**
Financial assets						
Financial assets at fair value through profit or loss	₩ -	₩ 31,201	₩ 91	₩ 5,941	₩ -	₩ 2
Financial assets at fair value through other comprehensive income	(1,728,675)	10,409	-	50,273	20	-
Financial assets at amortized cost and other financial assets	-	-	118,694	-	(872)	(23,896)
Derivative financial assets	-	1,065	-	-	-	-
Financial liabilities						
Financial liabilities at fair value through profit or loss	-	(211,173)	-	-	-	-
Financial liabilities at amortized cost	-	-	(47,385)	-	-	(206)
Derivative financial liabilities	-	(23,964)	-	-	-	-

- Financial services business

Carrying amounts of financial assets and liabilities by category as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Financial assets				
Financial assets at fair value through profit or loss	₩	677,902	₩	496,616
Financial assets at amortized cost				
Cash and cash equivalents		120,412		55,665
Deposits		108,797		66,511
Financial assets at amortized costs		67,375		16,175
Other financial assets		71,055		15,590
		367,640		153,942
	₩	1,045,541	₩	650,558

(in millions of Korean won)		**2023**		**2022**
Financial liabilities				
Financial liabilities at fair value through profit or loss	₩	14,890	₩	15,073
Financial liabilities at amortized cost				
Deposits received		714,931		394,287
Other financial liabilities		73,129		18,036
		788,061		412,323
	₩	802,950	₩	427,396

Net gains or losses on each category of financial instruments for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)

	2023			
	Gain (loss) on valuation / sales (profit or loss)	**Interest income (expenses)**	**Dividend income**	**Gain (loss) on foreign currency translation and transaction**
Financial assets				
Financial assets at fair value through profit or loss	₩ 20,975	₩ 513	₩ 6	₩ 5,888
Financial assets at amortized cost	-	8,693	-	-
Derivative financial assets	(1,784)	-	-	-
Financial liabilities				
Financial liabilities at fair value through profit or loss	183	-	-	-
Financial liabilities at amortized cost and other financial liabilities	-	(11,414)	-	-

(in millions of Korean won)

	2022			
	Gain (loss) on valuation / sales (profit or loss)	**Interest income (expenses)**	**Dividend income**	**Gain (loss) on foreign currency translation and transaction**
Financial assets				
Financial assets at fair value through profit or loss	₩ 2,429	₩ 7,711	₩ 1	₩ 3,035
Financial assets at amortized cost	-	4,484	-	-
Derivative financial assets	(844)	-	-	-
Financial liabilities				
Financial liabilities at fair value through profit or loss	2,676	-	-	-
Financial liabilities at amortized cost and other financial liabilities	-	(1,456)	-	-

8. Cash and Cash Equivalents, Short-term and Long-term Financial Instruments and Restricted Financial Instruments

Cash and cash equivalents comprise cash on hand, demand deposits and short-term, highly liquid investments that are readily convertible to known amounts of cash which are subject to an insignificant risk of changes in value.

- Non-financial services business

Details of cash and cash equivalents and short-term and long-term financial instruments as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Cash in bank and on hand and others	₩	5,268,779	₩	4,780,244
Short-term financial instruments		1,661,509		1,210,213
Long-term financial instruments – time deposits and others		12,992		10,132
	₩	6,943,280	₩	6,000,589

[1] See Note 38 for information about restricted deposits and payment guarantees.

In addition, the Group's deposits of ₩ 33,388 million are pledged as collateral in relation to employees' bank loans (Note 38).

- Financial services business

Details of cash and cash equivalents and deposits as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Cash and cash equivalents	₩ 120,412	₩ 55,665
General instrument deposit	4,000	4,000
Separate investment deposit	8,300	25,200
Foreign currency separate investment deposit	5,025	7,903
Deposit for trading shares in foreign currency (trust)	83,437	22,399
Market derivatives transaction deposit	3,000	2,000
Deposit for opening a checking account	2	2
Other deposits	5,033	5,008
	₩ 229,209	₩ 122,176

Details of restricted financial instruments as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**Financial institution**	**2023**	**2022**	**Restriction**
General instrument deposit	Hana Bank	₩ 4,000	₩ 4,000	Collateral for overdraft and net settlement agency arrangement
Long-term financial instruments deposit	Hana Bank	2	2	Deposit for opening a checking account
Derivatives transaction deposit	Samsung Futures Inc.	3,000	2,000	Market derivatives transaction deposit
		₩ 7,002	₩ 6,002	

Details of financial instruments that are reserved in accordance with the related laws as at December 31, 2023 and 2022 are as follows:

(in millions of Korean won)	**Category**	**2023**	**2022**	**Purpose**
Deposit	Separate investment deposit[1]	₩ 8,300	₩ 25,200	Separate depositing of customer's deposit
	Foreign currency separate investment deposit[1]	5,025	7,903	Separate depositing of customer's deposit
	Other deposits	2,500	1,500	Korea Exchange and securities market margin
Financial assets at fair value through profit or loss	Separate investment deposit (trust)[1]	674,177	395,127	Separate depositing of customer's deposit
	Joint funds for damages[2]	1,010	1,010	Korea Exchange and Korea Securities Depository
		₩ 691,012	₩ 430,739	

[1] In accordance with Paragraph 4 in Article 74 of Financial Investment Services and Capital Markets Act, the Group separated customer's deposit and placed it in deposits with Korea Securities Finance Corp. in order to return the customer's deposit or to meet the demand of the customers. The deposits shall not be transferred to or provided as collateral and shall not be offset or seized by anyone.

[2] In accordance with Article 394 and Article 303 of Financial Investment Services and Capital Markets Act, the Group set aside the joint funds for damages in Korea Exchange and Korea Securities Depository to jointly compensate for losses incurred from default arising from transactions on the securities market.

9. Credit Quality of Financial Assets

The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to external credit ratings (if available) or to historical information about counterparty default rates.

Cash and cash equivalents are all deposited in the financial institutions with high credit ratings.

10. Financial Assets

- Non-financial services business

(1) Financial assets at fair value through profit or loss and derivative financial assets

Financial assets mandatorily measured at fair value through profit or loss and derivative financial assets include the following classes of financial assets:

(in millions of Korean won)		2023		2022
Financial assets at fair value through profit or loss				
Non-current				
Beneficiary securities and fund	₩	159,017	₩	224,747
Listed shares		2,164		2,367
Unlisted equity securities		266,577		54,497
Compound financial instruments		56,994		220,467
		484,753		502,078
Current				
Beneficiary securities and fund		145,541		140,614
Compound financial instruments		9,154		425,030
		154,695		565,644
	₩	639,448	₩	1,067,722
Derivative financial assets				
Current derivative financial assets	₩	220	₩	351

Non-current derivative financial assets	12,340	6,211
	₩ 12,560	₩ 6,562

The amounts recognized in profit or loss are as follows:

(in millions of Korean won)	**2023**	**2022**
Gain (loss) on financial assets at fair value through profit or loss	₩ (38,330)	₩ 37,235
Gain (loss) on derivative financial assets	5,644	1,065

(2) Financial assets at fair value through other comprehensive income

Equity investments at fair value through other comprehensive income comprise the following individual investments:

(in millions of Korean won)	**2023**	**2022**
Non-current		
Listed equity securities		
FNC ENTERTAINMENT	₩ 3,263	₩ 3,510
SK TELECOM CO., LTD.	192,709	182,323
SK Square Co., Ltd.	130,796	83,426
Kadokawa Corporation	329,517	287,688
Action Square Co., Ltd.	2	3
VAIV company Inc	7,070	9,400
Krafton Corp.	161,333	139,999
ITOXI Corp.	71	-
ezCaretech Co., LTD.	8,459	-
KeyHolder Inc	3,643	-
	836,863	706,350
Unlisted equity securities[1]	822,005	743,217
	₩ 1,658,868	₩ 1,449,567

[1] Shares of Dunamu Inc. amounting to ₩ 743,841 million (2022: ₩ 639,388 million) are included in unlisted equity securities.

The amounts recognized in the statements of comprehensive income are as follows:

(in millions of Korean won)	**2023**	**2022**
Gain (loss) on financial assets at fair value through other comprehensive income	₩ 26,827	₩ 60,703
Other comprehensive income (loss) on financial assets at fair value through other comprehensive income	137,433	(1,728,675)

Upon disposal of these equity investments, any balance within the accumulated other comprehensive income (loss) for these equity investments is reclassified to retained earnings and is not reclassified to profit or loss.

(3) Trade receivables, other current financial assets and other non-current financial assets

Trade receivables and allowance for doubtful accounts as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Trade receivables	₩	645,678	₩	453,289
Less: loss allowance (Note 4)		(23,651)		(12,390)
Trade receivables - net	₩	622,027	₩	440,899

There is no collateral held by the Group.

Details of other current financial assets, other non-current financial assets and loss allowance as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Other current financial assets				
Non-trade receivables	₩	486,509	₩	315,916
Accrued revenues		35,792		21,324
Short-term loans receivable		23,488		13,084
Short-term loans to employees		2,081		2,333
Leasehold deposits		29,312		9,457
Others		13,037		5,951
		590,220		368,065
Other non-current financial assets				
Long-term non-trade receivables		37,394		32,803
Long-term accrued revenues		91		-
Long-term loans receivable		27,581		31,848
Long-term loans to employees		2,349		300
Leasehold deposits		187,140		157,646
Others		87,750		79,811
		342,304		302,408
		932,524		670,474
Less: loss allowance (Note 4)		(67,575)		(38,812)
	₩	864,949	₩	631,661

- Financial services business

(1) Financial assets at fair value through profit or loss

Financial assets mandatorily measured at fair value through profit or loss include the following classes of financial assets:

(in millions of Korean won)		**2023**		**2022**
Financial assets at fair value through profit or loss				
Equity securities	₩	2,272	₩	1,040
Convertible bonds		443		405
Separate investment deposit (trust)		674,177		395,127
Debt securities		-		99,035
Joint funds for damages		1,010		1,010
	₩	677,902	₩	496,616

The amounts recognized in profit or loss are as follows:

(in millions of Korean won)		**2023**		**2022**
Gain (loss) on financial assets at fair value through profit or loss	₩	27,382	₩	13,177

(2) Other financial assets

(in millions of Korean won)		**2023**		**2022**
Other financial assets				
Non-trade receivables	₩	69,707	₩	14,096
Accrued revenues		1,937		1,073
Leasehold deposits		134		687
		71,778		15,855
Less: loss allowance (Note 4)		(723)		(265)
	₩	71,055	₩	15,590

11. Contract Assets and Liabilities

(1) Contract assets, incremental costs, contract liabilities and refund liabilities

1) Details of contract assets (other current assets), incremental costs (other current and non-current assets), and contract liabilities and refund liabilities (other current and non-current liabilities), recognized in relation to contracts with customers, as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Contract assets	₩	39,717	₩	46,497
Incremental costs		9,588		7,685
Contract liabilities		448,340		336,426
Refund liabilities		-		722

2) Significant changes in contract assets, incremental costs, contract liabilities and refund liabilities

There are significant changes in contract liabilities as at December 31, 2023 compared to those as at December 31, 2022 due to acquisition of control over SM Entertainment Co., Ltd. during the year ended December 31, 2023.

(2) Expenses and revenue recognized in relation to incremental costs and contract liabilities

The following table shows how much of the revenue and expenses recognized in the current reporting period relates to carried-forward incremental costs and contract liabilities.

(in millions of Korean won)		2023		2022
Expenses recognized that was included in the contract assets balance at the beginning of the year				
Incremental costs	₩	5,955	₩	5,526
Revenue recognized that was included in the contract liabilities balance at the beginning of the year				
Contract liabilities		306,190		315,652

(3) Classification of revenue from contracts with customers

1) Non-financial services business

(in millions of Korean won)		2023		2022
Timing of revenue recognition				
At a point in time	₩	5,182,361	₩	3,259,091
Over time		2,304,483		3,489,879
	₩	7,486,844	₩	6,748,970

2) Financial services business

(in millions of Korean won)		**2023**		**2022**
Type of revenue				
Commission revenue	₩	22,375	₩	25,475
Gain on valuation and sales of financial instruments		21,727		3,178
Gain on transaction of derivatives		3,188		2,770
Interest income		9,206		12,221
Gain on foreign currency translation		8,016		6,100
Insurance revenue		5,594		14
Other operating income		52		15
	₩	70,158	₩	49,772

12. Trade and Other Payables

Trade and other payables as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Trade and other payables				
Trade payables	₩	241,859	₩	94,417
Non-trade payables		1,552,121		1,274,889
Withhold deposits received		5,219		4,648
		1,799,199		1,373,954
Non-current trade and other payables				
Long-term non-trade payables		67,268		110,504
Withhold deposits received		397		88
		67,666		110,592
	₩	1,866,865	₩	1,484,545

13. Other Financial Liabilities

(1) Non-financial services business

Other financial liabilities as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Other current financial liabilities				
Accrued expenses	₩	139,224	₩	37,783
Leasehold deposit received		-		340
Financial liabilities at fair value through profit or loss[1]		2,521		-
Others		547		500
		142,293		38,623
Brokerage deposits		1,413,998		-
Deposits received		521,689		442,303
Other non-current financial liabilities				
Long-term accrued expenses		146,271		13,098
Long-term leasehold deposit received		14,494		11,023
Others		1,000		1,500
		161,765		25,620
	₩	2,239,745	₩	506,547

[1] Financial liabilities at fair value through profit or loss include the convertible preferred shares issued by a subsidiary and its details are as follows.

(in millions of Korean won)	**Details**
Issuer	Ocean Drive Studio Corp.
Date of issue	June 1, 2020
Value at issue	₩ 3,010
Conversion period	From the day after issuance date to the day before 10 years from issuance date (if not converted within the existence period, converted the day after the expiration of the existence period)
Conversion rate	1 preferred share for 1 ordinary share (includes certain adjustments in IPO offering price)

(2) Financial services business

Other financial liabilities as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Other financial liabilities				
Accrued expenses	₩	3,088	₩	2,216
Non-trade payables		70,041		15,924
Financial liabilities at fair value through profit or loss[1]		14,890		15,073
		88,019		33,213
Deposits received		714,931		394,287
	₩	802,950	₩	427,500

14. Other Assets and Liabilities

(1) Non-financial services business

Other assets as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Other current assets				
Advance payments	₩	346,976	₩	126,165
Prepaid expenses		92,892		84,888
Prepaid value added tax		9,407		7,185
Corporate tax refund receivable		12,405		9,921
Others		6,418		8,020
		468,099		236,180
Other non-current assets				
Long-term advance payments		245,155		339,399
Long-term prepaid expenses		10,519		13,970
Others		-		400
		255,674		353,770
	₩	723,773	₩	589,950

Other liabilities as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Other current liabilities				
Advances from customers	₩	227,079	₩	1,349,633
Deferred revenues		97,112		66,117
Withholdings		183,455		167,554
Value added tax payable		86,978		62,261
Short-term employee benefits liabilities		207,122		156,061
Others		472		116
		802,219		1,801,743
Other non-current liabilities				
Long-term advances from customers		16,499		27,261
Long-term deferred revenues		20,814		41,406
Long-term employee benefits liabilities		614		1,439
Others		693		-
		38,620		70,105
	₩	840,839	₩	1,871,849

(2) Financial services business

Other assets as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Other assets				
Advance payments	₩	14	₩	15,094
Prepaid expenses		1,826		1,808
Prepaid value added tax		217		278
	₩	2,057	₩	17,181

Other liabilities as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Other liabilities				
Advances from customers	₩	-	₩	289
Deferred revenues		88		133
Withholdings		1,555		1,093
Value added tax payable		242		334
Short-term employee benefits liabilities		2,793		4,040
	₩	4,679	₩	5,890

15.Inventories

Details of inventories as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Merchandise	₩	92,533	₩	123,085
Less: Valuation allowance for merchandise		(7,217)		(4,854)
Finished goods		24,490		4,631
Less: Valuation allowance for finished goods		(8,827)		(554)
Raw materials		28,116		34,561
Less: Valuation allowance for raw materials		(2,277)		(2,240)
Others		11,839		5,699
Less: Valuation allowance for others		(12)		-
	₩	138,644	₩	160,328

Inventories recognized as an expense during the year ended December 31, 2023, amounted to ₩ 493,281 million (2022: ₩ 483,433 million). These were included in 'operating expenses'.

Details of loss on abandonment and valuation of inventories included in operating expenses for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Loss on valuation	₩	5,765	₩	61
Loss on abandonment		552		-
	₩	6,317	₩	61

16.Investments in Associates and Joint Ventures

Investments in associates and joint venture as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023			2022
	Location	Percentage of ownership[15]	Acquisition cost	Book amount	Book amount
Associates					
Addcredit Corp.[12]	Korea	-	₩ -	₩ -	₩ -
Adlock Advertainment[3]	Korea	12.8%	1,000	1,132	1,132
Anycall Mobility Corp.	Korea	20.0%	1,000	1,085	1,026
ATU e-sports Growth PE Fund	Korea	25.1%	5,499	5,204	5,308
Caring Corp.[3]	Korea	8.6%	3,142	2,613	8,057
CLAIR, Inc.[12]	Korea	-	-	-	210
CNT TECH CO., LTD.[3]	Korea	18.2%	5,001	7,479	6,948
CHEQUER GLOBAL, Inc.[3]	USA	10.2%	400	-	-
DAUM Venture Fund[8]	Korea	39.5%	1,186	-	-
Deleo Korea Co., Ltd.[3,8]	Korea	9.0%	3,000	-	162
DGT Mobility.[11]	Korea	35.1%	3,095	5,152	4,664
DIGISONIC CO., LTD.[3]	Korea	10.0%	100	36	55
D&C MEDIA CO., LTD.	Korea	22.9%	33,789	42,635	42,426
DEVOTION FOODS Inc.[3]	Korea	17.7%	3,000	-	2,155
DAEWON C.I. INC[3]	Korea	19.8%	15,048	11,328	10,303
DOZN CO., LTD[3]	Korea	9.7%	547	3,355	2,276
325 E&C	Korea	40.0%	2,400	1,140	1,819
EASYGO CO., LTD.	Korea	20.0%	100	92	92
G&G ENTERPRISE CO., LTD.[3]	Korea	11.5%	2,924	-	3,112
GC Social Media Marketing, Inc.	USA	39.4%	3,578	3,463	3,570
GOOD GANG LABS PTE. LTD.[2,3]	Singapore	11.1%	2,586	2,610	-
Haksan Publinshing Co., Ltd.[3]	Korea	19.8%	14,653	6,150	11,632
Wyatt Co., Ltd[2]	Korea	38.9%	70,321	29,526	7,121
Helios KDBC Video Digital Contents No. 1	Korea	42.2%	4,442	4,142	4,269
Highup Entertainment	Korea	40.0%	4,000	3,927	3,510
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.[8]	Korea	20.0%	4	-	-
InnoSignal CO., LTD.[3]	Korea	14.5%	100	187	185
Japle Co., Ltd.[13]	Korea	-	-	-	-
JASON GROUP Co., Ltd.[3]	Korea	13.1%	29,997	16,928	17,236
KakaoBank Corp.[9]	Korea	27.2%	788,748	1,694,798	1,589,134
Korea Credit Data	Korea	22.4%	4,246	9,126	20,423

(in millions of Korean won)

	Location	2023			2022
		Percentage of ownership[15]	Acquisition cost	Book amount	Book amount
K Cube NEO Fund[3]	Korea	15.6%	2,520	1,878	1,981
Kakao Growth Hacking Fund[3,9]	Korea	15.3%	14,400	12,844	14,349
KIF-Kakao Wooribank Technology Financing Fund[3,9]	Korea	19.7%	10,500	23,239	22,180
Loadstars[8]	Korea	22.3%	82	-	11
LUXROBO CO., LTD.[3]	Korea	6.6%	3,385	940	1,348
MANNACEA[8]	Korea	21.9%	10,000	-	113
Keytalk AI Inc.[3,8]	Korea	14.1%	5,000	-	-
Neptune Co., Ltd.	Korea	41.1%	383,191	178,810	193,064
Ocean Drive Studio Corp.[8,14]	Korea	-	-	-	3,359
Socialbean Co., Ltd[3]	Korea	2.1%	999	476	40
Super Comics.	Korea	20.0%	2,000	1,089	1,392
Second Dive[3]	Korea	19.8%	10,000	9,234	7,761
Skelter Labs, Inc.[3,8]	Korea	10.9%	2,501	-	369
Seoul Media Comics, INC.	Korea	22.2%	10,000	7,461	7,374
S&T Solution Co.,Ltd.	Korea	20.0%	1,245	1,057	1,100
Stage five Co., Ltd.[17]	Korea	7.5%	60,495	16,135	64,019
Kakao-Shinhan 1st TNYT Fund[3]	Korea	19.4%	5,970	3,805	4,747
TOROOC Inc.[3]	Korea	19.9%	2,500	89	66
Tide Square Co., Ltd.	Korea	22.4%	26,464	1,824	7,015
Teins Valley	Korea	32.5%	500	435	404
UNION K-Culture Contents Investment Fund[2,9]	Korea	33.3%	6,667	7,039	7,865
MUSTIT. CO., Ltd.[3]	Korea	4.4%	9,992	4,618	5,723
Kakao Style Corp.[6]	Korea	50.9%	173,437	125,917	132,611
UTC Kakao SK Telecom ESG Fund[2]	Korea	48.2%	10,000	9,495	5,710
HongKong TXKP Limited	Hong Kong	49.0%	23,196	21,060	23,581
Nubility[3]	Korea	7.5%	2,000	1,089	1,556
Reality Magic	Korea	21.1%	5,556	-	4,557
The M Company.[5]	Korea	-	-	-	1,167
Autonomous A2Z[2,3,11]	Korea	10.5%	11,000	7,640	5,229
Humanscape[3]	Korea	17.8%	17,028	4,875	15,078
Grip Company	Korea	48.5%	177,077	94,774	164,121
Metaverse Entertainment	Korea	23.0%	12,000	7,639	9,152
Atwater Capital Partners I, L.P.	USA	38.0%	1,181	1,905	1,753
Romance Crew[8]	Korea	20.0%	40	-	-
Bluepoint Discovery Venture Fund No.2[2]	Korea	20.8%	2,000	1,887	738

(in millions of Korean won)

	Location	2023			2022
		Percentage of ownership[15]	Acquisition cost	Book amount	Book amount
TNK Factory	Korea	34.9%	38,302	40,075	39,910
Galux[3]	Korea	4.8%	5,001	3,960	4,210
RECON Labs.[3]	Korea	2.0%	500	142	382
e.Form Works[3]	Korea	19.3%	733	4	-
LOVO INC.[3]	USA	17.3%	4,107	2,338	4,183
Atwater Soundtrack SPV, LP	USA	26.6%	3,746	4,096	5,110
HitchMED Co., Ltd.	Korea	27.0%	1,725	179	1,447
Mediasphere CO., LTD.[2,3]	Korea	15.0%	300	11	-
MORE VISION	Korea	20.0%	1,500	1,755	1,676
Love Alarm Culture Industry Special Purpose Company Ltd.[9,13]	Korea	-	-	-	10
Catchers Cultural Industry Company[14]	Korea	-	-	-	1
GRAYGO Corp.	Korea	34.1%	68,247	31,154	71,005
TheCheat	Korea	23.6%	2,509	2,568	2,545
Siebert Financial Corp.[2]	USA	20.4%	23,255	22,810	-
altimobility Corp.[3,8]	Korea	11.8%	5,600	-	2,882
TEEware Corp.[2]	Korea	24.8%	2,004	1,707	1,301
Let's go Together Kakao Games Win-win Fund[2]	Korea	38.7%	8,000	7,712	5,942
Jeju-vision Venture Investment Association No.1.	Korea	21.9%	300	289	300
Enolink Holdings, Inc.[3]	USA	7.4%	7,264	4,158	6,348
Girl Rivers Cultural Industry Company Ltd.[8]	Korea	30.0%	3	-	1
YANADU.[3,8]	Korea	17.0%	5,842	-	-
KLleon Inc.[3]	USA	12.6%	2,618	1,960	640
GOLF VX CORP.[2,6]	USA	50.0%	2,549	2,445	-
Haotoon China Co., Ltd[2]	China	22.0%	876	852	-
PT Green Wind Culture[2]	China	40.2%	135	110	-
SM BRAND MARKETING Co., LTD.[7,14]	Korea	-	-	-	-
Galaxia SM, INC.[3,7]	Korea	12.6%	8,837	12,722	-
ESTEEM[3,7]	Korea	18.5%	1,964	2,396	-
Baljeonso Co.,Ltd.[5,7]	Korea	-	-	-	-
MYSTIC STORY INC.[7,8]	Korea	20.7%	-	-	-
Dreamus Company[3,7]	Korea	13.4%	33,740	35,563	-
SPEEKER CO., LTD.[5,7]	Korea	-	-	-	-
UAM CO., LTD.[5,7]	Korea	-	-	-	-

(in millions of Korean won)

	Location	2023 Percentage of ownership[15]	2023 Acquisition cost	2023 Book amount	2022 Book amount
SM Universe Co., Ltd.[7,14]	Korea	-	-	-	-
MILLION MARKET CO., LTD.[5,7]	Korea	-	-	-	-
DEAR U Co., Ltd.[7]	Korea	33.7%	367,853	256,698	-
Studio Flow, Inc.[7]	Korea	31.6%	29,424	22,749	-
KIDS NOTE, INC[16]	Korea	48.4%	29,690	27,520	-
UJUMUNBANGGU CO., LTD.[2,3]	Korea	9.1%	800	754	-
SNCO SOFTWARE PTE. LTD.[2]	Singapore	35.1%	1,018	987	-
DOZN GLOBAL PTE. LTD[2,3,18]	Singapore	15.8%	99	92	-
YUMOBILRITISAMO INVESTMENT LIMITED PARTNERSHIP[2]	Korea	36.6%	5,000	4,988	-
KDBC-FP Technext Investment Association No.1[3]	Korea	22.2%	3,575	3,537	-
Others (72 companies) [2,3,4,5,8,9,11,12,13]	Korea and others	2.0%~49.0%	65,466	32,993	43,074
			2,739,415	2,928,682	2,647,325
Joint ventures			-	-	-
DAUM KAKAO PHILIPPINES CORP.[8]	Philippines	50.0%	1,072	-	-
PHI digital healthcare Inc.	Korea	50.0%	5,000	4,451	4,574
SPLYT GROUP LTD.[2,8,10]	UK	49.0%	-	-	-
The Celebrity Inc.[5,7]	Korea	-	-	-	-
FITNESSCANDY CO., LTD[2,7,10]	Korea	49.0%	3,281	1,127	-
CHANGWON CULTURE BOKHAP TOWN CO., LTD.[7,10]	Korea	18.2%	370	353	-
SM True Company Limited[7,10]	Thailand	49.0%	5,517	6,626	-
			15,240	12,557	4,574
			₩ 2,754,655	₩ 2,941,239	₩ 2,651,898

[1] All investments in associates and joint venture are all unlisted securities excluding D&C MEDIA CO., LTD., Neptune Co., Ltd., KakaoBank Corp., Galaxia SM, INC., DEAR U Co., Ltd., Siebert Financial Corp.

[2] Newly and additionally acquired during 2023.

[3] Although the Group holds less than 20% of equity shares, the Group is considered to have a significant influence as the Group holds voting power to participate in the investee's Board of Directors.

[4] Small-sized entities invested by KAKAO Venture Fund, Kakao digital contents Fund, Kakao Game Growth Share Fund, KAKAO CCVC Jeju Creative Economy Innovative Fund, Kakao Copilot Fund No.

1 and Kakao Copilot Fund No. 2 with the ownership percentage of 2.0%~49.0% and classified as associates as the Group is considered to have a significant influence.

[5] Entirely disposed during 2023.

[6] Although the equity interest exceeds 50%, considering related agreements, the Group has significant influence over the investee, thus recognized it as an associate.

[7] As the Group acquired the control over SM Entertainment Co., Ltd. during 2023, its associates are newly included.

[8] The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

[9] Dividends received from investees were deducted from the book amount of investments in associates.

[10] Although the Group holds less than 50% of equity shares, the entities were recognized as joint ventures as the Group has a joint control over the entities.

[11] Partially disposed during 2023.

[12] Reclassified to a financial asset at fair value through profit or loss from an associate due to loss of significant influence during 2023.

[13] Liquidated during 2023.

[14] Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2023.

[15] Presented as substantial percentage of ownership considering treasury shares.

[16] Reclassified from a subsidiary to an associate due to loss of control during 2023.

[17] Investments in associates are partially reclassified to assets held for sale. Equity shares held by the Group including shares reclassified to assets held for sale are 33.8%.

[18] As Kakaopay Corp., a subsidiary, and DOZN CO., LTD, an associate of Kakaopay Corp. concurrently own the entity, it was presented as effective percentage of ownership of Kakaopay Corp..

Changes in carrying amounts of investments in associates and joint venture for the years ended December 31, 2023 and 2022 are as follows:

(in millions of Korean won)	2023										
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Dividends	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
Associates											
Adlock Advertainment	₩ 1,132	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -	₩ 1,132
Anycall Mobility Corp	1,026	-	-	-	-	-	-	59	-	-	1,085
ATU e-sports Growth PE Fund	5,308	-	-	-	-	-	-	(103)	-	-	5,204
Caring Corp.	8,057	-	-	-	-	-	-	276	-	(5,720)	2,613
CLAIR, Inc.[12]	210	-	-	-	-	-	(88)	(123)	-	-	-
CNT TECH CO., LTD.	6,948	-	-	-	-	-	-	364	166	-	7,479
Deleo Korea Co., Ltd.[6]	162	-	-	-	-	-	-	(162)	-	-	-
DGT mobility.[4]	4,664	-	-	(577)	-	-	-	1,065	-	-	5,152
DIGISONIC CO., LTD.	55	-	-	-	-	-	-	(20)	-	-	36
D&C MEDIA CO., LTD.	42,426	-	-	-	-	-	-	437	2	(229)	42,635
DEVOTION FOODS Inc.	2,155	-	-	-	-	(1,780)	-	(666)	-	291	-
DAEWON C.I. INC.	10,303	-	-	-	-	-	-	1,025	-	-	11,328
DOZN CO., LTD	2,276	-	-	-	-	-	-	1,111	-	(32)	3,355
325 E&C	1,819	-	-	-	-	(735)	-	56	-	-	1,140
EASYGO CO., LTD.	92	-	-	-	-	-	-	-	-	-	92
e.Form Works	-	-	-	-	-	-	-	(596)	-	600	4
G&G ENTERPRISE CO., LTD.	3,112	-	-	-	-	(2,444)	-	(668)	-	-	-
GC SOCIAL MEDIA MARKETING, INC.	3,570	-	-	-	-	-	-	(172)	65	-	3,463
GOOD GANG LABS PTE.	-	-	2,610	-	-	-	-	-	-	-	2,610

(in millions of Korean won)	2023										
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Dividends	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
LTD.[2]											
Haksan Publinshing Co., Ltd.	11,632	-	-	-	-	(4,538)	-	(770)	(173)	-	6,150
Wyatt co., Ltd[3]	7,121	-	28,089	-	-	(9,523)	-	3,628	82	129	29,526
Helios KDBC Video Digital Contents No. 1	4,269	-	-	-	-	-	-	(128)	-	-	4,142
Highup Entertainment	3,510	-	-	-	-	-	-	417	-	-	3,927
InnoSignal CO., LTD.	185	-	-	-	-	-	-	2	-	-	187
JASON GROUP Co., Ltd.	17,236	-	-	-	-	-	-	(309)	-	-	16,928
KakaoBank Corp.[8]	1,589,134	-	-	-	(10,363)	-	-	92,895	25,224	(2,093)	1,694,798
Korea Credit Data	20,423	-	-	-	-	-	-	(11,667)	(562)	932	9,126
K Cube NEO Fund	1,981	-	-	-	-	-	-	(117)	15	-	1,878
Kakao Growth Hacking Fund[8]	14,349	-	-	-	(1,600)	-	-	95	-	-	12,844
KIF-Kakao Wooribank Technology Financing Fund[8]	22,180	-	-	-	(9,939)	-	-	9,087	1,910	-	23,239
Loadstars[6]	11	-	-	-	-	-	-	(11)	-	-	-
LUXROBO CO., LTD.	1,348	-	-	-	-	-	-	(458)	21	29	940
MANNACEA[6]	113	-	-	-	-	-	-	(129)	16	-	-
Neptune Co., Ltd.	193,064	-	-	-	-	-	-	(18,090)	4,302	(466)	178,810
Ocean Drive Studio Corp.[6,9]	3,359	-	-	-	-	-	-	(3,359)	-	-	-
Socialbean Co., Ltd	40	-	-	-	-	-	-	103	-	333	476
Super Comics.	1,392	-	-	-	-	-	-	(303)	-	-	1,089

(in millions of Korean won)	2023										
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Dividends	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
Second Dive	7,761	-	-	-	-	-	-	1,474	-	-	9,234
Skelter Labs, Inc.[6]	369	-	-	-	-	-	-	(369)	(1)	1	-
Seoul Media Comics, INC.	7,374	-	-	-	-	-	-	87	-	-	7,461
S&Tsolution Co.,Ltd.	1,100	-	-	-	-	-	-	(43)	-	-	1,057
Stage five Co., Ltd.[13]	64,019	-	-	-	-	-	(41,121)	(4,458)	(16)	(2,290)	16,135
Kakao-Shinhan 1st TNYT Fund	4,747	-	-	-	-	-	-	(941)	(1)	-	3,805
TOROOC Inc.	66	-	-	-	-	-	-	(41)	-	64	89
Tide Square Co., Ltd.	7,015	-	-	-	-	-	-	(5,012)	(179)	-	1,824
Teins Valley	404	-	-	-	-	-	-	31	-	-	435
UNION K-Culture Contents Investment Fund[3,8]	7,865	-	2,500	-	(3,333)	-	-	7	-	-	7,039
MUSTIT. CO., Ltd.	5,723	-	-	-	-	-	-	(1,105)	-	-	4,618
Kakao Style Corp.	132,611	-	-	-	-	-	-	(4,867)	(1,603)	(224)	125,917
UTC Kakao SK Telecom ESG Fund[3]	5,710	-	4,000	-	-	-	-	(215)	-	-	9,495
HongKong TXKP Limited	23,581	-	-	-	-	-	-	(2,960)	440	-	21,060
Nubility	1,556	-	-	-	-	-	-	(524)	-	57	1,089
Reality Magic	4,557	-	-	-	-	(4,084)	-	(474)	-	-	-
The M Company[5]	1,167	-	-	(1,167)	-	-	-	-	-	-	-
Autonomous A2Z[3,4]	5,229	-	5,000	(347)	-	-	-	(4,250)	203	1,805	7,640
Humanscape	15,078	-	-	-	-	-	-	(8,051)	36	(2,188)	4,875
Grip Company	164,121	-	-	-	-	(58,460)	-	(9,844)	-	(1,043)	94,774
Metaverse Entertainment	9,152	-	-	-	-	(5,905)	-	(3,842)	59	8,175	7,639
Atwater Capital Partners I,	1,753	-	-	-	-	-	-	185	29	(62)	1,905

(in millions of Korean won)	2023										
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Dividends	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
L.P.											
Bluepoint Discovery Venture Fund No.2[3]	738	-	1,200	-	-	-	-	(51)	-	-	1,887
TNK Factory	39,910	-	-	-	-	-	-	166	(1)	-	40,075
Galux	4,210	-	-	-	-	-	-	(556)	306	-	3,960
RECON Labs.	382	-	-	-	-	-	-	(240)	-	-	142
LOVO Inc.	4,183	-	-	-	-	(1,810)	-	(76)	44	(3)	2,338
Atwater Soundtrack SPV, LP	5,110	-	-	-	-	-	-	(1,122)	108	-	4,096
HitchMED Co., Ltd.	1,447	-	-	-	-	(586)	-	(682)	-	-	179
Mediasphere CO., LTD.[2]	-	-	300	-	-	-	-	(289)	-	-	11
MORE VISION	1,676	-	-	-	-	-	-	79	-	-	1,755
Love Alarm Culture Industry Special Purpose Company Ltd.[8,10]	10	-	-	(1)	(7)	-	-	(1)	-	-	-
Catchers Cultural Industry Company.[9]	1	(1)	-	-	-	-	-	(6)	-	5	-
GRAYGO Corp.	71,005	-	-	-	-	(37,543)	-	(2,309)	-	-	31,154
TheCheat	2,545	-	-	-	-	-	-	23	-	-	2,568
Siebert Financial Corp.[2]	-	-	23,255	-	-	-	-	428	(873)	-	22,810
altimobility Corp.[6]	2,882	-	-	-	-	-	-	(2,882)	-	-	-
TEEware Corp.[3]	1,301	-	649	-	-	-	-	(285)	43	-	1,707
Let's go Together Kakao Games Win-win Fund[3]	5,942	-	2,000	-	-	-	-	(230)	-	-	7,712
Jeju-vision Venture Investment Association	300	-	-	-	-	-	-	(11)	-	-	289

(in millions of Korean won)	2023										
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Dividends	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
No.1.											
Enolink Holdings, Inc.	6,348	-	-	-	-	-	-	(6,170)	2,929	1,052	4,158
Girl Rivers Cultural Industry Company Ltd.[6]	1	-	-	-	-	-	-	(1)	-	-	-
KLleon Inc.[15]	640	-	-	-	-	-	1,018	194	25	83	1,960
GOLF VX CORP.[2]	-	-	2,549	-	-	-	-	(136)	31	-	2,445
Haotoon China Co., Ltd[2]	-	-	882	-	-	-	-	32	(63)	-	852
PT Green Wind Culture[2]	-	-	135	-	-	-	-	-	(24)	-	110
SM BRAND MARKETING Co., LTD.[7,9]	-	-	-	-	-	-	-	355	11	(366)	-
Galaxia SM, INC.[7]	-	8,837	-	-	-	-	-	428	3,457	-	12,722
ESTEEM[7]	-	1,964	-	-	-	-	-	14	-	417	2,396
Dreamus Company[7]	-	33,740	-	-	-	-	-	(455)	3	2,274	35,563
SPEEKER CO., LTD.[5,7]	-	220	-	(226)	-	-	-	6	-	-	-
UAM CO., LTD.[5,7]	-	13	-	(13)	-	-	-	-	-	-	-
MILLION MARKET CO., LTD.[5,7]	-	282	-	(336)	-	-	-	54	-	-	-
DEAR U Co., Ltd.[7]	-	367,853	-	-	-	(115,624)	-	5,527	(420)	(638)	256,698
Studio Flow, Inc.[7]	-	29,424	-	-	-	(6,168)	-	(523)	15	-	22,749
KIDS NOTE, INC[11]	-	-	-	-	-	-	29,690	(1,984)	(186)	-	27,520
UJUMUNBANGGU CO., LTD.[2]	-	-	800	-	-	-	-	(45)	-	-	754
SNCO SOFTWARE PTE. LTD.[2]	-	-	1,018	-	-	-	-	(46)	15	-	987
DOZN GLOBAL PTE. LTD[2]	-	-	99	-	-	-	-	(6)	(1)	-	92

(in millions of Korean won)	2023										
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Dividends	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
YUMOBILRITISAMO INVESTMENT LIMITED PARTNERSHIP[2]	-	-	5,000	-	-	-	-	(12)	-	-	4,988
KDBC-FP Technext Investment Association No.1[14]	-	-	-	-	-	-	3,575	(38)	-	-	3,537
Others (83 companies)[2,3,4,5,6,7,8,10,12]	43,074	-	6,100	(8,262)	(889)	(507)	(493)	(11,433)	541	4,861	32,993
	2,647,325	442,332	86,186	(10,930)	(26,131)	(249,707)	(7,418)	5,275	35,995	5,755	2,928,682
Joint ventures											
DAUM KAKAO PHILIPPINES CORP.[6]	-	-	-	-	-	-	-	-	-	-	-
PHI digital healthcare Inc.	4,574	-	-	-	-	-	-	(123)	-	-	4,451
SPLYT GROUP LTD.[2,6]	-	-	-	-	-	-	-	-	-	-	-
The Celebrity Inc.[5,7]	-	-	-	-	-	-	-	-	-	-	-
FITNESSCANDY CO., LTD[3,7]	-	1,958	1,323	-	-	-	-	(2,153)	-	-	1,127
CHANGWON CULTURE BOKHAP TOWN CO., LTD.[7]	-	370	-	-	-	-	-	(17)	-	-	353
SM True Company Limited[7]	-	5,517	-	-	-	-	-	978	130	-	6,626
	4,574	7,845	1,323	-	-	-	-	(1,314)	130	-	12,557
	₩ 2,651,898	₩ 450,177	₩ 87,509	₩ (10,930)	₩ (26,131)	₩ (249,707)	₩ (7,418)	₩ 3,960	₩ 36,125	₩ 5,755	₩ 2,941,239

[1] Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2023.

[2] Newly acquired and established during 2023.

[3] Additionally acquired during 2023.

[4] Partially disposed during 2023.

[5] Entirely disposed during 2023.

[6] The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

[7] As the Group acquired the control over SM Entertainment Co., Ltd. during 2023, its associates are newly included.

[8] Dividends received from investees were deducted from the book amount of investments in associates.

[9] Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2023.

[10] Excluded from associates due to liquidation during 2023.

[11] Reclassified from a subsidiary to an associate due to loss of control during 2023.

[12] Reclassified to a financial asset at fair value through profit or loss from an associate due to loss of significant influence during 2023.

[13] Investments in associates are partially reclassified to assets held for sale.

[14] Reclassified to associates from financial assets measured at fair value through profit or loss as the Group acquired significant influence during 2023.

[15] Reclassified to associates as the condition under conditional acquisition shares recognized as financial assets measured at fair value through profit or loss has been met.

(in millions of Korean won)	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
Associates										
Addcredit Corp.[6]	₩ 30	₩ -	₩ -	₩ -	₩ (30)	₩ -	₩ -	₩ -	₩ -	₩ -
Dunamu Inc.[4,5]	514,249	-	-	(7,703)	-	(2,067,743)	16,345	1,193	1,543,659	-
CNT TECH CO., LTD.	5,418	-	-	-	-	-	1,188	614	(271)	6,948
Tide Square Co., Ltd.[12]	-	-	-	-	-	-	(6,990)	(854)	14,859	7,015
KakaoBank Corp.	1,540,065	-	-	-	-	-	68,225	(16,790)	(2,366)	1,589,134
Korea Credit Data	1,678	-	-	-	-	-	(7,254)	-	25,999	20,423
Kakao Style Corp.	163,382	-	-	-	-	-	(31,335)	948	(383)	132,611
UTC Kakao SK Telecom ESG Fund[3]	1,925	-	4,000	-	-	-	(215)	-	-	5,710
Humanscape	20,400	-	-	-	-	-	(1,100)	(4,448)	227	15,078
Grip Company[8]	180,000	-	-	-	-	(2,922)	(12,913)	(43)	-	164,121
D&C MEDIA CO., LTD.	41,495	-	-	-	-	-	921	10	-	42,426
DAEWON C.I. INC.	9,780	-	-	-	-	-	528	(5)	-	10,303
Haksan Publinshing Co., Ltd.	10,595	-	-	-	-	-	1,081	(44)	-	11,632
Seoul Media Comics, INC.	6,764	-	-	-	-	-	610	-	-	7,374
Super Comics.	1,708	-	-	-	-	-	(316)	-	-	1,392
HongKong TXKP Limited	22,888	-	-	-	-	-	(904)	1,597	-	23,581
325 E&C	2,006	-	-	-	-	-	(186)	-	-	1,819
UNION K-Culture Contents Investment Fund	6,973	-	-	-	-	-	892	-	-	7,865
EDAM Entertainment Corp.[7]	12,098	(41,600)	-	-	-	-	659	-	28,843	-
Highup Entertainment	3,480	-	-	-	-	-	30	-	-	3,510
Helios KDBC Video Digital	2,170	-	2,202	-	-	-	(102)	-	-	4,269

(in millions of Korean won)	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
Contents No. 1[3]										
Metaverse Entertainment	11,680	-	-	-	-	-	(3,072)	(15)	559	9,152
Atwater Capital Partners I, L.P.[3]	709	-	470	-	-	-	504	69	-	1,753
Wyatt co., Ltd	20,053	-	-	-	-	-	(13,018)	87	-	7,121
MANNACEA	1,090	-	-	-	-	-	(977)	-	-	113
Deleo Korea Co., Ltd.[6]	3,000	-	-	-	(303)	-	(2,535)	-	-	162
YANADU.[14]	3,044	-	-	-	-	-	(5,862)	-	2,819	-
LINEWALKS Inc.[7]	3,071	(2,857)	-	-	-	-	(174)	-	(41)	-
Daeyoung Chaevi CO., Ltd	7,500	-	-	-	-	-	-	-	-	7,500
Adlock Advertainment	1,132	-	-	-	-	-	-	-	-	1,132
Stage five Co., Ltd.[4]	91,473	-	-	(18,505)	-	-	(2,100)	(11)	(6,839)	64,019
DEVOTION FOODS Inc.[6]	3,000	-	-	-	(229)	-	(616)	-	-	2,155
JASON GROUP Co., Ltd.[6]	29,396	-	-	-	(11,370)	-	(774)	(16)	-	17,236
MUSTIT. CO., Ltd.	7,926	-	-	-	-	-	(5,253)	-	3,051	5,723
Nubility	1,435	-	-	-	-	-	(663)	-	784	1,556
CLEON CO., LTD.[18]	1,600	-	-	-	-	(651)	(949)	-	-	-
KLleon Inc.[18]	-	-	-	-	-	651	(11)	-	-	640
Bluepoint Discovery Venture Fund No.2	788	-	-	-	-	-	(50)	-	-	738
TNK Factory	38,105	-	-	-	-	-	1,347	261	197	39,910
Atwater Soundtrack SPV, LP[2]	-	-	3,746	-	-	-	1,178	186	-	5,110
Japle Co., Ltd.[6]	130	-	-	-	(31)	-	(99)	-	-	-
KIDSPAY CO. Ltd.[13]	46	-	-	(22)	-	-	(24)	-	-	-

(in millions of Korean won)	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
Ocean Drive Studio Corp.	11,852	-	-	-	-	-	(8,493)	-	-	3,359
Second Dive	8,728	-	-	-	-	-	(967)	-	-	7,761
Neptune Co., Ltd.[3,6,10]	296,893	-	88,493	-	(157,822)	21,853	(20,238)	(35,576)	(538)	193,064
Reality Magic	5,328	-	-	-	-	-	(770)	-	-	4,557
Brokk Sindri[13]	-	-	-	-	-	-	-	-	-	-
Loadstars[3]	70	-	67	-	-	-	(125)	-	-	11
Teins Valley	531	-	-	-	-	-	(127)	-	-	404
RPG Gate Corp.[17]	416	(352)	-	-	-	-	(64)	-	-	-
GC SOCIAL MEDIA MARKETING, INC.[3]	1,118	-	2,561	-	-	-	(45)	(63)	-	3,570
DIGISONIC CO., LTD.	165	-	-	-	-	-	(206)	-	97	55
InnoSignal CO., LTD.	189	-	-	-	-	-	(4)	-	-	185
EASYGO CO., LTD.	93	-	-	-	-	-	(1)	-	-	92
DOZN CO., LTD.	1,199	-	-	-	-	-	1,082	-	(6)	2,276
The M Company	1,060	-	-	-	-	-	107	-	-	1,167
DGT mobility.[3]	2,994	-	1,000	-	-	-	670	-	-	4,664
S&T Solution Co.,Ltd.	1,093	-	-	-	-	-	7	-	-	1,100
Anycall Mobility Corp	1,018	-	-	-	-	-	8	-	-	1,026
Kakao-Shinhan 1st TNYT Fund	5,076	-	-	-	-	-	(331)	2	-	4,747
Kakao Growth Hacking Fund[3]	12,557	-	3,200	-	-	-	(1,408)	-	-	14,349
KIF-Kakao Wooribank Technology Financing Fund[16]	18,722	-	-	(2,550)	-	-	4,069	1,939	-	22,180

(in millions of Korean won)	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
K Cube NEO Fund	1,732	-	-	-	-	-	249	-	-	1,981
ATU e-sports Growth PE Fund	5,499	-	-	-	-	-	(192)	-	-	5,308
PEOPLEFUND COMPANY[5]	255	-	-	-	-	-	(909)	(162)	816	-
LUXROBO CO., LTD.	3,602	-	-	-	-	-	(1,680)	8	(583)	1,348
Skelter Labs, Inc.	1,447	-	-	-	-	-	(2,192)	75	1,039	369
TOROOC Inc.	201	-	-	-	-	-	(288)	-	153	66
Galux	5,001	-	-	-	-	-	(564)	-	(226)	4,210
RECON Labs.	500	-	-	-	-	-	(136)	-	18	382
Autonomous A2Z	6,933	-	-	-	-	-	(1,705)	-	-	5,229
CLAIR, Inc.	297	-	-	-	-	-	(130)	-	43	210
G&G ENTERPRISE CO., LTD.[6]	4,174	-	-	-	(1,030)	-	(34)	2	-	3,112
Socialbean Co., Ltd	136	-	-	-	-	-	(96)	-	-	40
Caring Corp.[4]	2,968	-	-	(638)	-	-	(1,729)	-	7,456	8,057
e.Form Works[14]	733	-	-	-	-	-	(833)	-	100	-
LOVO INC.	4,107	-	-	-	-	-	(347)	229	194	4,183
Romance Crew[14]	40	-	-	-	-	-	(40)	-	-	-
HitchMED Co., Ltd.[2]	-	-	1,725	-	-	-	(277)	(1)	-	1,447
MORE VISION[2]	-	-	1,500	-	-	-	176	-	-	1,676
Love Alarm Culture Industry Special Purpose Company Ltd.[2]	-	-	3	-	-	-	7	-	-	10
Catchers Cultural Industry Company.[2]	-	-	3	-	-	-	(2)	-	-	1

(in millions of Korean won)	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Profits (losses) of associates accounted for using equity method	Share of other comprehensive income (loss) of associates	Others[1]	Ending balance
GRAYGO Corp.[15]	-	68,247	-	-	-	-	(2,360)	-	5,118	71,005
TheCheat[9]	-	-	1,499	-	-	1,009	37	-	-	2,545
altimobility Corp.[2]	-	-	5,600	-	-	-	(2,718)	-	-	2,882
TEEware Corp.[2]	-	-	1,375	-	-	-	(33)	123	(164)	1,301
Let's go Together Kakao Games Win-win Fund[2]	-	-	6,000	-	-	-	(58)	-	-	5,942
Jeju-vision Venture Investment Association No.1.[2]	-	-	300	-	-	-	-	-	-	300
Enolink Holdings, Inc.[2]	-	-	7,264	-	-	-	(617)	(299)	-	6,348
Girl Rivers Cultural Industry Company Ltd.[2]	-	-	3	-	-	-	(2)	-	-	1
Others (69 companies)[2,3,4,6]	25,952	-	16,552	(5,738)	(1,499)	(1,300)	(9,698)	(97)	11,402	35,574
	3,204,956	23,438	147,563	(35,156)	(172,313)	(2,049,103)	(56,994)	(51,081)	1,636,015	2,647,325
Joint ventures										
DAUM KAKAO PHILIPPINES CORP.[6]	182	-	-	-	(182)	-	-	-	-	-
Asankakao Medical Data Co., Ltd.[13]	4,269	-	-	(4,127)	-	-	(142)	-	-	-
PHI digital healthcare Inc.[6,11]	6,395	-	-	(83)	(1,245)	-	(493)	-	-	4,574
	10,846	-	-	(4,210)	(1,427)	-	(635)	-	-	4,574
	₩ 3,215,802	₩ 23,438	₩ 147,563	₩ (39,367)	₩ (173,740)	₩ (2,049,103)	₩ (57,629)	₩ (51,081)	₩ 1,636,015	₩ 2,651,898

[1] Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2022.

[2] Newly acquired and established during 2022.

[3] Additionally acquired during 2022.

[4] Partially disposed during 2022.

[5] Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2022.

[6] Due to decrease in sales, the recoverable amount is less than the carrying amount as at December 31, 2022, thus, the Group recognized the amount of difference as an impairment loss during 2022.

[7] Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2022.

[8] Reclassified to a derivative asset from a stock purchase right related to stocks held by the Group during 2022.

[9] Reclassified to associates from financial instruments measured at fair value through other comprehensive income as the Group acquired significant influence through additional acquisitions during 2022.

[10] Converted to 1,135,202 common shares as exercising the remaining convertible bond conversion right during 2022.

[11] Spun off during 2022.

[12] Resumed the use of the equity method, due to the amount of change in capital incurred by the investees exceeded the loss incurred during discontinued period of the equity method.

[13] Entirely disposed during 2022.

[14] The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

[15] Reclassified from a subsidiary to an associate due to loss of control during 2022.

[16] The Group recovered some of the principal of investment through the first distribution during 2022.

[17] Excluded from the Group's associate due to loss of control on Ad (x) Inc. during 2022.

[18] Flipped shares to KLleon Inc., a U.S. corporation during 2022.

Fair value of investments in associates that has a quoted market price as at December 31, 2023 and 2022, is as follows:

(in millions of Korean won)	2023		2022	
	Fair value	Book amount	Fair value	Book amount
Associates				
KakaoBank Corp.	₩ 3,691,711	₩ 1,694,798	₩ 3,147,670	₩ 1,589,134
Neptune Co., Ltd.	126,687	178,810	193,064	193,064
D&C MEDIA CO., LTD.	71,278	42,635	64,179	42,426
Galaxia SM, INC.	9,149	12,722	-	-
Dreamus Company	29,649	35,563	-	-
DEAR U Co., Ltd.	256,698	256,698	-	-
Siebert Financial Corp[1]	17,493	22,810	-	-

[1] Listed in NASDAQ in USA

The tables below provide a reconciliation of the summarized financial information presented to the carrying amount of its interest in material associates and joint venture.

(in millions of Korean won)	2023				
	Net assets at the end of the year (a)[1]	Group's share in % (b)[2]	Group's share in KRW(a*b)	Goodwill and others[3]	Book amount
KakaoBank Corp.	₩ 6,103,755	27.2%	₩ 1,657,975	₩ 36,823	₩ 1,694,798
Neptune Co., Ltd.[4]	366,450	41.1%	150,490	28,320	178,810
D&C MEDIA CO., LTD.[4]	78,802	22.9%	18,055	24,580	42,635
DEAR U Co.,Ltd.	162,327	33.7%	54,684	202,014	256,698
Kakao Style Corp.[5]	14,460	49.4%	7,144	118,773	125,917
TNK Factory[5]	76,864	32.4%	24,897	15,178	40,075
Grip Company	128,583	48.5%	62,302	32,472	94,774

[1] Net assets after adjustment of share options and others

[2] Adjusted equity interest percentage considering preferred shares and others

[3] The amount may decrease due to amortization as the share price of PPA is included.

[4] The equity interest percentage excluding treasury shares is used.

[5] The Group's share in net asset is calculated by taking into account of conditions of the investing companies' preferred shares.

(in millions of Korean won)	2022				
	Net assets at the end of the year (a)	Group's share in % (b)	Group's share in KRW(a*b)	Goodwill and others	Book amount
KakaoBank Corp.	₩ 5,706,214	27.2%	₩ 1,550,450	38,684	₩ 1,589,134
Stage five Co., Ltd.[1]	21,336	31.3%	6,681	57,338	64,019
D&C MEDIA CO., LTD.[2]	72,954	23.3%	16,992	25,434	42,426
Neptune Co., Ltd.[2]	392,388	41.3%	161,998	31,066	193,064
Kakao Style Corp.[1]	33,741	53.4%	18,005	114,606	132,611
Grip Company	148,050	48.8%	72,295	91,825	164,121

[1] The Group's share in net asset is calculated by taking into account of conditions of the investing companies' preferred shares.

[2] The equity interest percentage excluding treasury shares is used.

A summary of financial information on the associates and joint venture for the years ended December 31, 2023 and 2022, is as follows:

(in millions of Korean won)	2023							
	KakaoBank Corp.	Neptune Co., Ltd.	D&C MEDIA CO., LTD.	DEAR U Co., Ltd.	Kakao Style Corp.	TNK Factory	Grip Company	Total
Current assets	₩ -	₩ 73,242	₩ 59,946	₩ 147,355	₩ 58,083	₩ 32,911	₩ 144,262	₩ 515,799
Non-current assets	-	336,116	37,755	43,258	26,545	55,869	6,503	506,045
Assets of financial service business	54,488,157	-	-	-	-	-	-	54,488,157
Current liabilities	-	33,757	15,891	16,856	65,969	26,380	14,319	173,173
Non-current liabilities	-	12,625	1,660	4,243	3,317	2,207	5,264	29,314
Liabilities of financial service business	48,370,463	-	-	-	-	-	-	48,370,463
Revenue	2,494,045	99,747	60,679	75,692	165,097	36,928	18,201	2,950,389
Profit (loss) for the year	354,912	(17,992)	3,096	26,190	(18,381)	959	(19,616)	329,168
Other comprehensive income (loss)	92,278	(927)	-	(377)	(29)	-	-	90,944
Total comprehensive income (loss)	447,190	(18,919)	3,096	25,812	(18,410)	959	(19,616)	420,112

(in millions of Korean won)	2022						
	KakaoBank Corp.	Stage five Co., Ltd.	D&C MEDIA CO.,LTD.	Neptune Co., Ltd.	Kakao Style Corp.	Grip Company	Total
Current assets	₩ -	₩ 20,502	₩ 61,362	₩ 48,712	₩ 69,508	₩ 164,656	₩ 364,740
Non-current assets	-	12,338	33,666	384,133	28,922	7,156	466,215
Assets of financial service business	39,516,079	-	-	-	-	-	39,516,079
Current liabilities	-	198,668	16,721	20,110	59,545	17,047	312,090
Non-current liabilities	-	2,998	2,679	23,504	4,514	5,139	38,834
Liabilities of financial service business	33,800,969	-	-	-	-	-	33,800,969
Revenue	1,605,801	85,672	61,242	29,356	101,841	13,132	1,897,044
Profit (loss) for the year	263,091	(22,898)	5,367	(159,966)	(50,043)	(26,824)	8,727
Other comprehensive income (loss)	(74,267)	237	-	1,413	1,008	44	(71,566)
Total comprehensive income (loss)	188,823	(22,661)	5,367	(158,553)	(49,035)	(26,780)	(62,839)

The tables below provide unrecognized share of losses of associates and joint ventures, both for the reporting period and cumulatively, because the Group has stopped recognizing its share of losses of associates and joint ventures when applying the equity method for 19 investees.

(in millions of Korean won)	2023		2022	
	Unrecognized loss	Unrecognized accumulated losses	Unrecognized loss	Unrecognized accumulated losses
SPLYT GROUP LTD.	₩ 3,815	₩ 3,815	₩ -	₩ -
Others	12,905	19,636	2,124	7,427
	₩ 16,720	₩ 23,451	₩ 2,124	₩ 7,427

17. Property and Equipment

(1) Non-financial services business

Changes in property and equipment for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construc-tion in progress	Total
Opening net book amount	₩ 109,896	₩ 49,790	₩ 12,810	₩ 299,418	₩ 9,026	₩ 223,352	₩ 181,104	₩ 885,397
Acquisition	11,692	19,302	4,371	205,662	1,798	64,208	282,600	589,633
Changes in scope of consolidation	44,513	9,899	5,462	504	1,445	19,513	15,920	97,256
Disposals	-	(1,728)	(469)	(717)	(1,819)	(7,033)	-	(11,766)
Depreciation	-	(2,362)	(6,649)	(119,705)	(3,493)	(84,478)	-	(216,686)
Impairment	-	-	-	-	-	(69)	(330)	(400)
Transfer	(4,835)	55,332	1,435	3,858	121	9,128	(83,292)	(18,254)
Others[1]	(1,889)	(770)	(24)	(3)	9	(634)	183	(3,129)
Closing net book amount	₩ 159,378	₩ 129,463	₩ 16,937	₩ 389,016	₩ 7,087	₩ 223,987	₩ 396,184	₩ 1,322,051
December 31, 2023								
Acquisition cost	₩ 159,378	₩ 150,423	₩ 44,499	₩ 844,180	₩ 18,417	₩ 467,239	₩ 396,510	₩ 2,080,647
Government grants	-	-	-	(300)	(58)	(2,447)	-	(2,805)
Accumulated depreciation	-	(20,960)	(27,563)	(454,865)	(11,272)	(240,732)	-	(755,391)
Accumulated impairment	-	-	-	-	-	(74)	(326)	(400)
Net book amount	₩ 159,378	₩ 129,463	₩ 16,937	₩ 389,016	₩ 7,087	₩ 223,987	₩ 396,184	₩ 1,322,051

[1] Others include currency translation effects.

(in millions of Korean won)	2022							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construc-tion in progress	Total
Opening net book amount	₩ 98,630	₩ 47,369	₩ 6,612	₩ 241,637	₩ 10,726	₩ 104,652	₩ 45,290	₩ 554,916
Acquisition	3,223	2,706	2,591	138,349	3,255	97,521	218,409	466,054
Changes in scope of consolidation	8,823	1,563	7,764	8,538	9	1,019	540	28,255
Disposals	(1,007)	(56)	(176)	(300)	(1,335)	(14,024)	(94)	(16,991)
Depreciation	-	(1,730)	(3,862)	(92,846)	(3,630)	(60,020)	-	(162,088)
Impairment	-	-	-	-	-	(17)	-	(17)
Transfer	256	-	(120)	3,978	(7)	86,184	(82,179)	8,112
Others[1]	(30)	(62)	-	62	9	8,038	(862)	7,156
Closing net book amount	₩ 109,896	₩ 49,790	₩ 12,810	₩ 299,418	₩ 9,026	₩ 223,352	₩ 181,104	₩ 885,397

(in millions of Korean won)	2022							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construc-tion in progress	Total
December 31, 2023								
Acquisition cost	₩ 109,896	₩ 62,449	₩ 30,500	₩ 671,788	₩ 18,925	₩ 390,786	₩ 181,104	₩ 1,465,448
Government grants	-	-	-	(390)	(76)	(1,963)	-	(2,428)
Accumulated depreciation	-	(12,659)	(17,690)	(371,981)	(9,823)	(165,464)	-	(577,616)
Accumulated impairment	-	-	-	-	-	(6)	-	(6)
Net book amount	₩ 109,896	₩ 49,790	₩ 12,810	₩ 299,418	₩ 9,026	₩ 223,352	₩ 181,104	₩ 885,397

[1] Others include currency translation effects.

(2) Financial services business

(in millions of Korean won)	2023	
	Furnitures	Total
Opening net book amount	₩ 15,037	₩ 15,037
Acquisition	4,529	4,529
Disposals	(239)	(239)
Depreciation	(4,494)	(4,494)
Transfer[1]	45	45
Closing net book amount	₩ 14,878	₩ 14,878
December 31, 2023		
Acquisition cost	₩ 25,001	₩ 25,001
Accumulated depreciation	(10,122)	(10,122)
Net book amount	₩ 14,878	₩ 14,878

[1] The amount classified as long-term advance payments as at December 31, 2022 was reclassified as property and equipment during 2023.

(in millions of Korean won)	2022			
	Land	Buildings	Furniture[1]	Total
Opening net book amount	₩ 239	₩ 515	₩ 11,028	₩ 11,782
Acquisition	-	-	7,544	7,544
Disposals	(239)	(513)	(76)	(827)
Depreciation	-	(2)	(3,459)	(3,461)
Closing net book amount	₩ -	₩ -	₩ 15,037	₩ 15,037
December 31, 2023				
Acquisition cost	₩ -	₩ -	₩ 20,912	₩ 20,912
Accumulated depreciation	-	-	(5,875)	(5,875)
Net book amount	₩ -	₩ -	₩ 15,037	₩ 15,037

[1] Construction in progress are included.

(3) Some land and buildings of the Group's property and equipment are provided as collateral in relation to the loan agreement (Note 38).

(4) During the year, the Group has capitalized borrowing costs amounting to ₩ 10,129 million on property and equipment that are qualifying assets. The capitalization rate of borrowings used to determine the amount of borrowing costs to be capitalized is 3.71%.

(5) The amount that the Group entered into contractual commitments for the acquisition of land and investments in plant and equipment is ₩ 371,543 million.

18. Investment Property

(1) Changes in investment properties for the years ended December 31, 2023, and 2022, are as follows:

(in millions of Korean won)	2023		
	Land	Buildings	Total
Opening net book amount	₩ -	₩ 20,878	₩ 20,878
Changes in scope of consolidation	7,112	15,143	22,255
Depreciation	-	(2,212)	(2,212)
Transfer	1,854	29,727	31,581
Others	1,472	(167)	1,306
Closing net book amount	₩ 10,438	₩ 63,369	₩ 73,807
December 31, 2023			
Acquisition cost	₩ 10,438	₩ 68,569	₩ 79,007
Accumulated depreciation	-	(5,200)	(5,200)
Net book amount	₩ 10,438	₩ 63,369	₩ 73,807

(in millions of Korean won)	2022
	Buildings
Opening net book amount	₩ 101,296
Depreciation	(404)
Transfer	(80,015)
Closing net book amount	₩ 20,878
December 31, 2023	
Acquisition cost	₩ 22,112
Accumulated depreciation	(1,234)
Net book amount	₩ 20,878

(2) The Group provides some of the right-of-use assets held as lease users to third parties as operating leases, classifying the right-of-use assets as investment properties, and amortizing the operating lease period by a fixed number of years.

(3) During the current term, rental income from operating leases generated from investment real estate is ₩ 2,456 million, and related operating expenses (including maintenance and repair costs) are ₩ 982 million. These revenues and expenses are included in operating income and operating expenses, respectively.

19. Intangible Assets

(1) Non-financial services business

Changes in intangible assets for the years ended December 31, 2023 and 2022 are as follows:

(in millions of Korean won)	2023						
	Goodwill	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets[2]	Total
Opening net book amount	₩ 4,477,204	₩ 228	₩ 38,425	₩ 49,290	₩ 411,010	₩ 1,046,195	₩ 6,022,352
Acquisition	-	-	2,335	4,285	18,909	154,109	179,638
Changes in scope of consolidation	1,058,042	-	3,587	367,766	194,045	43,193	1,666,632
Disposal	-	-	(255)	(507)	(3,944)	(82,689)	(87,395)
Amortization	-	(92)	(9,997)	(89,139)	(6,329)	(148,803)	(254,359)
Impairment	(1,483,358)	-	(40,003)	(15,153)	(10,079)	(333,616)	(1,882,210)
Transfer[1]	(2,789)	-	811	-	9,902	8,120	16,044
Others	16,538	8	29	3,778	(174)	7,627	27,805
Closing net book amount	₩ 4,065,637	₩ 144	₩ (5,068)	₩ 320,319	₩ 613,339	₩ 694,136	₩ 5,688,508
December 31, 2023							
Acquisition cost	₩ 7,246,999	₩ 18,402	₩ 88,485	₩ 480,453	₩ 702,586	₩ 1,666,593	₩ 10,203,519
Government grants	-	-	(3)	-	-	(217)	(220)
Accumulated amortization	-	(18,034)	(53,461)	(139,017)	(72,778)	(546,134)	(829,423)
Accumulated impairment	(3,181,362)	(224)	(40,090)	(21,117)	(16,469)	(426,106)	(3,685,369)
Net book amount	₩ 4,065,637	₩ 144	₩ (5,068)	₩ 320,319	₩ 613,339	₩ 694,136	₩ 5,688,508

[1] Long-term advance payments which qualify for recognizing assets are reclassified into intangible assets.

[2] Includes ₩ 93,434 million of crypto assets held by the Group as at December 31, 2023.

(in millions of Korean won)	2022						
	Goodwill	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets[2]	Total
Opening net book amount	₩ 4,900,150	₩ 204	₩ 70,081	₩ 57,561	₩ 386,296	₩ 933,503	₩ 6,347,795
Acquisition	-	218	1,357	959	32,428	231,746	266,709
Changes in scope of consolidation	176,394	42	(45)	11,722	(427)	(121,105)	66,582
Disposal	-	(156)	(193)	(6)	(3,457)	(70,055)	(73,867)
Amortization	-	(278)	(9,364)	(15,658)	(32,053)	(134,360)	(191,714)
Impairment	(701,516)	(856)	(6)	(5,282)	(11,305)	(17,936)	(736,901)
Transfer[1]	29,572	1,036	(24,291)	-	31,940	130,751	169,007
Others	72,604	17	885	(6)	7,589	93,650	174,741
Closing net book amount	₩ 4,477,204	₩ 228	₩ 38,425	₩ 49,290	₩ 411,010	₩ 1,046,195	₩ 6,022,352
December 31, 2023							
Acquisition cost	₩ 6,203,922	₩ 18,434	₩ 79,579	₩ 95,623	₩ 487,380	₩ 1,518,406	₩ 8,403,343
Government grants	-	-	(3)	-	-	(111)	(114)
Accumulated amortization	-	(17,982)	(41,071)	(40,369)	(68,854)	(378,761)	(547,037)
Accumulated impairment	(1,726,718)	(224)	(80)	(5,964)	(7,515)	(93,339)	(1,833,840)
Net book amount	₩ 4,477,204	₩ 228	₩ 38,425	₩ 49,290	₩ 411,010	₩ 1,046,195	₩ 6,022,352

[1] Long-term advance payments which qualify for recognizing assets are reclassified into intangible assets.

[2] Includes ₩ 85,337 million of crypto assets held by the Group as at December 31, 2023.

Management reviews sales performance based on region and type of sales and manages goodwill at sales level.

(2) Financial services business

Changes in intangible assets for the years ended December 31, 2023 and 2022 are as follows:

(in millions of Korean won)	2023				
	Development costs	Other intangible assets	Goodwill	Membership	Total
Opening net book amount	₩ 46,403	₩ 9,864	₩ 12,567	₩ 1,727	₩ 70,561
Acquisition	4,771	7,155	-	37	11,964
Disposal	-	-	-	-	-
Amortization	(14,211)	(2,755)	-	(99)	(17,065)
Transfer	4,842	10,071	-	6	14,919
Others	-	47	-	(47)	-
Closing net book amount	₩ 41,805	₩ 24,383	₩ 12,567	₩ 1,624	₩ 80,379
December 31, 2023					
Acquisition cost	₩ 72,809	₩ 32,612	₩ 12,567	₩ 1,624	₩ 119,612
Accumulated amortization	(31,004)	(8,229)	-	-	(39,233)
Net book amount	₩ 41,805	₩ 24,383	₩ 12,567	₩ 1,624	₩ 80,379

(in millions of Korean won)	2022				
	Development costs	Other intangible assets	Goodwill	Membership	Total
Opening net book amount	₩ 10,829	₩ 9,260	₩ 12,567	₩ 572	₩ 33,228
Acquisition	7,028	2,837	-	1,581	11,446
Disposal	-	(1)	-	(511)	(512)
Amortization	(9,706)	(2,225)	-	(121)	(12,052)
Transfer[1]	38,252	200	-	-	38,452
Closing net book amount	₩ 46,403	₩ 10,071	₩ 12,567	₩ 1,520	₩ 70,561
December 31, 2023					
Acquisition cost	₩ 63,196	₩ 15,385	₩ 12,567	₩ 1,727	₩ 92,875
Accumulated amortization	(16,793)	(5,314)	-	(206)	(22,314)
Net book amount	₩ 46,403	₩ 10,071	₩ 12,567	₩ 1,520	₩ 70,561

[1] Reclassified the amounts classified prepayments before 2022 as intangible assets during 2022.

(3) The following is a summary of goodwill allocation for cash generating units ("CGU"s) operated by management for the years ended December 31, 2023 and 2022:

(in millions of Korean won)	2023					
	Beginning balance	Increase[1]	Changes in scope of consolidation	Impairment[2]	Other adjustments[3]	Ending balance
Internet portal service and other service	₩ 1,081,856	₩ -	₩ -	₩ -	₩ -	₩ 1,081,856
Music service	231,361	-	-	(231,361)	-	-
Other mobile service	977,328	31,623	(2,667)	(613,017)	13,545	406,811
Game business	1,424,472	71,154	-	(184,280)	27	1,311,373
Commerce service	270,913	-	-	-	-	270,913
Financial services	12,567	-	-	-	-	12,567
Entertainment service	491,275	958,023	-	(454,645)	32	994,684
	₩ 4,489,771	₩ 1,060,799	₩ (2,667)	₩ (1,483,304)	₩ 13,604	₩ 4,078,204

[1] Includes the increased amount due to business combination of SM Entertainment Co., Ltd., Ocean Drive Studio Corp. and others and adjustments due to the finalization of consideration allocation of goodwill which increased through business combination in 2022.

[2] Includes the impairment amounting to ₩ 280,430 million for SM Entertainment Co., Ltd., ₩ 459,788 million for TAPAS ENTERTAINMENT, INC. (formerly, Radish Media, Inc.), ₩ 142,955 million for Lionheart Studio Corp., ₩ 231,361 million for Melon business division and others.

[3] Included foreign currency effects from acquisition of foreign companies.

(in millions of Korean won)	2022				
	Beginning balance	Changes in scope of consolidation[1]	Impairment[2]	Other adjustments[3]	Ending balance
Internet portal service and other service	₩ 1,081,856	₩ -	₩ -	₩ -	₩ 1,081,856
Music service	302,079	-	(70,718)	-	231,361
Other mobile service	1,356,976	150,908	(602,457)	71,900	977,328
Game business	1,418,770	(24,574)	-	30,277	1,424,472
Commerce service	270,913	-	-	-	270,913
Financial services	12,567	-	-	-	12,567
Entertainment service	469,556	50,061	(28,342)	-	491,275
	₩ 4,912,717	₩ 176,394	₩ (701,516)	₩ 102,177	₩ 4,489,771

[1] Includes the amounts increased through the acquisition of equity shares in KM Park CO., Ltd. and EDAM Entertainment Corp. during 2022.

[2] Includes the amount of impairment of TAPAS ENTERTAINMENT, INC. (formerly, Radish Media, Inc.) during 2022.

[3] Includes foreign currency effects from acquisition of foreign companies.

(4) The Group annually tests impairment of its goodwill. The recoverable amounts of CGU or CGUs are the higher of fair value, less costs to sell, or value in use. These calculations use cash flow projections after tax based on mid- and long-term business plan approved by management.

Cash flows beyond the business plan are extrapolated using the estimated long-term growth rates stated below. These growth rates do not exceed the expected long-term average growth rate of the industry report.

The following table sets out major assumption, operating profit rate, revenue growth rate, perpetual growth rate and discount rate used in the value-in-use calculations for those CGUs that have significant goodwill allocated to them. Additionally, where there has been an impairment loss in a CGU, the recoverable amount is also presented below.D

(in millions of Korean won)	2023						
	Internet portal service and other service[1]	**Music service**	**Other mobile service**	**Game business**	**E-commerce service[2]**	**Financial services[3]**	**Entertain-ment service**
Operating profit rate	15.6% ~ 18.9%	5.9% ~ 6.6%	(-)590.4% ~ 42.3%	(-)150.1% ~ 70.9%	23.5% ~ 34.2%	(-)51.6% ~ 34.1%	(-)187.1% ~ 19.6%
Revenue growth rate	3.5% ~ 6.6%	(-)10.1% ~ 0.6%	(-)31.1% ~ 203.4%	(-)35.5% ~ 145.5%	7.6% ~ 9.3%	21.7% ~ 97.2%	(-)54.1% ~ 742.2%
Perpetual growth rate	1.0%	0.0%	0.0% ~ 1.0%	0.0% ~ 1.0%	1.0%	1.0%	0.0% ~ 1.0%
Discount rate	10.2%	14.8%	12.3% ~ 16.5%	12.8% ~ 15.8%	10.1%	15.1%	10.3% ~ 16.6%
Recoverable amount	N/A	₩ 157,979	₩ 1,391,792	₩ 2,813,415	N/A	N/A	₩ 3,714,928

[1] If a perpetual growth rate is lower than the management's estimate by 0.5%, the value in use will be reduced by 3.6%. If post-tax discount rate used in estimation is higher than the management's estimate by 1.0%, the value in use will be reduced by 9.5%.

[2] If a perpetual growth rate is lower than the management's estimate by 0.5%, the value in use will be reduced by 3.8%. If post-tax discount rate used in estimation is higher than the management's estimate by 1.0%, the value in use will be reduced by 10.0%.

[3] If a perpetual growth rate is lower than the management's estimate by 0.5%, the value in use will be reduced by 1.8%. If post-tax discount rate used in estimation is higher than the management's estimate by 1.0%, the value in use will be reduced by 9.8%.

(in millions of Korean won)	2022			
	Internet portal service and other service[1]	**Music service**	**Financial services**	**Other mobile service, game business, commerce service, other contents service, entertainment service and others**
Operating profit rate	13.2% ~ 24.0%	10.3% ~ 11.9%	(-)51.9% ~ 33.6%	(-)309.2% ~ 85.6%
Revenue growth rate	6.9% ~ 8.0%	1.9% ~ 7.3%	27.2% ~ 68.4%	(-)80.9% ~ 246.6%
Perpetual growth rate	1.0%	1.0%	1.0%	0.0% ~ 1.0%
Discount rate	10.5%	12.8%	15.6%	8.4% ~ 17.3%

[1] When estimating the recoverable amount, if a perpetual growth rate applied to CGU is lower than the management's estimate by 0.5%, the recoverable amount will be reduced by 3.4%. If the discount rate applied to the estimation is higher than the management's estimate by 0.5%, the recoverable amount will decrease by 5.2%.

These assumptions were used for each cash flow generation unit within the operating segment.

The discount rate is the discount rate that reflects the specific risk associated with the segment to which the CGUs (group) belongs.

As a result of impairment assessment for goodwill, the Group determined that the carrying amount of the internet portal service and other service and financial services and e-commerce service cash-generating units will exceed the recoverable amount, and did not recognize impairment loss on goodwill.

(5) Crypto assets

The Group owns crypto assets for various business purposes.

The Group was allocated the token in return for provision of services by participating in establishment of the platform of crypto assets, Klaytn and BORA, and token development process as a developer company. However, there is no amount recognized as book amount.

Status of acquisition and amount and quantity on hand of crypto assets are as follows:

(in thousands of Korean won and in unit)

		Quantity				Fair value (per unit)[2]	
Name	Listing status[1]	December 31, 2022	Acquisition	Disposal	December 31, 2023	December 31, 2023	December 31, 2022
KLAY	Listed	₩ 972,344	₩ 267,974	₩ (43,737)	₩ 1,196,581	₩ -	₩ -
BORA	Listed	339,691	18,116	(42,885)	314,922	-	-
BTC	Listed	-	-	-	-	55,388	21,931
ETH	Listed	-	-	-	-	2,944	1,600
USDC	Listed	2,318	2,855	(2,712)	2,461	1	1
USDT	Listed	1,270	1,165	(350)	2,086	1	1
WEMIX	Listed	6,535	139	-	6,674	4	1
ISK	Listed	14,435	19,501	-	33,935	-	-
MBX	Listed	6,000	434	(291)	6,142	1	2
OAS	Listed	50,000	-	-	50,000	-	-
Others	-	799,615	909,160	(11,431)	1,697,344	-	-

[1] Listed in domestic and overseas exchanges such as BINANCE.COM, BITHUMB.COM and others.

[2] Calculated using monthly average market price as at the end of the reporting period provided by COINMARKETCAP.COM.

The amount recognized as impairment loss on intangible assets is ₩ 18,734 million (2022: ₩ 2,952 million) for the year ended December 31, 2023.

(in millions of Korean won)

Name	Line item	Valuation Technique	Acquisition Methods	2023 Acquisition cost	2023 Accumulated impairment	2023 Book amount	2022 Acquisition cost	2022 Accumulated impairment	2022 Book amount
KLAY	Intangible assets	Cost method	Paid acquisition, Block rewards and others	₩ 52,932	₩ (947)	₩ 51,986	₩ 50,120	₩ (947)	₩ 49,173
BORA	Intangible assets	Cost method	Paid acquisition	1,394	(186)	1,208	1,204	(365)	839
BTC	Intangible assets	Cost method	Paid acquisition	160	-	160	98	-	98
ETH	Intangible assets	Cost method	Paid acquisition	3,166	-	3,166	2,942	-	2,942
USDC	Intangible assets	Cost method	Paid acquisition	3,669	(1,147)	2,522	1,435	-	1,435
USDT	Intangible assets	Cost method	Paid acquisition	3,838	(433)	3,405	3,569	(433)	3,136
WEMIX	Intangible assets	Cost method	Paid acquisition, Block rewards	8,006	-	8,006	3,382	-	3,382
ISK	Intangible assets	Cost method	Paid acquisition	3,666	-	3,666	3,042	-	3,042
MBX	Intangible assets	Cost method	Paid acquisition	1,289	-	1,289	1,267	-	1,267
OAS	Intangible assets	Cost method	Paid acquisition, Block rewards and others	35,675	(17,649)	18,026	11,906	(1,207)	10,699

Acquired crypto assets were sold by exchange transaction with crypto assets, and the amount recognized as gain (loss) on sales of intangible assets is ₩ (-)228 million (2022: ₩ 61,160 million) for the year ended December 31, 2023.

(in millions of Korean won and in unit)	2023[1] Disposal quantity	2023[1] Disposal amount	2023[1] Book amount	2023[1] Gain (loss) on sales	2022[1] Disposal quantity	2022[1] Disposal amount	2022[1] Book amount	2022[1] Gain (loss) on sales
KLAY[2]	₩ 2,963	₩ 718	₩ 668	₩ 50	₩ 3,215	₩ 562	₩ 361	₩ 201
ETH	-	6	6	-	-	-	-	-
USDC	2,712	3,526	3,527	(1)	1,226	1,582	1,583	(1)
USDT	350	448	433	15	1,005	1,299	1,273	26
WEMIX	-	-	-	-	10,800	71,366	3,557	67,809
ISK	-	-	-	-	3,000	728	684	44
MBX	291	154	154	1	-	-	-	-
Others	11,431	2,761	3,053	(292)	493,033	1,923	8,841	(6,918)

[1] Disposal status excluding BORA

[2] Disposal status of quantity acquired by Block rewards

The fair value of crypto assets held by the Group as at December 31, 2023 is changing significantly after December 31, 2023, however, the effect of these significant changes on the financial statements cannot be estimated as at the reporting date. The possible adjustments due to such uncertainty are not reflected in the Group's financial statements.

20. Leases

(1) Non-financial services business

1) Amounts recognized in the consolidated statements of financial position

The consolidated statement of financial position shows the following amounts relating to leases:

(in millions of Korean won)		**2023**		**2022**
Right-of-use assets				
Properties	₩	1,608,970	₩	1,599,597
Machinery		147,536		105,873
Vehicles		14,395		10,121
	₩	1,770,900	₩	1,715,592

(in millions of Korean won)		**2023**		**2022**
Lease liabilities				
Current	₩	284,615	₩	244,391
Non-current		1,730,858		1,643,416
	₩	2,015,473	₩	1,887,807

Additions to the right-of-use assets during the 2023 financial year were ₩ 55,308 million (2022: ₩ 316,358 million). The amount does not include any right-of-use asset that have been derecognized due to sublease.

2) Amounts recognized in the consolidated statements of comprehensive income

The consolidated statements of comprehensive income show the following amounts relating to leases:

(in millions of Korean won)		**2023**		**2022**
Depreciation of right-of-use assets				
Properties	₩	202,078	₩	162,504
Machinery		56,497		43,182
Vehicles		5,747		4,548
	₩	264,322	₩	210,234
Interest expense on lease liabilities (included in finance cost)	₩	74,698	₩	62,238
Expense relating to short-term leases (included in operating expenses)		9,938		4,458
Expense relating to leases of low-value assets that are not short-term leases (included in operating expenses)		3,508		1,575
Expense relating to variable lease payments not included in lease liabilities (included in operating expenses)		45,284		18,500
Income from subleases of right-of-use assets		6,659		6,584

The total cash outflow for leases in 2023 was ₩ 347,696 million (2022: ₩ 209,292 million).

3) Changes in lease liabilities

Changes in lease liabilities for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	1,887,807	₩	1,487,685
Changes in scope of consolidation		104,092		(106,556)
Increase		264,311		665,778
Payments		(288,804)		(184,759)
Disposals		(23,416)		(31,554)
Amortization of present value discounts		74,698		62,238
Others		(3,215)		(5,025)
Ending balance	₩	2,015,473	₩	1,887,807

4) Maturity analysis of lease receivables

The following table sets out a maturity analysis of lease receivables, showing the undiscounted lease payments to be received after the reporting date.

(in millions of Korean won)		**2023**
Less than one year	₩	13,474
One to two years		26,977
Two to three years		26,849
Three to four years		26,746
Four to five years		24,155
More than five years		5,139
Total undiscounted lease receivables		123,338
Unearned finance income		(27,683)
Net investment in the lease	₩	95,655

The following table sets out a maturity analysis of lease payments, showing the undiscounted lease payments to be received after the reporting date.

(in millions of Korean won)		**2023**
Less than one year	₩	26,138
One to two years		26,003
Two to three years		25,283
Three to four years		25,727
Four to five years		24,790
More than five years		83,702
	₩	211,642

(2) Financial services business

1) Amounts recognized in the consolidated statements of financial position

The consolidated statements of financial position shows the following amounts relating to leases:

(in millions of Korean won)		**2023**		**2022**
Right-of-use assets				
Properties	₩	691	₩	1,282
Machinery		1,244		1,625
Vehicles		321		186
	₩	2,256	₩	3,093

(in millions of Korean won)		**2023**		**2022**
Lease liabilities	₩	1,711	₩	2,327

Deductions in the right-of-use assets during the 2023 financial year were ₩ 837 million (2022: ₩ 8,107 million). The amount does not include any right-of-use asset that have been derecognized due to sublease.

2) Amounts recognized in the consolidated statements of comprehensive income

The consolidated statements of comprehensive income shows the following amounts relating to leases:

(in millions of Korean won)		**2023**		**2022**
Depreciation of right-of-use assets				
Properties	₩	570	₩	792
Machinery		806		513
Vehicles		140		173
	₩	1,516	₩	1,478
Interest expense on lease liabilities (included in finance cost)	₩	83	₩	101
Expense relating to short-term leases (included in operating expenses)		135		354
Expense relating to leases of low-value assets that are not short-term leases (included in operating expenses)		1,139		985

The total cash outflow for leases in 2023 was ₩ 2,567 million (2022: ₩ 4,355 million).

3) Changes in lease liabilities

Changes in lease liabilities for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	2,327	₩	10,266
Increase		995		6,395
Payments		(1,455)		(3,017)
Disposals		(81)		(1,449)
Amortization of present value discounts		83		101
Others		(158)		(9,969)
Ending balance	₩	1,711	₩	2,327

21. Borrowings and Bonds

Short-term borrowings as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)

Category	Creditor	Annual interest rate (%) as at December 31, 2023	Latest maturity	2023	2022
Exchangeable bonds[1]	12th foreign currency exchangeable bonds	-	-	₩ -	₩ 28,768
	Discount on issuance of bonds			-	(57)
				-	28,710
Convertible bonds[2,3]	1st non-guaranteed, non-interested private convertible bonds	0.0%	March 2026	463,354	-
	Discount on issuance of bonds			(1,688)	-
				461,667	-
Convertible bonds[3,4]	4th private convertible bonds	0.0%	March 2027	10,000	-
	Conversion right adjustments			(5,401)	-
				4,599	-
Debentures	Corporate bonds	4.6%	July 2024	100,000	-
	Discount on issuance of bonds			(82)	-
				99,918	-
Loans for operation capital	NongHyup Bank	-	-	-	8,340
Loans for operation capital[5]	Shinhan Bank	3.1%~5.8%	May 2024 ~ March 2027	353,085	77,900
Loans for operation capital	Woori Bank	5.1%~5.5%	January 2024 ~ May 2024	35,000	30,019
Loans for operation capital	Kookmin Bank	4.9%~7.1%	April 2024 ~ November 2024	175,000	192,271
Loans for operation capital[5]	KB Securities, Korea Development Bank and others	1.0%~9.0%	January 2024 ~ March 2029	208,380	265,603
Commercial paper	Shinhan Bank and others	4.9%~5.4%	January 2024 ~ May 2024	279,000	425,000
Financial institutions and others	Individual and others	3.0%~4.6%	January 2024 ~ August 2024	2,082	55,923
Redeemable convertible preferred shares and others[3,6]				10,722	13,118
				₩ 1,629,452	₩ 1,096,884

[1] $22,700,000 of the 12th foreign currency exchangeable bonds were repaid as it matured during the year ended December 31, 2023.

[2] Convertible bonds issued by Kakao Games Corp., a subsidiary.

[3] It was classified as short-term borrowings as the investor's early redemption right matures within one year.

[4] Convertible bonds issued by KEYEAST Co., Ltd., a subsidiary.

[5] Included the amount to be redeemed within one year among long-term borrowings with a condition of installment redemption.

[6] Included ₩ 1,009 million of convertible bonds issued by the subsidiary in 2022.

Long-term borrowings and long-term lease liabilities as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)

Category	Creditor	Annual interest rate (%) as at December 31, 2023	Latest maturity date	2023	2022
Loans for operation capital	Kookmin Bank	5.3%	June 2025	₩ 189,736	₩ 179,710
Loans for operation capital	Woori Bank	5.3%~5.7%	June 2025 ~ September 2026	93,504	45,941
Loans for operation capital	Industrial Bank of Korea and others	1.0%~7.2%	January 2025 ~ March 2029	512,388	389,859
Convertible bonds	Hana Bank and others	-	-	-	460,918
Debentures	Corporate bonds	-	-	-	99,753
Others	Ryan Mobility 1st Co.	5.4%	October 2025	50,000	-
				₩ 845,628	₩ 1,176,181

Movements in the borrowings for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023	2022
Beginning balance	₩ 2,273,065	₩ 1,811,882
Changes in scope of consolidation	19,297	19,282
Additions	1,588,091	1,974,150
Repayments	(1,447,761)	(1,561,148)
Conversion to ordinary shares	-	(41,699)
Amortization of present value discounts	3,679	6,101
Others[1]	38,709	64,497
Ending balance	₩ 2,475,080	₩ 2,273,065

[1] Others include currency translation effects.

Details of convertible bonds issued by the Group are as follows:

		Details
Type[1]		1st non-guaranteed, non-interested private convertible bonds
Principal amount		₩ 500,000 million
Interest rate	Coupon rate	0%
	Yield rate	0%

	Details
Date of issuance	March 31, 2021
Date of maturity[2]	March 31, 2026
Conversion price *(in Korean won)*	₩ 52,100
Conversion period	From one year after the date of issuance to one month before the maturity date of repayment
Conversion price adjustments	Adjusted in the event of issuance of stock-related bonds below the market price, capital increase with and without consideration, stock dividends and other occasions prescribed in the agreement
Investor's early redemption right (Put Option)	Allows for request every six months from the date 3 years after the issuance date
Issuer's early redemption right (Call Option)	Allows for request from the date 12 months after the issuance date until the date 54 months after issuance

[1] Convertible bonds issued by Kakao Games Corp., a subsidiary of the Parent Company.

[2] It was classified as short-term borrowings as the investor's early redemption right matures within one year.

In addition to the above, as at December 31, 2023, there was one convertible bond issued by a subsidiary, KEYEAST Co., Ltd., and the amount of ₩ 4,599 million was recorded in short-term borrowings.

Details of redeemable convertible preferred shares issued by subsidiaries as at December 31, 2023, are as follows:

(in millions of Korean won)	Details			
	METABORA Co., Ltd.	**METABORA Co., Ltd.**	**METABORA Co., Ltd.**	**METABORA Co., Ltd.**
Date of issue	May 2018	August 2019	July 2020	April 2021
Value at issue	₩ 7,000	₩ 2,300	₩ 1,000	₩ 3,900
Dividend rate for preferred shares	1% of face value	1% of issue value	1% of issue value	1% of issue value
Guaranteed yield upon redemption	8%	5%	5%	5%
Conversion period	From the day after issuance date to the day before 10 years from issuance date	From the day after payment date to the day before 10 years from payment date	From the day after payment date to the day before 10 years from payment date	From the day after payment date to the day before 10 years from payment date
Conversion rate	1 preferred share for 1 ordinary share (includes certain adjustments in IPO offering price)	1 preferred share for 1 ordinary share (includes certain adjustments in IPO offering price)	1 preferred share for 1 ordinary share (includes certain adjustments in IPO offering price)	1 preferred share for 1 ordinary share (includes certain adjustments in IPO offering price)
Redemption period	Redeemable from one year after issuance date	Redeemable from three years after payment date	Redeemable from three years after payment date	Redeemable from three years after payment date

22. Net Defined Benefit Liabilities

Non-financial services business

Details of net defined benefit liabilities (assets) recognized in the statements of financial position as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Present value of defined benefit obligations	₩	396,058	₩	302,208
Fair value of plan assets		(434,032)		(353,143)
Net defined benefit assets	₩	(37,974)	₩	(50,934)

Movements in the defined benefit obligations for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Beginning balance	₩	302,208	₩	248,131
Increase due to change in scope of consolidation		18,648		871
Current service cost		78,506		71,578
Past service cost		2,980		1,421
Interest expense		16,345		7,502
Remeasurements:				
Actuarial loss arising from change in demographic assumptions		1,393		1,799
Actuarial loss (gain) arising from change in financial assumptions		16,025		(38,245)
Actuarial loss arising from experience adjustments		10,535		37,350
Payments from plans		(50,270)		(27,540)
Transfer from (to) affiliated companies		(283)		268
Others		(28)		(925)
Ending balance	₩	396,058	₩	302,208

Movements in the fair value of plan assets for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	353,143	₩	254,428
Increase (decrease) due to change in scope of consolidation		18,522		(1,047)
Interest income		19,257		7,688
Contribution		87,978		120,729
Payments from plans		(43,676)		(25,138)
Transfer from (to) affiliated companies		3,621		(158)
Remeasurements:				
Return on plan assets (excluding amounts included in interest income)		(5,214)		(2,434)
Others		401		(925)
Ending balance	₩	434,032	₩	353,143

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Current service cost	₩	78,506	₩	71,578
Past service cost		2,980		1,421
Net interest cost		(2,912)		(186)
	₩	78,574	₩	72,812

Total service cost from defined benefit plan amounting to ₩ 78,574 million and ₩ 72,812 million is included in operating expenses for the years ended December 31, 2023 and 2022, respectively. In addition, total service cost from defined contribution plan was ₩ 24,895 million and ₩ 11,397 million for the years ended December 31, 2023 and 2022, respectively.

The significant actuarial assumptions as at December 31, 2023 and 2022, are as follows:

(in percentage, %)	**2023**	**2022**
Discount rate	4.13% ~ 5.80%	3.50% ~ 6.51%
Salary growth rate	3.00% ~ 7.20%	3.56% ~ 7.20%

The sensitivity of the defined benefit liabilities to changes in the principal assumptions is:

(in percentage)	**Changes in principal assumption**	**Changes in the amount of liabilities**
Discount rate	1% decrease/ 1% increase	6.4% increase / 6.7% decrease
Salary growth rate	1% decrease/ 1% increase	6.0% decrease / 5.5% increase

A decrease in corporate bond yields will increase defined benefit liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

Plan assets as at December 31, 2023 and 2022, consist of:

(in millions of Korean won)	**2023**	**2022**
Equity linked bond	₩ -	₩ 3,296
Time deposits	180,753	185,015
Financial instruments with fixed rate	190,778	159,464
Interest guarantee insurance	2,372	3,940
Others	60,130	1,427
	₩ 434,032	₩ 353,143

Management of the Group estimates ₩ 81,249 million will be contributed to plan assets in the next fiscal year.

The weighted average duration of the defined benefit obligation is 4.49 ~ 11.48 years.

The Group annually reviews the level of fund accumulated in the plan and operates a policy to compensate for any deficit in the fund.

Financial services business

Details of net defined benefit liabilities (assets) recognized in the statements of financial position as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Present value of defined benefit obligations	₩	5,439	₩	2,608
Fair value of plan assets		(6,651)		(2,898)
Net defined benefit assets	₩	(1,212)	₩	(289)

Movements in the defined benefit obligations for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	2,608	₩	1,480
Current service cost		1,885		1,199
Interest expense		141		50
Past service cost		447		-
Remeasurements:				
Actuarial loss (gain) arising from change in demographic assumptions		(68)		35
Actuarial loss (gain) arising from change in financial assumptions		260		(736)
Actuarial loss arising from experience adjustments		805		754
Payments from plans		(1,133)		(315)
Transfer from affiliated companies		494		141
Ending balance	₩	5,439	₩	2,608

Movements in the fair value of plan assets for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Beginning balance	₩	2,898	₩	1,142
Interest income		148		33
Contribution		4,265		1,876
Payments from plans		(1,145)		(297)
Remeasurements:				
Return on plan assets (excluding amounts included in interest income)		(9)		2
Transfer from affiliated companies		494		141
Ending balance	₩	6,651	₩	2,898

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Current service cost	₩ 1,885	₩ 1,199
Net interest cost	(7)	17
Past service cost	447	-
	₩ 2,325	₩ 1,216

Total service cost from defined benefit plan amounting to ₩ 2,325 million and ₩ 1,216 million is included in operating expenses for the years ended December 31, 2023 and 2022, respectively. In addition, total service cost from defined contribution plan was ₩ 550 million and ₩ 607 million for the years ended December 31, 2023 and 2022, respectively.

The significant actuarial assumptions as at December 31, 2023 and 2022, are as follows:

(in percentage, %)	**2023**	**2022**
Discount rate	5.05% ~ 5.57%	6.03%~6.13%
Salary growth rate	4.00%	4.00%

The sensitivity of the defined benefit liabilities to changes in the principal assumptions is:

(in percentage)	**Changes in principal assumption**	**Changes in the amount of liabilities**
Discount rate	1% decrease/ 1% increase	7.0% increase / 6.0% decrease
Salary growth rate	1% decrease/ 1% increase	6.3% decrease / 7.0% increase

A decrease in corporate bond yields will increase defined benefit liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

Plan assets as at December 31, 2023 and 2022, consist of:

(in millions of Korean won)		2023		2022
Interest guarantee insurance	₩	3,819	₩	1,873
Others		2,833		1,025
	₩	6,651	₩	2,898

Management of the Group estimates ₩ 3,058 million will be contributed to plan assets in the next fiscal year.

The weighted average duration of the defined benefit obligation is 5.25 ~ 8.64 years.

The Group annually reviews the level of fund accumulated in the plan and operates a policy to compensate for any deficit in the fund.

23. Other Long-term and Short-term Employee Benefits Liabilities

The Group classifies paid absences recognized in respect of service rendered by employees in the current period and long-term paid absences that are expected to be settled within 12 months after the end of the reporting period in which the employees render the related services as short-term employee benefits liabilities, and the amounts that are expected to be settled after 12 months are classified as long-term employee benefits liabilities.

Details of other long-term and short-term employee benefits liabilities as at December 31, 2023 and 2022, are as follows:

Non-financial services business

(in millions of Korean won)		2023		2022
Short-term employee benefits liabilities	₩	207,122	₩	156,061
Long-term employee benefits liabilities		70,612		73,168

Financial services business

(in millions of Korean won)		2023	2022
Long-term and short-term employee benefits liabilities	₩	7,278	6,885

24. Tax Expense and Deferred Income Tax

Income tax expense for the years ended December 31, 2023 and 2022, consists of:

(in millions of Korean won)		2023		2022
Current tax:				
Current tax on profit for the year	₩	238,564	₩	(108,938)
Adjustments in respect of prior years		14,688		19,013
Current tax charged directly to equity		(4,201)		(4,201)
Total current tax		249,051		(94,126)
Deferred income tax:				
Origination and reversal of temporary differences		87,482		(566,994)
Decrease in temporary differences due to change in scope of consolidation		(201,925)		(3,902)
Deferred income tax charged or credited directly to equity		33,821		866,928
Total deferred income tax		(80,622)		296,032
Income tax expense	₩	168,429	₩	201,906

Reconciliation between actual income tax expense and amount computed by applying the statutory tax rate to profit before income tax for the years ended December 31, 2023 and 2022, is as follows:

(in millions of Korean won)		2023		2022
Profit (loss) before income tax expense	₩	(1,648,240)	₩	1,268,900
Income tax expense computed at statutory tax rate		(380,743)		293,116
Tax effects of:				
Income not subject to tax		(33,246)		(141,914)
Expenses not deductible for tax purposes		101,786		152,779
Changes in valuation allowance of deferred income tax asset		470,343		49,445
Adjustments in respect of prior years		14,688		19,013
Effects of the tax system for recirculation of corporate income		(9,100)		5,087
Tax credits		4,701		(175,621)
Income tax expense	₩	168,429	₩	201,906

The tax effect relating to components of other comprehensive income (expenses) for the years ended December 31, 2023 and 2022, is as follows:

(in millions of Korean won)	2023			2022		
	Before tax	**Tax effect**	**After tax**	**Before tax**	**Tax effect**	**After tax**
Other comprehensive income						
Gains (losses) on valuation of equity instruments at fair value through other comprehensive income	₩ 184,061	₩ (46,628)	₩ 137,433	₩ (2,250,879)	₩ 529,078	₩ (1,721,801)
Remeasurements of net defined benefit liabilities	(34,173)	7,570	(26,603)	(3,389)	1,145	(2,244)
Share of other comprehensive income (loss) of associates	36,125	(2,823)	33,302	(51,081)	533	(50,549)
Foreign currency translation adjustments	(41,989)	(18)	(42,007)	49,085	(4,285)	44,799
	₩ 144,024	₩ (41,900)	₩ 102,124	₩ (2,256,264)	₩ 526,470	₩ (1,729,794)

The aggregate current and deferred income tax relating to items that are charged or credited directly to equity for the years ended December 31, 2023 and 2022, is as follows:

(in millions of Korean won)	2023			2022		
	Before tax	**Tax effect**	**After tax**	**Before tax**	**Tax effect**	**After tax**
Other reserves						
Gains (losses) on sales of treasury stock	₩ 16,547	₩ (4,201)	₩ 12,346	₩ 16,547	₩ (4,201)	₩ 12,346
Other component of equity	-	(3,166)	-	-	20,164	-
Others	-	78,886	-	(1,380,573)	320,293	(1,060,280)
	₩ 16,547	₩ 71,519	₩ 12,346	₩ (1,364,026)	₩ 336,256	₩ (1,047,934)

Deferred income tax assets (liabilities) recognized in the consolidated statements of financial position as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Deferred income tax assets		
Deferred income tax asset to be recovered after more than 12 months	₩ 1,181,053	₩ 1,138,082
Deferred income tax asset to be recovered within 12 months	105,409	174,506
	1,286,462	1,312,588
Deferred income tax liabilities		

Deferred income tax liability to be recovered after more than 12 months	(1,460,326)	(1,415,645)
Deferred income tax liability to be recovered within 12 months	(26,223)	(9,550)
	(1,486,550)	(1,425,195)
Deferred income tax liabilities, net	₩ (200,088)	₩ (112,606)

The gross movement in the deferred income tax assets (liabilities) for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Beginning balance	₩ (112,606)	₩ (679,600)
Changes in scope of consolidation	(201,925)	(3,902)
Deferred income tax charged to profit or loss	80,622	(296,032)
Deferred income tax charged to other comprehensive income	(41,900)	526,470
Deferred income tax charged to other equity	75,721	340,457
Ending balance	₩ (200,088)	₩ (112,606)

The movements in deferred income tax assets and liabilities for the years ended December 31, 2023 and 2022, without taking into consideration the offsetting of balances within the same tax jurisdiction, are as follows:

(in millions of Korean won)	**2023**					
	Beginning balance	**Changes in scope of consolidation**	**Income statement**	**Other comprehensive income**	**Other equity**	**Ending balance**
Deferred income tax liabilities						
Accrued revenue	₩ (7,105)	₩ (300)	₩ (2,515)	₩ -	₩ -	₩ (9,920)
Property and equipment	(7,280)	-	1,261	-	-	(6,019)
Intangible assets	(290,773)	(204,688)	120,534	-	-	(374,927)
Financial assets at fair value through profit or loss	(43,578)	-	8,737	-	-	(34,841)
Financial assets at fair value through other comprehensive income	(163,382)	-	(3,159)	(46,628)	-	(213,169)
Plan assets	(67,615)	-	(12,002)	-	-	(79,617)
Derivative financial instruments	(1,362)	-	(872)	-	-	(2,234)
Lease	(526,910)	(15,593)	77,589	-	-	(464,913)
Investments in subsidiaries and associates	(321,149)	(16,752)	69,678	(2,823)	-	(271,047)
Goodwill	(10,737)	-	10,737	-	-	-

Others	14,696	-	(44,541)	(18)	-	(29,863)
	(1,425,195)	(237,334)	225,448	(49,470)	-	(1,486,550)
Deferred income tax assets						
Property and equipment	9,510	1,800	3,139	-	-	14,448
Advances from customers	7,183	-	2,083	-	-	9,266
Other intangible assets	15,349	-	4,777	-	-	20,126
Allowance for doubtful accounts	8,265	4,717	(869)	-	-	12,113
Accrued expenses	35,199	3,648	(3,256)	-	-	35,591
Provisions	18,000	-	3,852	-	-	21,852
Government grants	548	-	106	-	-	655
Defined benefit liabilities	56,569	138	7,408	7,570	-	71,684
Other long-term employee benefits liabilities	26,743	-	12,625	-	-	39,367
Financial assets at fair value through profit or loss	3,927	-	13,684	-	-	17,610
Financial assets at fair value through other comprehensive income	2,896	415	2,971	-	-	6,281
Derivative financial instruments	4,618	-	(841)	-	-	3,777
Lease	542,502	23,175	(68,491)	-	-	497,186
Share-based compensation	39,305	-	989	-	(3,166)	37,128
Others	541,975	1,517	(123,004)	-	78,886	499,374
	1,312,588	35,409	(144,826)	7,570	75,721	1,286,462
Deferred income tax assets (liabilities), net	₩ (112,606)	₩ (201,925)	₩ 80,622	₩ (41,900)	₩ 75,721	₩ (200,088)

(in millions of Korean won)	**2022**					
	Beginning balance	**Changes in scope of consolidation**	**Income statement**	**Other comprehensive income**	**Other equity**	**Ending balance**
Deferred income tax liabilities						
Accrued revenue	₩ (8,869)	₩ 2	₩ 1,761	₩ -	₩ -	₩ (7,105)
Property and equipment	(82,977)	-	75,697	-	-	(7,280)
Intangible assets	(162,745)	(4,432)	(123,596)	-	-	(290,773)
Financial assets at fair value through profit or loss	(37,088)	-	(6,490)	-	-	(43,578)

Financial assets at fair value through other comprehensive income	(170,686)	(156)	(521,618)	529,078	-	(163,382)
Plan assets	(48,334)	(9)	(19,273)	-	-	(67,615)
Derivative financial instruments	(1,245)	-	(117)	-	-	(1,362)
Lease	(272,237)	(13,696)	(240,977)	-	-	(526,910)
Investments in subsidiaries and associates	(338,340)	(22)	16,681	533	-	(321,149)
Goodwill	(39,732)	-	28,995	-	-	(10,737)
Others	(175,787)	(639)	195,407	(4,285)	-	14,696
	(1,338,039)	(18,950)	(593,530)	525,325	-	(1,425,195)
Deferred income tax assets						
Property and equipment	8,915	-	596	-	-	9,510
Advances from customers	8,510	-	(1,327)	-	-	7,183
Other intangible assets	15,982	83	(715)	-	-	15,349
Allowance for doubtful accounts	3,707	19	4,539	-	-	8,265
Accrued expenses	22,581	380	12,238	-	-	35,199
Provisions	14,953	263	2,784	-	-	18,000
Government grants	-	-	548	-	-	548
Defined benefit liabilities	45,503	438	10,628	-	-	56,569
Other long-term employee benefits liabilities	31,681	-	(6,083)	1,145	-	26,743
Financial assets at fair value through profit or loss	424	(8)	3,510	-	-	3,927
Financial assets at fair value through other comprehensive income	2,379	-	517	-	-	2,896
Derivative financial instruments	5,668	-	(1,050)	-	-	4,618
Lease	343,853	13,689	184,961	-	-	542,502
Share-based compensation	103,980	-	(84,839)	-	20,164	39,305
Others	50,303	186	171,193	-	320,293	541,975
	658,439	15,049	297,498	1,145	340,457	1,312,588
Deferred income tax assets (liabilities), net	₩ (679,600)	₩ (3,902)	₩ (296,032)	₩ 526,470	₩ 340,457	₩ (112,606)

The Group did not recognize deferred income tax asset of ₩ 482,013 million as at December 31,

2023, related to the investments in subsidiaries and associates considering the possibility of realization (scheduled not to be disposed of, etc.). As at December 31, 2023, the deferred income tax assets of unrecognized deductible temporary differences arising from subsidiaries' net loss carryforwards and others amount to ₩ 59,723 million.

Impact of Pillar Two income taxes

Under the Pillar Two legislation, the Group is liable to pay a top-up tax for the difference between their GloBE effective tax rate per jurisdiction and the 15% minimum rate. However, although the average effective tax rate is below 15%, the Group might not be exposed to paying Pillar Two income taxes. Therefore, even for those entities with an accounting effective tax rate above 15%, there may still be Pillar Two tax implications. Due to the complexities in applying the legislation, the impact of the legislation is not yet reasonably estimable. Each entity within the Group is reviewing the impact on financial statements with tax specialists.

25. Provisions

Non-financial services business

Changes in provisions for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023					
	Beginning balance	**Changes in scope of consolidation**	**Increase**	**Decrease**	**Foreign currency exchange rate differences**	**Ending balance**
Current						
Provision for mileage	₩ 10,764	₩ (36)	₩ 62	₩ (1,018)	₩ -	₩ 9,771
Provision for restoration	1,204	20	223	(787)	-	660
Provision for returns	2,311	2	2,441	(2,258)	-	2,496
Other provisions	6,295	-	8,034	(6,515)	(89)	7,724
	20,574	(14)	10,760	(10,579)	(89)	20,652
Non-current						
Provision for mileage	226	-	150	(60)	-	316
Provision for restoration	66,982	8,201	8,629	(2,939)	(227)	80,646
Other provisions	2,944	-	-	(2,944)	-	-
	70,152	8,201	8,780	(5,944)	(227)	80,962
	₩ 90,726	₩ 8,187	₩ 19,540	₩ (16,523)	₩ (316)	₩ 101,614

(in millions of Korean won)	2022					
	Beginning balance	**Changes in scope of consolidation**	**Increase**	**Decrease**	**Foreign currency exchange**	**Ending balance**

				rate differences		
Current						
Provision for mileage	₩ 1,022	₩ 7,581	₩ 2,528	₩ (366)	₩ -	₩ 10,764
Provision for restoration	449	6	1,126	(376)	(1)	1,204
Provision for returns	2,251	366	3,229	(3,534)	-	2,311
Other provisions	7,521	(624)	6,683	(7,285)	-	6,295
	11,243	7,329	13,565	(11,561)	(1)	20,574
Non-current						
Provision for mileage	-	-	226	-	-	226
Provision for restoration	51,934	(1,308)	19,407	(3,114)	63	66,982
Other provisions	-	2,944	-	-	-	2,944
	51,934	1,637	19,632	(3,114)	63	70,152
	₩ 63,177	₩ 8,966	₩ 33,197	₩ (14,675)	₩ 61	₩ 90,726

Financial services business

(in millions of Korean won)	2023				
	Beginning balance	**Unwinding of discount**	**Reversal**	**Used**	**Ending balance**
Provision for restoration	₩ 1,124	₩ 14	₩ (132)	₩ (161)	₩ 845

(in millions of Korean won)	2022				
	Beginning balance	**Unwinding of discount**	**Reversal**	**Increase**	**Ending balance**
Provision for restoration	₩ 1,151	₩ 17	₩ (175)	₩ 131	₩ 1,124

26. Derivative Financial Instruments

The carrying amounts of derivative financial assets, liabilities and commitments as at December 31, 2023 and 2022, are as follows:

(a) Derivative financial assets

(in millions of Korean won)	**2023**	**2022**
Call option (Grip Company)	₩ 220	₩ 3,156
Put option (HIGROUND Co., Ltd.)	4,252	-
Put option (JELLYFISH Entertainment CO., LTD.)	2,800	-
Currency forward	5,289	1,574
Call option (Super Comics)	-	351

Call option (A)		-		1,481
	₩	12,560	₩	6,562

(b) Derivative financial liabilities

(in millions of Korean won)		**2023**		**2022**
Redemption right and conversion right (METABORA Co., Ltd.) [1]	₩	3,137	₩	8,708
Early redemption right and conversion right (KEYEAST Co., Ltd.)[2]		2,821		-
Call option (Mono Labs Co., Ltd.)		1,762		-
Put option (A)		475		1,071
Early redemption right and conversion right (Life MMO Corp.)		-		3,265
Convertible bond's early redemption right (XLGAMES Inc.)		-		68
Put option (Wyatt co., Ltd)		-		24,503
	₩	8,196	₩	37,616

[1] Redemption right and conversion right granted to redeemable convertible preferred shares issued by METABORA Co., Ltd. (Note 21).
[2] Redemption right and conversion right granted to convertible bonds issued by KEYEAST Co., Ltd. (Note 21).

The carrying amount of each financial liability classified as a liability whose exercise price is subject to change due to the issuer's share price and related gains and losses are as follows:

(in millions of Korean won)		**2023**		**acquisition cost**
Derivative financial liabilities				
Redemption right and conversion right (METABORA Co., Ltd.)	₩	3,137	₩	4,723
Early redemption right and conversion right (KEYEAST Co., Ltd.)		2,821		5,543
Put option (A)		475		1,831
	₩	6,434		12,097

For the year ended December 31, 2023, losses from continuing operations before tax are ₩ (-)1,648,240 million, and net losses excluding gains and losses of valuation of the financial liabilities are ₩ (-) 1,639,352 million.

27. Share Capital and Share Premium

As at December 31, 2023, the Parent Company's the total number of ordinary shares issued is 444,849,878 shares.

The Parent Company retired its treasury shares of 500,000 shares by appropriating retained earnings in the previous period. Therefore, the total par value of capital shares issued differs from the total par value of capital shares outstanding.

(in millions of Korean won, except for number of shares and par value)

Stocks issued				
Number of stocks issued *(in shares)*	Par value *(in Korean won)*	Total par value	Issued capital	Difference
444,849,878	₩ 100	₩ 44,485	₩ 44,535	₩ 50

During 2023, the Parent Company retired 1,897,441 treasury shares held by the Parent Company upon the resolution at the Board of Directors' meeting on March 28, 2023, and recognized the difference between the acquisition price and par value of ordinary shares as loss from capital reduction.

The Parent Company may grant share options to its employees and directors of the Parent Company and its affiliates who contribute or have capabilities to contribute to the establishment, management, overseas business and technical innovation of the Group, with the resolution of special shareholders meeting or board of directors up to 15% of total number of issued shares. As at December 31, 2023, the number of outstanding share options among granted is 6,628,437 shares (Note 28).

The Parent Company is authorized to issue convertible bonds and bonds with warrants into registered ordinary shares for up to the total par value of ₩ 500 billion to investors other than current shareholders, with the resolution of the board of directors. As at December 31, 2023, there is no convertible bonds issued.

The Parent Company may issue various classes of shares which are different in respect of their particulars as to the dividend, voting rights, conversion and redemption rights up to 50% of the total number of shares issued. The Parent Company has only issued ordinary shares and no other classes having the above conditions as at December 31, 2023.

Changes in share capital and share premium during the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won, except number of shares) Date	Description	Number of ordinary shares *(in shares)*	Share capital	Share premium	Total
January 1, 2022	Beginning balance	446,405,990	₩ 44,641	₩ 5,706,165	₩ 5,750,805
January 24, 2022	Exercise of share options	56,061	6	1,622	1,627
February 22, 2022	Exercise of share options	160,845	16	4,366	4,382
March 23, 2022	Exercise of share options	147,510	15	4,392	4,406
April 25, 2022	Exercise of share options	1,057,477	106	26,210	26,315
May 3, 2022	Retirement of treasury shares[1]	(3,239,741)	(324)	-	(324)
May 24, 2022	Exercise of share options	734,355	73	29,751	29,825
June 23, 2022	Exercise of share options	125,794	13	5,603	5,616
July 25, 2022	Exercise of share options	201,335	20	8,409	8,430
August 24, 2022	Exercise of share options	161,556	16	5,983	5,999
September 21, 2022	Exercise of share options	10,479	1	515	516
October 24, 2022	Exercise of share options	14,327	1	539	541
November 22, 2022	Exercise of share options	74,399	7	2,958	2,965
December 22, 2022	Exercise of share options	13,302	1	579	580
December 31, 2022	Ending balance	445,923,689	₩ 44,592	₩ 5,797,092	₩ 5,841,684
January 1, 2023	Beginning balance	445,923,689	₩ 44,592	₩ 5,797,092	₩ 5,841,684
January 19, 2023	Exercise of share options	90,536	9	2,928	2,938
February 21, 2023	Exercise of share options	74,203	7	2,097	2,105
March 23, 2023	Exercise of share options	68,319	7	2,129	2,135
April 25, 2023	Exercise of share options	184,381	18	4,572	4,590
May 3, 2023	Retirement of treasury shares[1]	(1,897,441)	(190)	-	(190)
May 23, 2023	Exercise of share options	160,519	16	6,458	6,474
June 21, 2023	Exercise of share options	159,084	16	3,714	3,730
July 25, 2023	Exercise of share options	87,800	9	3,093	3,102

(in millions of Korean won, except number of shares) Date	Description	Number of ordinary shares *(in shares)*	Share capital	Share premium	Total
August 23, 2023	Exercise of share options	69,942	7	2,607	2,614
September 21, 2023	Exercise of share options	64,412	6	2,474	2,480
October 25, 2023	Exercise of share options	10,526	1	387	388
November 22, 2023	Exercise of share options	253,190	25	8,561	8,586
December 21, 2023	Exercise of share options	100,718	10	4,425	4,435
December 31, 2023	Ending balance	445,349,878	₩ 44,535	₩ 5,840,538	₩ 5,885,073

[1] During 2023 and 2022, retired treasury shares held by the Parent Company and recognized the difference between the acquisition price and the par value as loss from capital reduction.

As at December 31, 2023, the number of treasury shares held by the Parent Company is 6,643,783 shares.

28. Share-based Compensations

Details of the share options as at December 31, 2023, are as follows:

(a) Share-based compensation transactions with cash alternatives

Grant method: Issuance of new ordinary shares, treasury shares or payment of cash. The Group will determine in its discretion grant method at the time of exercise and accounted as equity-settled share option based on the assumption that it will be granted based on the issuance of new shares or grant of treasury shares in the future.

- Vesting condition and exercisable period:

	Description
18th, 21st, 22nd, 24th, 41st tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
19th, 25th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 150% of exercise price. If the

	average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.
27th, 31st, 32nd tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to seven years from grant date exceeds 150% of exercise price. If the average price of the shares calculated at the end of each month within two years to seven years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.
28th, 30th, 35th, 36th, 37th, 38th, 42nd, 43rd, 44th, 45th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

(b) Equity-settled share option

- Type of shares issued through exercise of share option: Registered ordinary shares.
- Grant method: Issuance of new ordinary shares, treasury shares.
- Vesting condition and exercisable period:

	Description
33rd, 48th, 49th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
34th, 46th, 47th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.
50th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 100% of granted quantity.

(c) Cash-settled share option

- Vesting condition and exercisable period:

	Description
5th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
7th, 9th,10th tranches	The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

(d) Grant of treasury shares

- Vesting condition and exercisable period:

	Grant date	Description
2nd tranches	October 1, 2021	Treasury shares granted under individual conditions will be given only to those who have served as an employee from the date of grant until the date of payment under individual conditions.
3rd tranches	November 3, 2021	30% of shares are granted on the initial grant date. 30% of shares are granted at one year after the initial grant date. 40% of shares are granted at two years after the initial grant date. However, if the requisite service period (one year after each grant date) is not met, cash equivalent to the amount paid must be returned.

In addition to the aforementioned equity-settled share options, the Group granted equity-settled share options in relation to the shares of its subsidiaries such as KAKAO BRAIN Corp., Kakao Games Corp., XLGAMES Inc., Lionheart Studio Corp., Sena Technologies Co., Ltd., Kakao VX, METABORA Co., Ltd., Ocean Drive Studio Corp., Groud X Corp., Kakao Enterprise Corp., Kakao Piccoma Corp., Kakao Mobility Corp., Kakao healthcare Corp., Kakaopay Corp., SM Culture & Contents Co., Ltd., HANEUL DAMDA CO., LTD., DREAMMAKER Entertainment Ltd., KEYEAST Co., Ltd., Stream Media Corporation, Beyond Live Corporation, SM BRAND MARKETING Co., LTD., Kakao Entertainment Corp., SamyangCNC Co.,Ltd, KW Books, Inc., TAPAS ENTERTAINMENT, INC., STARSHIP ENTERTAINMENT CORP., Kross Pictures Corp., EDAM Entertainment Corp., Daon Creative inc. and KM parking and space Corp.

Details of the Parent Company's share-based comensation transactions with cash alternatives and equity-settled share options outstanding as at December 31, 2023, are as follows:

(In Korean won, except number of shares)

			Number of shares (in shares)						
Tranche	Grant date[3]	Exercise price *(in Korean won)*	Outstanding as at January 1, 2023	Granted	Forfeited	Exercised	Adjusting quantities for treasury shares retirements[1]	Outstanding as at December 31, 2023[2]	Exercisable as at December 31, 2023
18th	March 2, 2017	₩ 17,267	84,919	-	-	47,737	359	36,823	36,823
19th	March 2, 2017	17,267	337,538	-	-	297,754	676	39,108	39,108
21th	May 2, 2017	17,925	77,459	-	-	28,848	293	48,318	48,318
22th	September 28, 2017	26,604	17,037	-	-	7,282	60	9,695	7,853
24th	August 31, 2018	24,962	287,035	-	-	70,186	1,182	215,667	202,447
25th	August 31, 2018	24,962	74,477	-	-	42,712	241	31,524	31,524
27th	May 16, 2019	25,168	62,000	-	-	8,000	230	53,770	53,770
28th	May 16, 2019	25,168	983,421	-	-	353,539	3,936	625,946	583,047
30th	May 6, 2020	35,011	2,753,016	-	23,224	262,689	11,669	2,455,434	1,190,640
31th	May 6, 2020	35,011	660,571	-	-	106,134	2,763	551,674	519,416
32th	September 24, 2020	76,109	49,637	-	-	-	212	49,425	-
33th	May 4, 2021	115,361	395,703	-	14,086	-	2,106	379,511	182,201
34th	September 1, 2021	152,022	99,274	-	49,425	-	424	49,425	14,827
35th	March 22, 2019	28,243	233,201	-	-	78,251	886	154,064	146,741
36th	July 2, 2019	28,243	7,546	-	-	6,515	33	998	998
37th	October 17, 2019	28,243	15,867	-	-	6,339	67	9,461	9,461
38th	November 15, 2019	28,243	13,029	-	587	7,553	41	4,848	4,848
41th	September 3, 2018	58,628	2,504	-	-	91	12	2,401	2,401
42th	May 9, 2019	62,721	5,442	-	404	-	26	5,012	5,012
43th	November 15, 2019	64,642	18,392	-	808	-	83	17,501	17,271
44th	June 23, 2020	75,528	58,958	-	5,076	-	283	53,599	32,112
45th	March 5, 2021	225,216	10,226	-	879	-	47	9,300	2,788
46th	November 3, 2021	125,619	482,036	-	149,073	-	2,028	330,935	99,263
47th	December 15, 2021	124,851	319,930	-	26,968	-	1,429	291,533	76,658
48th	March 29, 2022	102,393	534,402	-	20,778	-	2,924	510,700	-
49th	March 28, 2023	62,174	-	667,700	22,184	-	3,538	641,978	-
50th	March 28, 2023	62,174	-	50,000	-	-	213	49,787	-
			7,583,620	717,700	313,492	1,323,630	35,761	6,628,437	3,307,527

[1] During 2023, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.
[2] Outstanding shares include the number of spun-off movers (138,229 shares of Kakao Entertainment Corp.).
[3] It is prepared based on the initial grant date for the 35th~45th, tranches, which were succeeded from the merger with Kakao Commerce Co., Ltd.

Compensation costs of the Parent Company's share-based compensation transactions with cash alternatives and equity-settled share options are calculated by applying a fair value approach using Binomial model and LSMC (Least Square Monte-Carlo) model. The related assumptions are as follows:

Tranche	Fair value of option at grant date[2] (in Korean won)	Weighted average share price at grant date (in Korean won)	Price volatility	Dividend yield	Expected option life	Risk-free interest rate
18th	₩ 3,052	₩ 17,060	11%	0.00%	2~3 years	2.14%
19th	1,759	17,060	11%	0.17%	2~3 years	2.14%
21th	3,876	18,520	11%	0.16%	2~3 years	2.13%
22th	6,274	27,900	11%	0.11%	2~3 years	2.30%
24th	5,517	25,000	14%	0.12%	2~3 years	2.25%
25th	1,071	25,000	14%	0.12%	2~3 years	2.25%
27th	2,174	26,700	12%	0.10%	2~4 years	1.80%
28th	6,070	26,700	12%	0.10%	2~4 years	1.80%
30th	16,882	39,900	33%	0.06%	2~4 years	1.40%
31th	8,499	39,900	33%	0.06%	2~4 years	1.40%
32th	10,120	70,400	36%	0.04%	2~4 years	1.28%
33th	50,904	115,500	38%	0.03%	2~3 years	1.99%
34th	63,011	150,400	35%	0.02%	2~4 years	1.86%
35th[1]	6,143	27,917	15%	0.00%	2~4 years	1.91%
36th[1]	5,775	27,921	15%	0.00%	2~4 years	1.57%
37th[1]	5,759	27,921	15%	0.00%	2~4 years	1.55%
38th[1]	5,929	27,921	15%	0.00%	2~4 years	1.72%
41th[1]	12,978	56,945	16%	0.00%	2~3 years	2.24%
42th[1]	22,311	62,018	30%	0.00%	2~4 years	1.82%
43th[1]	26,787	63,912	37%	0.00%	2~4 years	1.72%
44th[1]	16,859	74,669	18%	0.00%	2~4 years	1.24%
45th[1]	55,644	222,634	19%	0.00%	2~4 years	1.70%
46th	54,761	124,500	38%	0.02%	2~4 years	2.41%
47th	49,400	118,500	37%	0.03%	2~4 years	2.14%
48th	49,477	105,500	38%	0.03%	2~3 years	2.94%
49th	29,259	60,700	42%	0.09%	2~3 years	3.29%
50th	29,229	60,700	42%	0.09%	2 years	3.29%

[1] For the 35th~45th, tranches, which were succeeded from the merger with Kakao Commerce Corp., the fair value and the weighted average share price are adjusted by the ratio agreed upon at the time

of the merger.

[2] During 2023, the fair value was adjusted for the retirement of treasury shares.

Details of the Parent Company's cash-settled share options outstanding as at December 31, 2023, are as follows:

(In Korean won, except number of shares)			Number of shares (in shares)						
Tranche	Grant date	Exercise price *(in Korean won)*	Outstanding as at January 1, 2023	Granted	Forfeited	Exercised	Adjusting quantities for treasury shares retirements[1]	Outstanding as at December 31, 2023	Exercisable as at December 31, 2023
5th	August 31, 2018	₩ 24,962	9,927	-	-	-	43	9,884	9,884
7th	May 16, 2019	25,168	5,957	-	-	-	26	5,931	5,931
9th	September 1, 2021	152,022	24,818	-	-	-	106	24,712	7,413
10th	October 13, 2022	58,087	110,000	-	-	-	469	109,531	-
			150,702	-	-	-	644	150,058	23,228

[1] During 2023, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

In addition to the aforementioned cash-settled share options, the Group granted cash-settled share options in relation to the shares of its subsidiaries such as Kakao Entertainment Corp., Kakaopay Corp. and Kakaopay Securities Corp.

The fair value of the Group's cash-settled share options was determined using Binomial model and LSMC (Least Square Monte- Carlo) option pricing model. The related assumptions are as follows:

Tranche	Fair value of option at the evaluation date *(in Korean won)*	Share price at the evaluation date *(in Korean won)*	Price volatility	Dividend yield	Expected option life	Risk-free interest rate
5th	₩ 29,871	₩ 54,300	34%	0.11%	2~3 years	3.22%
7th	29,851	54,300	34%	0.11%	2~4 years	3.16%
9th	2,346	54,300	34%	0.11%	2~4 years	3.16%
10th	14,223	54,300	34%	0.11%	2~4 years	3.15%

Details of the Parent Company's share options of granted treasury shares outstanding as at December 31, 2023, are as follows:

(In Korean won, except number of shares)

Tranche	Grant date	Disclosure date for sale	Closing price at grant date *(in Korean won)*	Number of shares (in shares)					
				Outstanding as at January 1, 2023	Granted	Forfeited	Exercised	Adjusting quantities for treasury shares retirements[1]	Outstanding as at December 31, 20223[2]
2nd	October 1, 2021	December 15, 2021	116,500	217,774	-	14,049	128,958	406	74,361
3rd	November 3, 2021	November 3, 2021	124,500	98,501	-	1,152	41,893	504	54,952
				316,275	-	15,201	170,851	910	129,313

[1] During 2023, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

Share-based compensation recognized as expenses for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	2023	2022
Share-based compensation transactions with cash alternatives and equity-settled share option	₩ 74,869	₩ 126,897
Cash-settled share option	955	(860)
Grant of treasury shares	8,416	32,527
	₩ 84,240	₩ 158,565

29. Other Components of Equity

Other components of equity as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Treasury shares	₩	(1,034)	₩	(1,034)
Loss from capital reduction		(127,921)		(80,996)
Share options		141,955		128,491
Other capital adjustments		(5,430)		(5,430)
	₩	7,571	₩	41,031

As at December 31, 2023, the Group holds 6,643,783 treasury shares for the purpose of stabilizing share prices and enhancing shareholder value, and the amount is accounted for as other components of equity.

30. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) as at December 31, 2023 and 2022, consists of:

(in millions of Korean won)		2023		2022
Foreign currency translation adjustments, net of tax	₩	45,457	₩	66,035
Share of other comprehensive income (loss) of associates, net of tax		8,965		(20,172)
Losses on valuation of equity instruments at fair value through other comprehensive income		(1,069,118)		(1,278,872)
Net financial gain on insurance contract assets (liabilities) through other comprehensive income		-		-
Remeasurement of defined benefit obligation, net of tax		(35,718)		(16,657)
	₩	(1,050,415)	₩	(1,249,666)

Changes in accumulated other comprehensive income (loss) for the years ended December 31, 2023 and 2022, are as follows, and the changes in the table represents amount net of tax.

(in millions of Korean won)	2023			
	Beginning balance	**Increase (Decrease)**	**Reclassification to retained earnings**	**Ending balance**
Foreign currency translation adjustments, net of tax	₩ 66,035	₩ (20,578)	₩ -	₩ 45,457
Share of other comprehensive income (loss) of associates, net of tax	(20,172)	29,136	-	8,965
Gains (losses) on valuation of equity instruments at fair value through other comprehensive income	(1,278,872)	138,269	71,485	(1,069,118)
Net financial gain on insurance contract assets (liabilities) through other comprehensive income	-	-	-	-
Remeasurement of defined benefit obligation, net of tax	(16,657)	(18,631)	(430)	(35,718)
	₩ (1,249,666)	₩ 128,197	₩ 71,055	₩ (1,050,415)

(in millions of Korean won)	2022			
	Beginning balance	**Increase (Decrease)**	**Reclassification to retained earnings**	**Ending balance**
Foreign currency translation adjustments, net of tax	₩ 36,333	₩ 29,702	₩ -	₩ 66,035
Share of other comprehensive income (loss) of associates, net of tax	12,688	(32,859)	-	(20,172)
Gains (losses) on valuation of equity instruments at fair value through other comprehensive income	338,075	(1,615,956)	(991)	(1,278,872)
Remeasurement of defined benefit obligation, net of tax	(15,271)	(1,381)	(5)	(16,657)
	₩ 371,825	₩ (1,620,495)	₩ (996)	₩ (1,249,666)

31. Retained Earnings

Retained earnings as at December 31, 2023 and 2022, consist of:

(in millions of Korean won)		2023		2022
Legal reserves[1]	₩	20,603	₩	17,983
Other reserve		5		200
Unappropriated retained earnings		1,901,528		3,013,205
	₩	1,922,137	₩	3,031,388

[1] The Commercial Code of the Republic of Korea requires the Parent Company to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment but may be transferred to share capital or used to reduce accumulated deficit.

32. Operating Expenses

Operating expenses for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Salaries	₩	1,382,857	₩	1,214,658
Post-employment benefits		106,148		86,032
Share-based compensation		84,240		158,565
Employee benefits		252,166		219,683
Travel and transportation expense		30,087		18,394
Taxes and dues		30,783		21,732
Rental expenses		41,653		25,576
Commission expenses		834,863		684,389
Sales-related expenses		2,492,915		2,170,934
Cost of goods sold		493,281		483,433
Advertising expenses		399,885		410,098
Depreciation		478,459		365,798
Amortization		271,424		203,766
Bad debt expenses		1,040		10,795
Expenses for events		5,961		7,097
Others		190,382		148,400
	₩	7,096,144	₩	6,229,351

33. Other Non-operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Other non-operating income				
Gains on sales of property and equipment	₩	3,919	₩	8,091
Gains on sales of intangible assets		3,232		90,938
Gains on sales of investments in associates[1]		109,714		1,701,991
Gain on sales of investments in joint ventures		-		30
Gains on sales of investments in subsidiaries		21,133		163,539
Gains on foreign currency transactions		9,742		6,989
Gains on foreign currency translation		1,529		1,784
Miscellaneous income		38,864		37,916
Rent income		262		174
Reversal of impairment losses on investments in associates		263		2
Reversal of provision for restoration		1,137		430
Government grant income		80		292
Reversal of other provision		1,023		-
Gains on change in lease		646		247
Gain on debt forgiveness		-		303
Reversal of other allowance for doubtful account		653		803
Others		129		-
	₩	192,325	₩	2,013,527
Other non-operating expenses				
Losses on sales of property and equipment	₩	4,963	₩	27,525
Losses on sales of intangible assets		18,821		43,445
Losses on abandonment of property and equipment, and intangible assets		4,236		3,078
Impairment losses on property and equipment		3,036		871
Impairment losses on intangible assets		1,882,210		735,708
Impairment losses on investments in associates		249,970		173,740
Losses on sales of investments in associates		15,430		24,322
Losses on sales of investments in subsidiaries		4,986		6,531
Donations		30,853		24,822
Commission expenses		39,559		13,306
Losses on foreign currency transactions		13,614		9,536
Losses on foreign currency translation		2,213		1,441
Miscellaneous losses		22,816		45,443
Losses on change in lease		45		2

Other bad debt expenses		21,598		1,675
Increase of other provision		73		-
Others		-		14
	₩	2,314,424	₩	1,111,461

[1]During the year ended December 31, 2022, the Group lost significant influence on Dunamu Inc. and reclassified its shares as financial assets measured by fair value through other comprehensive income, including about ₩1,532.6 billion in difference between the existing carrying amount and the fair value at the time of reclassification.

34. Finance Income and Costs

Finance income and costs for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		**2023**		**2022**
Finance income				
Interest income	₩	190,163	₩	122,729
Dividend income		29,580		56,214
Gain on valuation of derivatives		19,747		4,697
Gain on transaction of derivatives		68		47
Gain on valuation of financial assets at fair value through profit or loss		38,108		68,503
Gain on valuation of financial liabilities at fair value through profit or loss		183		2,676
Gain on sales of financial assets at fair value through profit or loss		31,570		5,863
Gain on sales of financial assets at fair value through other comprehensive income		-		14,150
Gain on foreign currency transactions		2,476		9,378
Gain on foreign currency translation		4,398		48,256
Fund finance income		1,143		10,237
Other finance income		-		20
	₩	317,437	₩	342,770
Finance costs				
Interest expense	₩	162,778	₩	109,871
Losses on valuation of derivatives		6,623		27,490
Loss on transaction of derivatives		-		152
Loss on foreign currency transactions		4,529		70,439
Loss on foreign currency translation		1,860		11,294
Loss on valuation of financial assets at fair value through profit or loss		107,836		33,057
Loss on sales of financial assets at fair value through profit or loss		3,858		10,108

Loss on sales of financial liabilities at fair value through profit or loss	-	211,173
Loss on sales of financial assets at fair value through other comprehensive income	-	3,741
Loss on repayment of debentures	-	1,167
Fund finance costs	19,242	3,820
Other finance costs	1,670	5,349
	₩ 308,396	₩ 487,663

35. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to equity holders of the Parent Company by the weighted average shares outstanding during the financial year excluding treasury shares.

Basic earnings per share for the years ended December 31, 2023 and 2022, is calculated as follows:

(in millions of Korean won)	2023	2022
Profit (loss) attributable to the ordinary equity holders of the Parent Company	₩ (1,012,551)	₩ 1,358,017
Weighted average shares *(in shares)*	437,420,901 shares	435,564,814 shares
Basic earnings (losses) per share *(in Korean won)*	₩ (2,315)	₩ 3,118

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. The Parent Company has share options, exchangeable bonds and convertible bonds as dilutive potential ordinary shares. For the share options, a calculation is done to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of the Parent Company's shares) based on the monetary value of the subscription rights attached to outstanding share options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the share options are exercised.

The exchangeable bonds before the redemption date are assumed to have been converted into ordinary shares, and the net profit is adjusted to eliminate the interest expense less the tax effect.

Diluted earnings per share for the years ended December 31, 2023 and 2022, is calculated as follows:

(in millions of Korean won, except number of shares and per share data)		**2023**		**2022**
Profit (loss) attributable to ordinary equity holders of the Parent Company	₩	(1,012,551)	₩	1,358,017
Interest expense on exchangeable bonds (net of tax)		-		1,377
Adjustment of net profit to consider potential ordinary shares		-		(2,181)
		(1,012,551)		1,357,212
(in shares)				
Weighted average shares in issue		437,420,901		435,564,814
Adjustment for:				
Share options		-		4,171,404
Exchangeable bonds		-		2,895,724
Weighted average number of diluted potential ordinary shares		-		7,067,128
Weighted average shares for diluted earnings per share		437,420,901		442,631,942
(in Korean won)				
Diluted earnings per share[1]	₩	(2,315)	₩	3,066

Anti-dilutive effect occurs during the year ended December 31, 2023. Therefore, basic earnings per share is identical to diluted earnings per share.

36. Dividends

Dividends paid by the Parent Company for the years ended December 31, 2023 and 2022, are ₩ 26,202 million (₩ 60 per share) and ₩ 22,990 million (₩ 53 per share), respectively.

A dividend in respect of the year ended December 31, 2023, of ₩ 61 per share, amounting to a total dividend of ₩ 26,740 million, is to be proposed to shareholders at the annual general meeting on March 28, 2024. These financial statements do not reflect this dividend payable.

37. Cash Generated from Operations

Details of cash generated from operations for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023		2022
Profit (loss) before income tax	₩	(1,648,240)	₩	1,268,935
Adjustments for:				
Bad debt expense		1,040		10,795
Depreciation		489,231		377,665
Amortization		271,424		203,766
Impairment losses on intangible assets		1,882,210		735,706
Impairment losses on property and equipment		3,036		871
Losses on sales of property and equipment		443		19,191
Losses on abandonment of property and equipment		4,235		3,078
Loss (gain) on disposal of intangible assets		15,589		(47,493)
Post-employment benefits		81,125		74,029
Share-based compensation		84,240		158,742
Interest income		(199,369)		(134,950)
Interest expense		174,192		111,327
Dividend income		(29,585)		(56,215)
Loss (profit) of associates and joint ventures accounted for using equity method		(3,960)		57,629
Losses on sales of investments in associates		15,430		24,322
Gains on sales of investments in associates		(109,714)		(1,702,021)
Gains on sales of investments in subsidiaries		(21,133)		(163,539)
Losses on sales of investments in subsidiaries		4,986		6,531
Impairment losses on investments in associates		249,707		173,740
Gains on sales of financial assets at fair value through profit or loss		(31,570)		(5,863)
Losses on sales of financial assets at fair value through profit or loss		3,858		10,108
Gains on valuation of financial assets at fair value through profit or loss		(41,151)		(69,817)
Losses on valuation of financial assets at fair value through profit or loss		107,840		33,095
Gains on valuation of financial liabilities at fair value through profit or loss		(183)		(2,676)
Loss on sales of financial liabilities at fair value through profit or loss		-		211,173
Gain on sales of financial assets at fair value through other comprehensive income		-		(14,150)
Loss on sales of financial assets at fair value through other comprehensive income		-		3,741
Gains on valuation of derivatives		(19,747)		(4,697)

Losses on valuation of derivatives	6,623	27,490
Gains on transaction of derivatives	(68)	(47)
Loss on transaction of derivatives	-	152
Other bad debt expenses	20,944	872
Other long-term employee benefits	25,530	23,977
Gains on foreign exchange translations	(7,173)	(53,324)
Losses on foreign exchange translations	4,794	13,760
Losses on abandonment of inventories	552	429
Others	17,444	99,069
Changes in operating assets and liabilities		
Trade receivables	(108,007)	(69,034)
Inventories	43,477	(73,437)
Other current financial assets	(61,347)	(94,915)
Other current assets	(78,818)	(81,391)
Other non-current financial assets	(938)	5,906
Other non-current assets	9,121	11,892
Trade and other payables	363,809	64,245
Other current liabilities	73,620	(38,837)
Other current financial liabilities and deposits received	76,231	(20,324)
Other non-current liabilities	(3,293)	9,494
Other non-current financial liabilities	(67)	(14,250)
Net defined benefit liabilities	(98,108)	(121,094)
Other long-term employee benefits liabilities	(6,077)	(2,957)
Other financial assets (financial services business)	(327,684)	181,466
Other assets (financial services business)	34	(185)
Deposits received (financial services business)	320,029	(204,853)
Net defined benefit liabilities (financial services business)	(4,253)	(1,881)
Other financial liabilities (financial services business)	53,743	(11,199)
Other liabilities (financial services business)	895	(6,584)
Others	(4,413)	7,765
Cash generated from operations	₩ 1,600,533	₩ 935,230

Significant transactions not affecting cash flows for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Provision for restoration to specific property and equipment account	₩ 4,566	₩ 4,253
Write-offs of trade receivables	912	1,107
Increase in non-trade payables related to acquisition of property and equipment	19,012	20,742

Decrease in non-trade receivables related to sales of property and equipment	(7,624)	(524)
Increase (decrease) in non-trade payables related to sales of intangible assets	(4,871)	212
Transfer from advanced payments and long-term advanced payments to property and equipment	1,049	7,413
Transfer from advanced payments and long-term advanced payments to intangible assets	11,692	169,319
Conversion of convertible bonds	-	36,410
Conversion of redeemable convertible preferred shares	-	5,290
Transfer to current portion of long-term borrowings	563,852	53,057
Increase in non-trade payables related to payment of lease liabilities	3,191	22,739
Transfer from investments in associates to financial assets at fair value through other comprehensive income[1]	88	524,083
Transfer from investments in associates to investments in subsidiaries	53,909	-

[1] During 2022, reclassified the shares of Dunamu Inc. as financial assets at fair value through other comprehensive income due to losing significant influence.

Changes in liabilities arising from financial activities for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**Liabilities from financing activities**			
	Short-term borrowings	**Long-term borrowings**	**Lease liabilities**	**Total**
At January 1, 2022	₩ (1,258,828)	₩ (553,054)	₩ (1,497,952)	₩ (3,309,834)
Acquisitions – leases	-	-	(672,172)	(672,172)
Disposal – lease	-	-	33,003	33,003
Cash flows	296,089	(709,091)	187,776	(225,227)
Exchange differences	(68,727)	2,556	14,994	(51,176)
Change in scope of consolidation	(12,882)	(6,400)	106,556	87,275
Transfer from/to current portion	(53,057)	53,057	-	-
Unwind of discount	(4,391)	(861)	(62,339)	(67,592)
Conversion to ordinary shares	5,290	36,410	-	41,699
Others	(379)	1,204	-	825
At December 31, 2022	₩ (1,096,884)	₩ (1,176,181)	₩ (1,890,134)	₩ (4,163,200)
At January 1, 2023	₩ (1,096,884)	₩ (1,176,181)	₩ (1,890,134)	₩ (4,163,200)
Acquisitions – leases	-	-	(265,307)	(265,307)
Disposal – lease	-	-	23,497	23,497
Cash flows	58,658	(198,988)	290,259	149,930
Exchange differences	(1,596)	(33,973)	3,374	(32,195)
Change in scope of consolidation	(19,256)	(42)	(104,092)	(123,390)
Transfer from/to current	(563,852)	563,852	-	-

portion				
Unwind of discount	(3,382)	(297)	(74,781)	(78,460)
Others	(3,140)	-	-	(3,140)
At December 31, 2023	₩ (1,629,452)	₩ (845,628)	₩ (2,017,185)	₩ (4,492,265)

38. Commitments and Contingencies

The Group has provided the following guarantees as at December 31, 2023 and 2022:

(in millions of Korean won)		Amount	
Beneficiary	**Guarantor**	**2023**	**Guaranteed item**
Employees[1]	Shinhan Bank	₩ 3,080	Employee loans
Customers[2]	Korea Investment Savings Bank, etc.	62,000	Guarantee for sales instalment
		₩ 65,080	

[1] The Group provided its employees payment guarantee with banks for the employees' bank loans related to their welfare and the Group's deposits of ₩ 33,388 million are pledged as collateral.
[2] Debt guarantee provided for the customer's instalment amount for financial institutions among the purchase amounts. In relation to such debt guarantee financial instruments of ₩ 12,539 million of the Group are provided as collateral.

(in millions of Korean won)		Amount	
Beneficiary	**Guarantor**	**2022**	**Guaranteed item**
Employees[1]	Shinhan Bank	₩ 5,552	Employee loans
Customers[2]	Korea Investment Savings Bank, etc.	52,000	Guarantee for sales instalment
Kakao Games Europe B.V.	Hana Bank, etc.	729,648	Guarantee for loan payments
		₩ 787,200	

[1] The Group provided its employees payment guarantee with banks for the employees' bank loans related to their welfare and the Group's deposits of ₩ 6,107 million are pledged as collateral.
[2] Debt guarantee provided for the customer's instalment amount for financial institutions among the purchase amounts. In relation to such debt guarantee financial instruments of ₩ 15,490 million of the Group are provided as collateral.

The Group has been provided the following guarantees by others as at December 31, 2023 and 2022:

(in millions of Korean won)		Amount		
Guarantor	**Details**	**2023**	**2022**	**Beneficiary**
Seoul Guarantee Insurance and others	Performance guarantee and others	₩ 323,897	₩ 177,759	Korea Financial Telecommunications & Clearings Institute, Korea Workers' Compensation & Welfare Service, etc.

Executive of subsidiaries[1]	Guarantee for borrowings and others	4,833	11,225	Korea Development Bank, etc.
Seoul Guarantee Insurance and others	Guarantee for payment of construction	371,910	918	Kakao Space Corp., etc.
		₩ 700,640	₩ 189,902	

[1] It includes amounts guaranteed by CEO and executives of subsidiaries.

As at December 31, 2023, the Group is involved in 54 lawsuits amounting to ₩ 106,101 million as a defendant or co-defendant. The Group recognizes related liabilities when it is highly probable that there will be an outflow of resources embodying economic benefits in order to fulfil obligations pursuant to law. The Group does not expect that these cases would have a material impact on its consolidated financial statements.

The Group's agreements with financial institutions and commitments as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)		2023	
Financial Institution	**Agreements**	**Maximum limit**	**Amount executed**
Kookmin Bank	Facility loans	₩ 5,000	₩ -
Kookmin Bank	Short-term borrowings	15,000	-
Kookmin Bank	Loans for operation capital	180,500	175,000
Kookmin Bank	Long-term borrowings	189,736	189,736
Kookmin Bank	Limit loan agreement	22,000	-
Kookmin Bank	Limit loans for operation capital	100,000	-
Korea Development Bank	Limit loan agreement	40,000	-
Volksbank	Short-term borrowings	357	357
Volksbank	Long-term borrowings	1,422	535
Industrial Bank of Korea	Short-term borrowings	500	500
Industrial Bank of Korea	Loans for small and medium-sized businesses	100	-
Industrial Bank of Korea	Limit loan agreement	201	-
NongHyup Bank	General loans	2,000	-
NongHyup Bank	Limit loan agreement	7,000	-
Korea Development Bank	Loans for operation capital	74,000	74,000
Shinhan Bank	Short-term borrowings	3,000	3,000
Shinhan Bank	Loans for operation capital	180,000	100,000

Shinhan Bank	Long-term borrowings	221,179	221,179
Shinhan Bank	Limit loan agreement	29,000	-
Shinhan Bank	Limit loans for operation capital	250,100	250,000
Shinhan Bank	General loans	85	85
Woori Bank	Loans for operation capital	35,000	35,000
Woori Bank	Long-term borrowings	102,249	93,504
Woori Bank	Limit loan agreement	1,240	-
Hana Bank	Loans for enterprise operating general fund	11,000	-
Hana Bank	Loans for operation capital	160,000	60,000
Hana Bank[1]	Loans for daily transactions	3,000	-
Hana Bank	Long-term borrowings	239,736	239,736
Hana Bank	Receivables secured loans	5,050	-
Korea Securities Finance Corp	Retail Banking loans	50,000	-
Korea Securities Finance Corp	Loans for acquisition	80,000	-
Korea Securities Finance Corp	Loans for daily transactions	30,000	-
Hanmi Bank	Short-term borrowings	6,724	-
Korea SMEs and Startups Agency	Office secured loans	1,137	1,137
Korea SMEs and Startups Agency	Long-term borrowings	975	17
Korea SMEs and Startups Agency	Limit loan agreement	58	-
Korea SMEs and Startups Agency	Current portion of long-term borrowings	33	33
The Export-Import Bank of Korea	Limit loan agreement	50,000	35,000
Citibank Korea Inc.	Loans for operation capital	50,000	50,000
KB Securities	Long-term borrowings	50,000	50,000
Hanmi Bank	Limit loan agreement	6,724	1,817
Sumitomo Mitsui Banking Corporation	Short-term borrowings	913	456
Shinhan Bank	Commercial paper	80,000	80,000
KB Securities	Commercial paper	155,000	155,000
SAMSUNG SECURITIES CO.,LTD	Commercial paper	30,000	30,000

[1] ₩ 4,000 million of time deposit and ₩ 2,000 million of MMT (Korea Securities Finance Corp) is held as collateral with respect to the agreement.

(in millions of Korean won)

Financial Institution	Agreements	2022 Maximum limit	2022 Amount executed
Kookmin Bank	Facility loans	₩ 4,000	₩ 1,000
Kookmin Bank	Short-term borrowings	15,000	15,000
Kookmin Bank	Loans for operation capital	80,000	15,800
Kookmin Bank	Limit loan agreement	22,000	-
Kookmin Bank	Limit loans for operation capital	10,000	-
Korea Development Bank	Limit loan agreement	40,000	-
Volksbank	Long-term borrowings	1,351	1,182
Industrial Bank of Korea	KOSME Loan Agreement	100	-
Industrial Bank of Korea	Long-term borrowings	500	500
NongHyup Bank	General Business Loans	2,000	2,000
NongHyup Bank	Limit loan agreement	4,000	-
Korea Development Bank	Loans for operation capital	3,000	2,600
Shinhan Bank	Loans for operation capital	36,000	8,300
Shinhan Bank	General loans	2,400	2,400
Shinhan Bank	Limit loan agreement	29,000	-
Shinhan Bank	Limit loans for operation capital	200,100	-
Shinhan Bank	Long-term borrowings	560	560
Woori Bank	KOSME Loan Agreement	19	19
Hana Bank[1]	Loans for enterprise operating general fund	11,000	11,000
Hana Bank	Receivables secured loans	40	-
Hana Bank	Loans for daily transactions	3,000	-
Korea Securities Finance Corp	Retail Banking loans	50,000	-
Korea Securities Finance Corp	Loans for acquisition	80,000	-
Korea Securities Finance Corp	Loans for daily transactions	30,000	-
Hanmi Bank	Short-term borrowings	6,337	5,449
Korea SMEs and Startups Agency	Long-term borrowings	1,300	1,300
Ryan Mobility 1st Co.	Limit loan agreement	50,000	50,000
NongHyup Bank	Limit loan agreement	6,000	6,000

[1] ₩ 4,000 million of time deposit and ₩ 2,000 million of MMT (Korea Securities Finance Corp) is held as collateral with respect to the agreement.

In accordance with the shareholder agreements in in relation to Kakaopay Corp., a subsidiary, if there are difficulties in management and operation of Kakaopay Corp. due to changes in governance structure, the non-controlling interest investors of the subsidiary may request the Group to purchase those shares at fair value for a period of time described in the agreements. Management of the Group believes that the Group can control prerequisites for investors to claim the purchase and therefore, as at December 31, 2023, the Group believes that the possibility for non-controlling interest investors to exercise the put option is remote.

In accordance with the agreements with non-controlling interests of some subsidiaries including Kakao Entertainment Corp., the Group is required to obtain a consent from investors, when the Group intends to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer or other methods to third party other than stipulated manners in the agreements such as exercise of tagalong right.

Financial instruments restricted as at December 31, 2023 and 2022:

(in millions of Korean won)		**2023**		**2022**	
Cash and cash equivalents	₩	5,723	₩	395	Restrictions on withdrawals related to customer complaints
Short-term financial instruments and others		8,000		8,000	Withdrawal restriction in relation to firm banking[1]
		1,550		1,880	Pledged as collateral for Shinhan Card and etc.[2]
		8,541		-	Pledged as collateral and guarantees for a contract
		1,407		1,407	Payment guarantee for office lease
		3,100		3,200	Pledged as collateral for a franchise contract
		1,810		500	Pledged as collateral for loan services
		2		2	Deposits for opening checking accounts and others
		5,450		11,000	Providing collateral for stock option loans
		30,000		50,000	Providing collateral for a shareholder association loan
		3,388		297	Payment guarantee for employee's loan
Long-term financial instruments and others		-		6,107	Payment guarantee for employee's loan
		15		15	Deposits
Deposits and financial assets at fair value through profit or loss		4,000		4,000	Provision of collateral for Hana Bank overdraft
		13,325		33,103	Separate investment deposit (ordinary deposit)[3]
		3,000		2,000	Market derivative instrument transaction deposit
		2		2	Deposits for opening checking accounts and others
		3,510		2,510	Deposit for security transactions for Korea Exchange Market
		674,177		395,127	Separate investment deposit (financial asset)[3]
	₩	767,000	₩	519,545	

[1] The withdrawal is restricted in relation to the firm banking contract with DGB Daegu Bank and Industrial Bank of Korea.
[2] Pledged as collateral in relation to covering expected loss incurred to credit card companies about business cooperation agreements with Shinhan Card and other credit card companies for 'Automated Payment via Kakao Pay'.
[3] Deposited separately at Korea Securities Finance Corp. to meet the customer's requests such as return of investment deposit under Section 4 of Article 74 of Financial Investment Services and Capital Markets Act. It cannot be transferred or provided as collateral and cannot be offset or seized by anyone.

The following assets are pledged as collateral in relation to guarantees for contract fulfilment and borrowings as at December 31, 2023:

(in millions of Korean won)	**Book amount**	**Secured amount**	**Type of Guarantee**	**Secured party**
Land, buildings and others	₩ 17,444	₩ 24,167	Collateral for facility loans	Shinhan Bank, Hana Bank, etc.

The Group grants the right to subscribe for new shares, preferential purchase rights, and tag- along rights to investment shares through shareholders' agreements concluded with external investors.

Kakaopay Corp., a subsidiary, entered into an agreement to pay incentives to shareholders of non-controlling interests of Kakaopay Securities Corp., a subsidiary, for earnings generated from fiscal year 2018 to 2021. These earnings are calculated in accordance with the agreement and incentives are paid in dividends and bonus through discussion between shareholders. The Group pays incentives unless the entity subject to payment recognizes net loss and to extent it is permitted under laws or regulations (including unenforceable guidelines and administrative guidance of government organization).

In relation to the equity investment of non-controlling shareholders of Kakao Entertainment Corp., a subsidiary, the Group entered into a shareholders' agreement granting right to purchase with the relevant non-controlling shareholders. If the Group fails to fulfill important obligations stipulated in the agreement or there is a change in the majority shareholder of KAKAO CORP., the non-controlling shareholder of the relevant subsidiary may request the Group to purchase the shares, issued by the subsidiary and held by the shareholder, for a period of time described in the agreements. The Group believes that the Group can control prerequisites for non-controlling shareholders to claim the purchase and therefore, as at December 31, 2023, the Group believes that the possibility for non-controlling interest investors to exercise the put option is remote.

On November 13, 2023, the Parent Company's executives were legally indicted for violating the Financial Investment Services and Capital Markets Act (purchase of shares for fixing market price purposes and, obligation to report on stocks held in bulk). The Parent Company was also indicted in accordance with the joint penalty provisions of related laws. The information mentioned above is currently under ongoing trial and has not been conclusively determined.

The Parent Company holds 27.2% of the voting shares of KakaoBank Corp., an Internet-only bank, in

accordance with Article 5 (Special Cases of Limits on Stockholding by Non-Financial Investor) of the Act On Special Cases Concerning Establishment And Operation Of Internet-only Banks. Requirements for approval related to holding of shares thereof shall be determined in the attached Table in consideration of the following:

1. Investment capability, financial status, and social credibility;
2. Effect on concentration of economic power;
3. Appropriateness of a plan for shareholder composition;
4. Asset ratio of companies which engage in information and communications business;
5. Contribution plan for promotion of convergence between finance and information and communications technology, microfinance support, etc.

According to the Table, in order for the Parent Company to receive an exemption for special cases of limits on stockholding, the executive partner or the executive officer shall have no record of a criminal penalty equivalent to or heavier than a fine imposed for a violation of any of the statutes specified in finance-related statutes, the Monopoly Regulation and Fair Trade Act, the Punishment of Tax Offenses Act or the Aggravated Punishment of Specific Economic Crimes Act during the latest five years. However, if the severity of such violations is deemed minor by the Financial Services Commission, holding stocks in excess of limit under special cases is not prohibited.

In this case, due to the finance-related statues (Capital Market Act), if criminal penalties equivalent to or heavier than a fine imposed are confirmed (the Supreme Court appeal confirmed), depending on the review by the Financial Services Commission, the application of the above special cases may not be possible.

In this case, the Parent Company may be required to dispose of its shares in KakaoBank Corp. that exceeds 10% of voting shares, in accordance with Article 15 (Limits on Stock-Holding by Same Person) of the Banking Act.

As at December 31, 2023, other commitments of the Group are as follows:

(1) Kakao Entertainment Corp., a subsidiary, has entered into shareholders' agreements with MORE VISION that requires Kakao Entertainment Corp. to sell the remaining shares held by the subsidiary when the counterparty expresses an intention to purchase for a period of two years from the date five years have passed since the investment contract was concluded. The selling price should be the larger amount between the amount evaluated by an external evaluation institution or ₩ 750 million per share.

(2) Kakao Entertainment Corp., a subsidiary, pledged shares held by some shareholders who have participated in the Group's paid-in capital increase as collateral. If some shareholders who participated in the subsidiary's paid-in capital increase want to sell their share before certain conditions are met, they are required to get the consent of the subsidiary.

(3) In accordance with the non-controlling interests of some subsidiaries and associates including STARSHIP ENTERTAINMENT CORP. and others, Kakao Entertainment Corp., a subsidiary, is required to obtain written consent from stakeholders and investors when Kakao Entertainment Corp. intends to dispose of all or part of investments in subsidiaries or associates by transfer, sale, providing

collateral, or other means before certain period or conditions are met.

(4) Some shareholders of subsidiaries and associates, including STARSHIP ENTERTAINMENT CORP., a subsidiary, and others, can request the Group to purchase share of subsidiaries and associates if the certain conditions are met in accordance with the shareholders' agreement.

(5) Kakao Entertainment Corp., a subsidiary, has lent money to an individual and, all the shares of subsidiaries owned by the individual is pledged as collateral.

(6) The Group holds the right to subscribe for new shares, preferential purchase rights, and tag-along rights in accordance with the terms of contracts with subsidiaries and associates.

(7) Kakao Entertainment Corp., a subsidiary, has entered into shareholders' agreement. According to the agreement, if Gleline Corp. achieves the agreed accumulated operating profit within 5 years starting from 2022, Kakao Entertainment Corp. has the right to purchase the remaining shares held by the counterparty at a price agreed between the parties.

(8) The Group has entered into a put option agreement in relation to its partial equity investments in some of subsidiaries and associates. According to the put option, if the counterparty intentionally neglects its obligation to disclose its qualification as a public company or violates contractual obligations, and the Group expresses its intention to sell its shares, the counterparty is obliged to purchase all, or part of the shares held by the Group at a price that adds a certain amount to the per-share acquisition price.

(9) Kakao Entertainment Corp., a subsidiary, has entered into an agreement for sale of shares with Legendaries Corp., a subsidiary. According to the agreement, if the counterparty expresses an intention to purchase for a period of two years from the date one year has passed since the conclusion of the share sale agreement, the party or a person designated by the counterparty must sell the remaining shares held by the subsidiaries at a price evaluated by an external evaluation agency.

(10) Kakao Entertainment Corp., a subsidiary, has the right to claim the purchase of all or part of shares of the counterparty held by the Group in the event that a specific lawsuit against JELLY FISH ENTERTAINMENT.CO., LTD, as a defendant, related to the equity investments, results in a confirmed loss verdict for JELLY FISH ENTERTAINMENT.CO., LTD.

(11) As at December 31, 2023, if there are legal violations, sanctions by regulatory authorities, or modifications of audit opinions regarding some non-controlling shareholders of Kakao Entertainment Corp., a subsidiary. The Group has an obligation to purchase all or part of the shares held by the non-controlling shareholders at a specific price. The Group has recorded the amount as a financial liability.

(12) As at December 31, 2023, Kakao Entertainment Corp., a subsidiary, is obligated to purchase certain shares held by the counterparty in connection with the purchase of shares of Feelyeon Management, Nextlevelstudio Inc. and PAGE LAB Inc. at an agreed price or a specific price at a certain time when the counterparty expresses its intention to sell, and the Group has recorded the amount as a financial liability.

(13) Under the shareholders' agreement concluded at the time of investment in Daon Creative inc., the counterparty has expressed its intention to sell the remaining shares it holds. At the end of the reporting period, the price to be purchased by the Group is being determined, and the financial effect has been reflected in the consolidated financial statements based on the best estimate.

(14) Kakao Entertainment Corp., a subsidiary, has committed to invest ₩ 6.4 billion to Helios KDBC Video Digital Contents No. 1, ₩ 4.4 billion was invested as at December 31, 2023, with a remaining investment commitment of ₩ 2 billion.

(15) Kakao Entertainment Corp., a subsidiary, has committed to invest ₩ 20 billion to Penture K-Content Investment Association, ₩ 6 billion was invested as at December 31, 2023, with a remaining investment commitment of ₩ 14 billion.

(16) As at December 31, 2023, the Group has entered a contract with Barunson Entertainment & Arts Corporation to receive an investment of ₩ 20 billion as a main investment and ₩ 10 billion as a partial investment for the movie produced by the Group. If the distribution of profits for the partial investment is less than the partial investment principal by the time the profit distribution period expires, the Group must pay the shortfall to Barunson Entertainment & Arts Corporation.

(17) Kakao Games Corp., a subsidiary, has the right to subscribe for new shares, preferential purchase rights, and drag-along rights to the shares of XL Games Inc., Ocean Drive Studio Corp., and Second Dive Corp. through shareholders' agreements, and in the case of XL Games Inc. and Ocean Drive Studio Corp., Kakao Games Corp. has entered into an agreement regarding the purchase rights of major shareholders.

(18) As at December 31, 2023, in shareholders' agreement entered into between Kakao Games Corp., a subsidiary, and stakeholders of XL Games Inc., even if the target company achieves the conditions for initial public offering, if the subsidiary opposes, the stakeholders can request the subsidiary to purchase all of their held shares for a period of time described in the agreements. Management of the subsidiary believes that a situation in which a purchase right can be made will not arise as it is possible to control the reasons that are conditions for the exercise of the purchase rights of stakeholders.

(19) With respect to Kakao VX, a subsidiary, under the terms of the new share acquisition agreement concluded with external investors, non-controlling shareholders of Kakao VX may request that Kakao VX and/or Kakao Games Corp. purchase their shares for a period of time described in the agreements, when Kakao VX and/or Kakao Games Corp. fails to perform important obligations stated in the contract due to willful misconduct or gross negligence. Management of the Group believes that a situation in which a purchase right can be made will not arise as it is possible to control the reasons that are conditions for the exercise of the purchase rights of investor.

(20) As at December 31, 2023, under the terms of the shareholders' agreement concluded between Kakao Games Corp., a subsidiary, and external investors of Kakao VX, the external investors of Kakao VX may request that Kakao VX purchase the shares they hold for a period of time described in the agreements if the subsidiary loses its status as a Kakao Group enterprise group. The Group believes it can control the terms of this agreement. In addition, the external investors have the right to participate in co-sale if the Group transfers its shares of Kakao VX to a third party other than an

affiliate of Kakao Games Corp.

(21) As at December 31, 2023, Kakao Games Corp., a subsidiary, has entered into the shareholders' agreement with stakeholders in relation to Lionheart Studio Corp.. The Group has pre-emptive purchase rights, tag-along rights, call option right for equity shares, pre-emptive purchaser rights for assets.

(22) As at December 31, 2023, if initial public offering of the target company is completed under shareholders' agreement entered into between Kakao Games Corp., a subsidiary, and the stakeholders of Lionheart Studio Corp., Kakao Games Corp. can request subsidiaries to purchase shares within a limit of 20% of the target company's issued shares held by stakeholders within 3 months from the date after 5 years have passed since the completion of the initial public offering. Kakao Games Corp., a subsidiary, recorded the amount as a financial liability. In addition, if there is disagreement or mutual agreement not to pursue an initial public offering, stakeholders may request the subsidiaries of the Group to purchase some or all of the target company's shares held by stakeholders. The Group's management believes that these cases can be controlled.

(23) As at December 31, 2023, Kakao Games Corp., a subsidiary, has covenants regarding preferential purchase rights, drag-along rights, and warrants in the shareholders' agreement entered into during the acquisition of Sena Technologies, Inc.

(24) As at December 31, 2023, in a share purchase agreement entered into between Kakao Games Corp., a subsidiary, and stakeholders of SENA Technologies, Inc., a subsidiary, even if the target company achieves the conditions for initial public offering, if the subsidiary opposes, the stakeholders can request the subsidiary to purchase all of their held shares for a period of time described in the agreements. The Group's management believes that these cases can be controlled.

(25) Kakao Games Corp., a subsidiary, has committed to invest ₩ 10 billion to Let's go Together Kakao Games Win-win Fund, ₩ 8 billion was invested as at December 31, 2023, with a remaining investment commitment of ₩ 2 billion.

(26) As at December 31, 2023, Kakao Games Corp., a subsidiary, has entered into shareholders' agreements with major shareholders and external investors of Ocean Drive Studio Corp.. According to the agreement, the major shareholders may request the subsidiaries to purchase all of the shares held by the entity when agreed-upon time is reached by all major shareholders. In addition, if percentage of ownership of the target company exceeds 50%, external investors may request to purchase all of the shares held for a period of time described in the agreements. The Group has recorded the amount related to the agreement as a financial liability.

(27) Kakao VX, a subsidiary, entered into a shareholders' agreement by concluding a contract to acquire shares of Teins Valley. According to this agreement, Kakao VX has the right to exercise a call option to purchase all or part of the issued shares of the target company held by major shareholders under certain conditions. However, the Group did not perform separate accounting treatment for this in the consolidated financial statements. If certain conditions are met according to this agreement, the subsidiary may exercise the call option.

(28) As at December 31, 2023, Kakao Games Corp., a subsidiary, has entered into investment

contract with external investors of METABORA Co., Ltd. Conditions such as pre-emptive purchase rights, drag-along rights, pre-emptive purchaser rights for assets and others are stipulated in the contract.

(29) As at December 31, 2023, Kakao Games Corp., a subsidiary, has entered into shareholders' agreements with major shareholders of Neptune Co., Ltd. In relation to conditions for the right to purchase for shares held by major shareholders in case of violation of agreement.

(30) Kakaopay Corp., a subsidiary, has committed to invest ₩ 3 billion to IMM Startup Venture Fund No. 1, ₩ 1.2 billion was invested as at December 31, 2023, with a remaining investment commitment of ₩ 1.8 billion.

(31) Kakaopay Corp., a subsidiary, acquired the shares of Paymint Inc., and classified it as a subsidiary for the year ended December 31, 2023. The share acquisition agreement includes an obligation to purchase the existing shareholders' shares at an agreed price at a certain point in time, and Kakaopay Corp., a subsidiary, recorded the amount as a financial liability.

(32) As the main transaction was terminated due to the failure of the secondary transaction with Siebert Financial Corp., and the related shareholders' agreement was amended and concluded, Kakaopay Corp., a subsidiary, has agreed to receive USD 500,000 quarterly from Siebert Financial Corp., starting from March 29, 2024 to June 30, 2026, for a total of USD 5,000,000.

(33) Kakao Mobility Corp., a subsidiary, has a separate decision-making body under the Board of Directors (the Committee), which is composed of the Parent Company and the non-controlling shareholder investors. As at December 31, 2023, pursuant to the shareholders' agreement, the non-controlling shareholder investors agreed to delay the exercise of its right to appoint a majority of the Committee. Accordingly, as at the date of these consolidated financial statements, the Parent Company has right to constitute the majority of the Committee.

(34) Kakao Enterprises Corp., a subsidiary of the Group, acquired shares of e.Form Works in the previous period, and classified them as investments in associates. The share acquisition contract includes a provision in which Kakao Enterprises Corp. will receive 20% of the shares of e.Form Works from Ion Communications Co., Ltd., the major shareholder of e.Form Works, depending on whether e.Form Works achieves the KPI.

(35) Kakao Enterprise Corp., a subsidiary of the Group, entered into a contract with Company A in the previous period, and grants put option to sell all of Company B's shares (78.29% of Company B's total issued shares) held by Company A from the 36th month to the 48th month after the acquisition of Company B's shares.

(36) Pursuant to provisions of Paragraph 1, Article 530-3 of the Commercial Code of the Republic of Korea, SM Culture & Contents Co., Ltd., a subsidiary, spun off the business division of WOOLLOM ENTERTAINMENT by a resolution of the special shareholders meeting on March 4, 2016. SM Culture & Contents Co., Ltd. Assumes the responsibility to repay the before spin-off obligation of the spun-off company jointly and severally with the newly established company after spin-off according to provisions of Paragraph 1, Article 530-9 of the Commercial Code of the Republic of Korea. SM Culture & Contents Co., Ltd. Merged with SM Contents & Communications Co., Ltd. On December 31, 2027.

SM Contents & Communications Co., Ltd. Is a newly established corporation by a split-off from SK Planet Co., Ltd. On October 1, 2017. SM Culture & Contents Co., Ltd. Assumes the responsibility to repay the before spin-off obligation of the spun-off company jointly and severally with SK Planet Co., Ltd. After spin-off according to provisions of Paragraph 1, Article 530-9 of the Commercial Code of the Republic of Korea.

(37) The Group entered into shareholders' agreement granting a put option in relation to equity investment in STUDIOA Co., Ltd., a subsidiary, and the Group accounts for the amount as financial liabilities.

(38) The Group is exploring various methods to comply with the corrective order from Korean Communications Commission regarding violations of restriction on ownership of advertising sales agencies. At the end of the reporting period, the impact on the consolidated financial statements cannot presently be determined.

39. Business Combinations

In 2023, the Group acquired the shares of 44 companies including SM Entertainment Co., Ltd., which became its subsidiaries. Details of the percentage of ownership acquired, the consideration transferred, and goodwill recognized thereto are as follow:

(in millions of Korean won)	Percentage of ownership acquired (%)[2]	Consideration transferred	Goodwill
SM Entertainment Co., Ltd. And 29 entities[1]	40.5	₩ 1,360,132	₩ 846,169
SM Universe Co., Ltd.	70.3	5,695	3,029
Studio CLON	51.0	4,001	1,333
Catchers Cultural Industry Company	100.0	2	-
SM BRAND MARKETING Co., LTD. And 4 entities	84.4	107,427	98,601
FRIENDS GOLF HOLDINGS VN JOINT STOCK COMPANY	51.0	2,578	634
Ocean Drive Studio Corp. and one other entity	65.2	62,505	67,681
Music publishing segment	-	6,300	5,281
MonoTree Inc.	100.0	4,500	3,609
Paymint Inc.[1,3]	87.7	38,520	34,412
		₩ 1,591,660	₩ 1,060,750

[1] Presented as a provisional amount since the amount of consideration allocation related to the business combination has not been finalized at this time.
[2] Presented as substantial percentage of ownership considering treasury shares.
[3] As it was determined that the Group had potential voting rights for the remaining interests, 100% of ownership has been reflected at the closing.

Details of the purchase consideration, the assets and liabilities recognized as a result of the acquisition, and fair value of the non-controlling interest at the acquisition date in relation to business combinations in 2023, are as follows:

(in millions of Korean won)	**SM Entertainment Co., Ltd. And 29 entities**[1]	**SM Universe Co., Ltd.**	**Studio CLON**	Catchers Cultural Industry Company	**SM BRAND MARKETING Co., LTD. And 4 entities**[1]
Consideration transferred					
Cash and cash equivalents[2]	₩ 1,360,132	₩ 3,500	₩ 4,001	₩ -	₩ 53,885
Fair value of equity interest held before the business combination	-	2,195	-	2	53,542
Total consideration	₩ 1,360,132	₩ 5,695	₩ 4,001	₩ 2	₩ 107,427
Assets acquired and liabilities assumed					
Cash and cash equivalents	₩ 298,946	₩ 2,087	₩ 3,240	₩ 398	₩ 6,414
Short-term financial instruments	228,208	-	1,513	-	4,400
Financial assets at fair value through profit or loss	46,403	-	-	-	-
Trade receivables	114,696	-	2,677	-	284
Investments in associates and joint ventures	504,372	-	-	-	-
Investment property	22,255	-	-	-	-
Inventories	20,523	-	-	-	6,166
Property and equipment	91,811	886	753	-	2,567
Right-of-use assets	88,958	2,988	693	-	2,015
Intangible assets	608,410	2	1,118	-	1,271
Deferred income tax assets	5,808	-	-	-	556
Other assets	178,181	885	590	1,192	6,667
Trade payables	(182,406)	(50)	-	-	(4,926)
Borrowings	(20,163)	(150)	(14)	-	-
Other financial liabilities	(42,731)	(58)	(2,318)	-	(1,695)
Derivative financial liabilities	(5,543)	-	-	-	-
Lease liabilities	(101,078)	(2,794)	(653)	-	(1,808)
Net defined benefit liabilities	(591)	-	(1,656)	-	-
Deferred income tax liabilities	(223,571)	-	(234)	-	-
Other liabilities	(173,593)	(4)	(478)	(1,587)	(8,912)
Net identifiable assets acquired	1,458,896	3,792	5,230	2	12,999
Non-controlling interest	(944,933)	(1,126)	(2,563)	-	(4,172)
Goodwill	₩ 846,169	₩ 3,029	₩ 1,333	₩ -	₩ 98,601

[1] Presented as the amount in the consolidated financial statements including subsidiaries held at the time of business combination.

[2] For the year ended December 31, 2023, the Group acquired 1,167,400 shares of SM Entertainment Co., Ltd. Through the Korea Stock Exchange and recognized them as financial assets at fair value through other comprehensive income. The Group subsequently recognized gain or loss on valuation on the date of business combination and included the valuation amount in the consideration transferred.

(in millions of Korean won)	FRIENDS GOLF HOLDINGS VN JOINT STOCK COMPANY	Ocean Drive Studio Corp. and one other entity[1]	Music publishing segment	MonoTree	Paymint Inc.
Consideration transferred					
Cash and cash equivalents	₩ 2,578	₩ 34,823	₩ 6,300	₩ 4,500	₩ 32,196
Fair value of equity interest held before the business combination	-	27,682	-	-	-
Contingent consideration	-	-	-	-	6,323
Total consideration	₩ 2,578	₩ 62,505	₩ 6,300	₩ 4,500	₩ 38,520
Assets acquired and liabilities assumed					
Cash and cash equivalents	₩ 1,509	₩ 1,041	₩ -	₩ 277	₩ 697
Short-term financial instruments	-	2,000	-	-	3,400
Financial assets at fair value through profit or loss	-	1,003	-	-	-
Trade receivables	338	98	-	48	16
Inventories	1,364	-	-	-	-
Property and equipment	2,867	223	11	3	67
Right-of-use assets	-	343	859	271	143
Intangible assets	-	72	807	788	64
Other assets	828	887	154	66	244
Trade payables	(3,095)	(1,430)	-	-	(44)
Borrowings	-	(10,000)	-	-	-
Other financial liabilities	-	(2,521)	-	(6)	-
Lease liabilities	-	(365)	(729)	(194)	(143)
Net defined benefit liabilities	-	-	-	(108)	-
Deferred income tax liabilities	-	-	-	(165)	-
Other liabilities	-	(10,260)	(84)	(90)	(338)
Net identifiable assets acquired	3,812	(18,911)	1,019	891	4,108
Non-controlling interest	(1,868)	13,735	-	-	-
Goodwill	₩ 634	₩ 67,681	₩ 5,281	₩ 3,609	₩ 34,412

[1] Presented as the amount in the consolidated financial statements including subsidiaries held at the time of business combination.

(1) Sales and net profit of subsidiaries after the acquisition date, which were included in the consolidation and reflected in the consolidated statement of comprehensive income during the year

ended December 31, 2023, were ₩ 756,966 million and ₩ 56,038 million, respectively.

(2) If the subsidiaries, included in subsidiaries through business combination, had been consolidated from the beginning of the current period, the Group's sales and net profit would have been ₩ 1,037,935 million and ₩ 63,943 million, respectively.

40. Related Parties Transactions

The Parent Company is the ultimate parent company that prepares consolidated financial statements. The list of related parties as at December 31, 2023 and 2022, is as follows:

	2023
Relationship	**Related parties[1]**
Associates	DAUM Venture Fund, CNT TECH CO., LTD., Creativecomms Corp., CNT Tech 1st Start-up Investment Fund, CNT Tech 2nd Start-up Investment Fund, CNT Tech 5th Startup Investment, CNT Tech 7th Start-up Investment Fund, Hacktokon Investment Fund No.1, AI Angel CNT Tech Personal Investment Fund, CNT Tech 11th Startup Investment Fund, CNT Tech 15th Start-up Investment Fund, CNT Tech Vine Supporters Investment Fund, Tide Square Co., Ltd.,, CC Partners, Allstay Co., ltd., TIDESQUARE VIETNAM CO., LTD, Tidesquare Japan Co., Ltd, KakaoBank Corp., Korea Credit Data, Korea Merchant experience Co., Ltd., Korea Business Connect, ImU, Korea Payment Networks Limited, BOTTLED, Kakao Style Corp., CROQUIS Inc., UTC Kakao SK Telecom ESG Fund, G&G ENTERPRISE CO.,LTD., Socialbean Co., Ltd, SSANGN, WILDCAT, Caring Corp., Caring Community Care, CARING CARE CO., LTD., SEONHADA INC., Grip Company, GRIP US, INC., Jeju-vision Venture Investment Association No.1., KDBC-FP Technext Investment Association No.1, DEAR U Co., Ltd., Dreamus Company, Iriver Enterprise Ltd., Iriver China Co., Ltd., Dongguan Iriver Electronics Co., Ltd., Dolphiners Films, Life Design Company Inc., Galaxia SM, INC., ESTEEM, ESTEEM ENTERTAINMENT CO., LTD., MYSTIC STORY INC., Studio Flow, Inc., Voyageur Film, ORIGIN FILM Co., Ltd., koylaps, PABLO AIR CO.LTD, HitchMED Co., Ltd., Enolink Holdings, Inc., Kakao-Shinhan 1st TNYT Fund, Kakao Growth Hacking Fund, KIF-Kakao Wooribank Technology Financing Fund, D&C MEDIA CO.,LTD., D&C WEBTOON BIZ, THE ANT, Studio Boom, SOUL CREATIVE CO.,LTD, Keytalk AI Inc., GLAMAI INC., DAIWAON. C.I. INC, HAEDAM ENT CO.,LTD, Haksan Publinshing Co., Ltd., TOYOU DREAM, AniLand Co., Ltd., Studio Griffin Corp., SEOUL MEDIA.INC., LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC., Super Comics. , Trace Culture Business Limited, HongKong TXKP Limited, Chengdu Podoteng Technology Co., Ltd., 325E&C co., ltd., UNION K-Culture Contents Investment Fund, Highup Entertainment, Helios KDBC Video Digital Contents No. 1, Metaverse Entertainment, Atwater Capital Partners I, L.P. , MORE VISION CO., LTD., GRAYGO Corp., Clove Corp.,, Girl Rivers Cultural Industry Company Ltd., Wyatt co., Ltd, MANNACEA , Farmit, Farmit II,, TANGRAM FACTORY AMERICA, INC Deleo Korea Co., Ltd., YANADU., Fixel Hub co, ltd., Foxsoft co.ltd, Daeyoung Chaevi CO., Ltd, Adlock Advertainment, Stage five Co., Ltd., DEVOTION FOODS Inc., JASON GROUP Co., Ltd. , MUSTIT. CO., Ltd., Nubility, Klleon Inc., CLEON CO.,LTD, Bluepoint Discovery Venture Fund No.2, DIGISONIC CO., LTD., InnoSignal CO., LTD., CHEQUER GLOBAL, INC., CHEQUER, TNK Factory, Atwater Soundtrack SPV, LP, Humanscape, nexthealth, Humanscape US Inc., herit healthcare, Impian Asia, HUMANSCAPE VIETNAM COMPANY LIMITED, GENOSCAPE PTE.LTD., Kids Note Co., Ltd.,

	UJUMUNBANGGU CO.,LTD., ATU e-sports Growth PE Fund, LUXROBO CO., LTD., LUXROBO CO., LTD., e.Form Works, LOVO Inc., LOVO Korea., GOOD GANG LABS PTE. LTD., Skelter Labs, Inc., TOROOC Inc. , Galux, RECON Labs., MIDIEOSEUPIEO CO.,LTD., Second Dive, Neptune Co., Ltd., HNC Games, Nimble Neuron, MAGNET, NEXPORTS Corporation, PRETTYBUSY, Mammo6 Co., Ltd., Mammossix Asia Co., Ltd., PLAYHARD, treeplla Inc. , Ad X plus Co., Ltd, Ncrokey, CodeDog, Remake Digital Co., Ltd., Reality Magic, Together Kakao Games win-win fund, Loadstars , Teins Valley, GOLF VX CORP., GC SOCIAL MEDIA MARKETING, INC., SNCO SOFTWARE PTE.LTD., Romance Crew, K Cube NEO Fund, DGT mobility., S&Tsolution Co., Ltd. , Anycall Mobility Corp, altimobility Corp., Autonomous A2Z, YUMOBILRITISAMO INVESTMENT LIMITED PARTNERSHIP, EASYGO CO., LTD., DOZEN CO.,LTD, DOZN GLOBAL PTE. LTD., TheCheat Corp., Siebert Financial Corp., Muriel Siebert & Co., Inc., Siebert AdvisorNXT, Inc., Park Wilshire Companies, Inc., Siebert Technologies, LLC, RISE Financial Services, LLC, StockCross Digital Solutions, Ltd., TEEware, Haotoon China Co., Ltd, PT Green Wind Culture, GT ENT CO.,LTD. and others (73 companies)
Joint ventures	DAUM KAKAO PHILIPPINES CORP., PHI DIGITAL HEALTHCARE Inc., FITNESSCANDY CO., LTD., CHANGWON CULTURE BOKHAP TOWN CO., LTD., SPLYT GROUP LTD., SPLYT TECHNOLOGIES LTD., SPLYT SINGAPORE PTE. LTD., SPLYT MALAYSIA SDN. BHD., SPLYT USA INC., SM True Company Limited
Other related parties	Stage Asset Co., Ltd., K Cube Holdings Co., Ltd., New learn English Inc., Onyx K., NPLUTO, GOLF&FRIEND CO., LTD., KCUBE IMPACT Co., Ltd., H3 Corp., Brian Impact Foundation, Kakao Impact Foundation, Colorverse Inc, SUNYOUNG STORY. CO., LTD, Kakao Creative Foundation, Kakaobank Corporation Employee Welfare Fund, Kakao Entertainment Corp. Employee Welfare Fund, Beyond Studio City Inc., everysing korea, KHAKI HOLDINGS, LP, MOBILITY CO-INVEST, LIMITED PARTNERSHIP

[1]Include associates and other related parties of Kakao Corp. and the entities that are not the related party in accordance with Korean IFRS 1024 but belong to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair-Trade Act.

	2022
Relationship	**Related parties[1]**
Associates	Addcredit Corp., DAUM Venture Fund, CNT TECH CO., LTD., Creativecomms Corp., CNT Tech 1st Start-up Investment Fund, CNT Tech 2nd Start-up Investment Fund, CNT Tech 3rd Start-up Investment Fund, CNT Tech 5th Startup Investment, CNT Tech 7th Start-up Investment Fund, Hacktokon Investment Fund No.1, AI Angel CNT Tech Personal Investment Fund, CNT Tech 11th Startup Investment Fund, CNT Tech 15th Start-up Investment Fund, CNT Tech Vine Supporters Investment Fund, Tide Square Co., Ltd., CC Partners, Allstay Co,ltd., Square Lab Inc., KakaoBank Corp., Korea Credit Data, KCD Marketing, Korea F&B Partners (formerly, Foodzim), Korea Business Connect (formerly, PERSONA), ImU, Korea Payment Networks Limited (formerly, Fiservkorea), ImU, Korea Payment Networks Limited altimobility Corp., Kakao-Shinhan 1st TNYT Fund, Kakao Style Corp., UTC Kakao SK Telecom ESG Fund, CLAIR, Inc., G&G ENTERPRISE CO.,LTD., Socialbean Co., Ltd, SSANGN, WILDCAT, Caring Corp., Caring Community Care, Humanscape, nexthealth, Humanscape US Inc., herit healthcare, Impian Asia, Grip Company, HitchMED Co., Ltd., Jeju-vision Venture Investment Association No.1., Enolink Holdings, Inc., Kakao Growth Hacking Fund, KIF-Kakao Wooribank Technology Financing Fund, D&C MEDIA CO.,LTD., D&C WEBTOON BIZ, THE ANT, Studio Boom, SOUL CREATIVE CO.,LTD, mycelebs, inc, GLAMAI INC., DAIWAON. C. I. INC, HAEDAM ENT CO.,LTD., Haksan Publinshing Co., Ltd., AniLand Co., Ltd., Studio Griffin Corp., SEOUL MEDIA.INC., LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC., Super Comics. , Trace Culture Business Limited, HongKong TXKP Limited, Chengdu Podoteng Technology Co.,

	Ltd., 325E&C co, ltd., UNION K-Culture Contents Investment Fund, Highup Entertainment, Helios KDBC Video Digital Contents No. 1, Metaverse Entertainment, Atwater Capital Partners I, L.P., MORE VISION CO., LTD., Love Alarm Culture Industry Special Purpose Company Ltd., GRAYGO Corp., Maison de Baha Co., Ltd., Clove Corp., Catchers Cultural Industry Company, Girl Rivers Cultural Industry Company Ltd., Wyatt co., Ltd, MANNACEA , Farmit, Farmit II, TANGRAM FACTORY AMERICA, INC., Deleo Korea Co., Ltd., YANADU., Fixel Hub co,, ltd., Foxsoft co., ltd., Daeyoung Chaevi CO., Ltd, Adlock Advertainment, Stage five Co., Ltd., DEVOTION FOODS Inc., JASON GROUP Co., Ltd. , MUSTIT. CO., Ltd., Nubility, kLleon Inc., CLEON CO.,LTD, Bluepoint Discovery Venture Fund No.2, DIGISONIC CO., LTD., InnoSignal CO., LTD., CHEQUER GLOBAL, Inc., TNK Factory, Atwater Whip SPV, LP, Japle Co., Ltd. , ATU e-sports Growth PE Fund I, LUXROBO CO., LTD., LUXROBO CO., LTD., e.Form Works, LOVO INC., LOVO Korea., Skelter Labs, Inc., TOROOC Inc. , Galux, RECON Labs., Ocean Drive Studio Corp., Second Dive, Neptune Co., Ltd., HNC Games, Nimble Neuron, MAGNET, NEXPORTS Corporation, PRETTYBUSY, Mammo6 Co., Ltd., PLAYHARD, treeplla Inc., Ad X plus Co., Ltd, NFLY Studio, Ncrokey, CodeDog, Reality Magic, Together Kakao Games win-win fund, Loadstars , Teins Valley, GC Social Marketing Inc., Romance Crew, K Cube NEO Fund, DGT mobility. , S&Tsolution Co., Ltd. , Anycall Mobility Corp , altimobility Corp., Autonomous A2Z, EASYGO CO., LTD., DOZEN CO.,LTD, The M Company, TheCheat Corp., TEEware and Others (69 companies)
Joint ventures	DAUMKAKAO PHILIPPINES CORP., PHI DIGITAL HEALTHCARE Inc.
Other related parties	Stage Asset Co., Ltd., K Cube Holdings Co., Ltd., New learn English Inc., Onyx K., PLUS 2 PERCENT, NPLUTO, GOLF&FRIEND CO., LTD., KCUBE IMPACT Co., Ltd, Future Contents Foundation (formerly, GAMERS FOUNDATION), H3 Corp., Brian Impact Foundation, Kakao Impact Foundation, Trace Culture Business Limited, Colorverse Inc(formerly, Puppy Red), SUNYOUNG STORY. CO., LTD, Kakao Creative Foundation, Kakaobank Corporation Employee Welfare Fund

[1]Include associates and other related parties of Kakao Corp. and the entities that are not the related party in accordance with Korean IFRS 1024 but belong to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair-Trade Act.

Sales and purchases with related parties for the years ended December 31, 2023 and 2022, are as follows:

Transactions

(in millions of Korean won)

	2023					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other non-operating income	Commission expenses	Advertising expenses	Other non-operating expenses
Associates						
YANADU.	₩ 575	₩ -	₩ -	₩ 17	₩ -	₩ 10
Fixel Hub co., ltd.	-	-	-	12	-	-
CLAIR, Inc.[2]	39	-	-	-	-	7
CNT TECH CO., LTD.	584	-	-	10	24	-
Deleo Korea Co., Ltd.	-	-	-	16	-	-
DGT mobility.	60,707	-	-	3,075	31	244

D&C MEDIA CO., LTD.	2	-	-	6,940	-	-
DAIWAON. C. I. INC	60	-	-	1,857	-	9
DOZN CO., LTD.	962	-	-	3,962	-	6
325E&C co., ltd.	3	-	-	1,319	-	1
G&G ENTERPRISE CO., LTD.	83	-	-	-	-	-
Haksan Publinshing Co., Ltd.	13	-	-	3,264	-	-
Wyatt co., Ltd	2,338	-	-	5	-	-
JASON GROUP Co., Ltd.	3,752	-	-	675	-	-
KakaoBank Corp.[1]	26,943	3,029	-	15,023	20	159
Leferi	187	-	-	307	8	-
Keytalk AI Inc.	-	-	-	816	-	-
Stage five Co., Ltd.	2,107	6	-	11	-	-
Socialbean Co., Ltd	1,242	-	-	-	-	2
Super Comics.	36	64	-	1,392	-	66
SEOUL MEDIA.INC.	179	-	-	4,098	-	-
S&Tsolution Co., Ltd.	496	-	-	1,073	-	-
Tangram Factory, inc.	-	-	-	-	-	2
Tide Square Co., Ltd.	1,098	-	3	89	4	15
Cleaning Lab	319	-	-	5	-	78
CULTUREHERO	328	-	-	102	-	515
HUMART COMPANY(TR OST)	13	-	-	-	-	-
Korea Credit Data	191	-	-	-	4	-
Highup Entertainment	-	-	-	2,911	-	6,817
MUSTIT. CO., Ltd.	345	-	-	-	-	-
Daeyoung Chaevi CO., Ltd	3	-	-	1	2	1
Square Lab Inc.[2]	43	-	-	-	-	-
LUXROBO CO., LTD.	-	-	-	-	-	-
LEEMITELEESY UN CULTURE INDUSTRIAL JEONMUNHO ESA INC.	12	-	-	-	-	-

Kakao Style Corp.	11,404	-	-	-	2,122	-
HongKong TXKP Limited	-	18	-	-	-	-
Force Teller	34	-	-	-	-	-
TNK Factory	1,569	-	-	351	2	-
Carrot Market	567	-	-	-	15	-
Atwater Capital Partners I, L.P.	-	-	-	21	-	-
e.Form Works	5	-	-	-	-	-
Code Squad	-	-	-	-	-	24
Time&Co	148	-	-	10	-	-
Humanscape	6	-	-	-	-	-
Caring Corp.	9	-	-	-	-	-
THE ANT	80	-	-	2,184	-	744
Grip Company	1,535	136	-	-	-	-
Teins Valley	-	-	-	116	-	-
GC Social Marketing Inc.	-	-	-	-	264	-
MORE VISION CO., LTD.	89	-	-	772	-	-
D&C WEBTOON BIZ	40	-	-	15,694	4	-
NEW WAVE COMMERCE	1	-	-	-	-	-
MOYO	30	-	-	-	-	-
Artificial Society Inc.	-	-	-	-	-	-
Neptune Co., Ltd.	114	176	-	7,325	-	-
Nimble Neuron	10	-	-	1,137	10	-
MAGNET	-	-	-	129	-	-
Ocean Drive Studio Corp.[3]	-	344	-	-	-	-
K Cube NEO Fund	205	-	-	-	-	-
KIF-Kakao Wooribank Technology FinancingFund[1]	1,057	37	-	-	-	-
Kakao-Shinhan 1st TNYT Fund	386	-	-	-	-	-
Kakao Growth Hacking Fund[1]	1,436	-	-	-	-	-
TheCheat Corp.	-	-	-	124	-	-
GRAYGO Corp.	136	-	-	-	-	21
Nautilus	13	-	-	-	-	-
Nubility	-	-	-	-	-	-
DEVOTION FOODS Inc.	-	-	-	2	-	-
Clove Corp.	7	-	-	-	-	-
Reality Magic	-	-	-	49	-	-

TEEware	-	2	1	22	-	-
Adlock Advertainment	-	-	-	-	-	-
Bosalpim	5	-	-	-	-	-
Korea Payment Networks Limited	191	-	-	12	-	-
altimobility Corp.	14	-	-	15	-	-
Chengdu Podoteng Technology Co., Ltd.	2,290	-	-	43	-	-
BUNKER KIDS CO., LTD.	6	-	-	-	-	-
Exo Systems Inc.	-	-	-	-	-	-
HIGH LOCAL CO., LTD.	3	-	-	-	-	-
Girl Rivers Cultural Industry Company Ltd.	10	-	-	233	-	1,209
Ad X plus Co., Ltd	-	-	-	519	-	-
Korea Business Connect	79	-	-	-	-	-
Dreamus Company	19,489	-	6	24,391	7,853	-
ESTEEM	64	-	-	-	682	-
TOROOC INC.	-	-	-	-	-	-
Anycall Mobility Corp	392	-	-	637	-	-
DEAR U Co., Ltd.	2,235	-	-	-	-	42
SM BRAND MARKETING Co., LTD.[3]	17,921	-	-	736	-	301
MIDIEOSEUPIE O CO., LTD.	2	-	-	-	-	-
MEDIR INC.	7	-	-	-	-	-
Kids Note Co., Ltd.	2,067	-	-	1,772	-	-
Second Dive	-	-	-	14,321	-	700
Allstay	-	-	-	-	-	-
SSANGN	-	-	-	-	-	-
CLEON CO.,LTD	-	-	-	-	-	-
Loonshot Company Inc.	-	-	-	-	-	-
SEONHADA INC.	-	-	-	-	-	-
AWINS[2]	-	-	-	-	-	-
Kasa	5	-	-	-	-	-
CastingN	1	-	-	-	-	-
Love Alarm Culture Industry	-	-	-	-	-	2

Special Purpose Company Ltd.[1,2]						
Remake Digital Co., Ltd.	-	-	-	-	235	-
PT GREENWIND CULTURE	-	-	-	-	-	137
Galaxia SM, INC.	-	-	-	-	18	-
MYSTIC STORY INC.	1,829	-	-	3,242	205	-
Life Design Company Inc.	5,436	-	-	-	291	-
SM LIFESTYLE JOINT STOCK COMPANY[3]	132	-	-	-	-	-
ESTEEM ENTERTAINMENT CO., LTD.	34	-	7	-	223	-
MILLION MARKET CO.,LTD.[2]	-	-	-	550	-	-
Urban Coconut Inc.[3]	696	-	-	-	-	-
PT.SMBM INDONESIA CORPORA[3]	884	-	-	-	-	-
PABLO AIR CO.LTD	2	-	-	-	-	-
Triggers Co., Ltd.	5	-	-	-	-	-
HitchMED Co., Ltd.	-	-	-	-	-	-
Studio Flow, Inc.	55	-	-	-	-	123
Catchers Cultural Industry Company[3]	20	-	-	-	-	-
Metaverse Entertainment	-	-	-	225	-	13
GT ENT CO., LTD.	-	-	-	65	-	-
TOYOU DREAM	755	100	-	24,732	-	-
Siebert Financial Corp.	-	-	5,979	-	-	-
	176,172	3,911	5,997	146,409	12,018	11,249
Joint venture						
SPLYT TECHNOLOGIES LTD.	326	1,536	-	2	-	-
SM True Company Limited	3,957	-	-	-	-	-
FITNESSCANDY CO., LTD.	5	-	-	-	-	-
	4,287	1,536	-	2	-	-

Other related parties						
Kakao Impact Foundation	268	-	-	-	-	10,773
K Cube Holdings Co., Ltd.	7	8	-	-	-	-
Brian Impact Foundation	895	25	-	-	-	-
Colorverse Inc.	1	-	-	-	-	-
Gamein Foundation[2]	-	-	1	-	-	-
Kakao Creative Foundation	-	-	10	-	-	2,004
Kakao Entertainment Corp. Employee Welfare Fund	-	-	-	-	-	5
	1,171	32	11	-	-	12,783
	₩ 181,631	₩ 5,480	₩ 6,007	₩ 146,411	₩ 12,018	₩ 24,032

[1] During the year ended December 31, 2023, the Group received dividends from associates and deducted the dividends from the book amount of investments in associates, which were not included in the above transaction amount.
[2] Excluded from the related parties during the year ended December 31, 2023, and the transaction amount up to the date of exclusion is presented.
[3] Transferred from associates to subsidiaries as the control was acquired through additional acquisition during the year ended December 31, 2023, and the transaction amount up to the date of transition is presented.

(in millions of Korean won)

	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other non-operating income	Commission expenses	Advertising expenses	Other non-operating expenses
Associates						
YANADU.	₩ 476	₩ -	₩ -	₩ 19	₩ 2	₩ 10
Fixel Hub co., ltd.	-	-	-	30	-	-
CLAIR, Inc.	98	-	-	-	-	46
CNT TECH CO., LTD.	721	-	-	12	1	1
Deleo Korea Co., Ltd.	-	-	-	15	-	-
DGT mobility.	-	-	-	112	37	-
D&C MEDIA CO., LTD.	-	-	-	5,693	-	-
DAIWAON. C. I. INC	247	-	-	2,299	-	32
DOZN CO., LTD	621	-	-	3,594	-	-
325E&C co., ltd.	-	-	-	1,062	10	1

G&G ENTERPRISE CO., LTD.	180	-	-	-	-	76
Haksan Publinshing Co., Ltd.	16	-	-	3,106	-	-
Wyatt co., Ltd	3,456	-	-	6	-	-
JASON GROUP Co., Ltd.	7,321	-	-	1,144	-	-
KakaoBank Corp.	22,617	2,984	-	11,616	72	182
Leferi	296	-	-	133	-	-
MANNACEA	1	-	-	-	-	-
mycelebs, inc	-	-	-	1,296	-	-
Stage five Co., Ltd.	1,965	-	-	-	-	-
Socialbean Co., Ltd	1,118	-	-	5	-	57
Super Comics.	74	43	-	1,384	-	112
SEOUL MEDIA.INC.	254	-	-	3,406	-	-
S&Tsolution Co., Ltd.	-	-	-	3	-	-
Tangram Factory, inc.	-	-	-	-	-	-
Tide Square Co., Ltd.	458	-	110	-	130	12
Shoe Lab	1	-	-	-	-	-
Cleaning Lab	346	-	-	3	-	-
CULTUREHERO	155	-	-	-	-	46
HUMART COMPANY(TR OST)	19	-	-	-	-	-
Korea Credit Data	903	-	-	-	-	-
Highup Entertainment	405	-	-	2,638	-	4,669
MUSTIT. CO., Ltd.	1,641	-	-	-	-	8
Allstay Co.,ltd.	31	-	-	-	-	-
Daeyoung Chaevi CO., Ltd	3	-	-	-	11	-
Square Lab Inc.	66	-	-	-	-	-
LUXROBO CO., LTD.	-	-	-	-	-	-
LEEMITELEESY UN CULTURE INDUSTRIAL						
JEONMUNHOES A INC.	12	-	-	-	-	-
Japle Co., Ltd.	1	-	-	12	-	-
Kakao Style Corp.	7,329	-	-	6	1,913	-
HongKong TXKP Limited	-	31	7	-	-	1

Force Teller	-	-	-	3	-	-
TNK Factory	1,783	-	-	461	154	-
Carrot Market	195	-	-	14	11	3
Atwater Capital Partners I, L.P.	-	-	-	77	-	-
Dreaming Darakbang	7	-	-	-	-	-
e.Form Works	1	-	-	1	-	-
Code Squad	-	-	-	-	-	345
Time&Co	49	-	-	-	-	-
Humanscape	-	-	-	-	-	-
Caring Corp.	8	-	-	-	-	-
KCD Marketing	2	-	-	101	-	-
Foodzim	6	-	-	-	-	-
THE ANT	74	-	-	4,132	-	-
Grip Company	852	89	230	12	-	-
Teins Valley	-	-	-	17	-	1
GC Social Marketing Inc.	-	-	-	-	155	-
MORE VISION CO., LTD.	-	-	-	948	-	-
D&C WEBTOON BIZ	67	-	-	15,559	2	-
SSANGN	-	-	-	-	-	-
21st market	-	-	-	-	-	-
NEW WAVE COMMERCE	2	-	-	-	-	-
MOYO	2	-	-	-	-	-
Artificial Society Inc.	-	-	-	-	-	-
PERSONA	90	-	-	1	-	-
Neptune Co., Ltd.	89	-	-	283	-	-
Nimble Neuron	736	-	-	571	23	-
MAGNET	-	-	-	234	-	-
Ocean Drive Studio Corp.	-	348	-	-	-	-
CastingN	-	-	-	-	-	90
K Cube NEO Fund	259	-	-	-	-	-
KIF-Kakao Wooribank Technology FinancingFund	1,212	-	-	-	-	-
Kakao-Shinhan 1st TNYT Fund	386	-	-	-	-	-
Kakao Growth Hacking Fund	1,942	-	-	-	-	-
TheCheat Corp.	-	-	-	49	-	-
GRAYGO Corp.	74	-	14	-	-	-
Nautilus	1	-	-	-	-	-
Nubility	-	-	-	-	-	-

DEVOTION FOODS Inc.	-	-	-	-	-	2
CLEON CO.,LTD	-	-	-	-	-	-
Loonshot Company Inc.	1	-	-	-	-	-
ImU	1	-	-	-	-	-
Clove Corp.	-	-	-	-	-	-
Reality Magic	-	-	-	43	10	-
TEEware	2,116	-	3	215	-	-
Bosalpim	-	-	-	-	-	-
Korea Payment Networks Limited	37	-	-	2	-	-
altimobility Corp.	22	-	-	-	-	-
Chengdu Podoteng Technology Co., Ltd.	4,145	-	-	-	-	-
FOR YOUR KIDS CO., LTD.[2]	111	-	-	-	-	264
Dunamu Inc.[1]	103	-	-	40	-	-
EDAM Entertainment Corp.[3]	244	-	21	5,016	1,701	1,576
PEOPLEFUND COMPANY[1]	1,100	-	-	-	-	-
Dr. Kitchen[2]	5	-	-	-	-	-
Dining Code[2]	-	-	-	3	-	-
kasa[2]	-	-	-	-	-	-
KIDSPAY co, ltd.[2]	-	-	-	-	-	-
Futurewiz[2]	94	-	-	-	-	-
Le Corp.[2]	-	-	-	-	-	-
	66,647	3,496	386	65,377	4,231	7,534
Joint venture						
Asankakao Medical Data Co., Ltd.[2]	196	-	-	-	-	-
Other related parties						
Kakao Impact Foundation	211	-	-	-	-	12,035
K Cube Holdings Co., Ltd.	46	9	-	-	-	-
Brian Impact Foundation	412	13	-	-	-	-
Colorverse Inc.	3	-	-	-	-	-
GAMERS FOUNDATION	-	-	2	-	-	-
Kakao Creative Foundation	9	-	-	-	-	-
	680	23	2	-	-	12,035

₩ 67,524	₩ 3,518	₩ 387	₩ 65,377	₩ 4,231	₩ 19,569

[1] During 2022, reclassified to financial assets at fair value through other comprehensive income from an associate and the transaction amount up to the date of reclassification is presented.
[2] During 2022, excluded from the Group's associate due to disposal and the transaction amount up to the date of disposal is presented.
[3] It was included to a subsidiary of the Group during 2022, and the transaction amount before the inclusion is presented.

Outstanding balances arising from sales/purchases of goods and services as at December 31, 2023 and 2022, are as follows:

(in millions of Korean won)

	2023				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables and others	Non-trade payables	Other payables
Associates					
YANADU.	₩ -	₩ -	₩ -	₩ 9	₩ -
CNT TECH CO., LTD.	-	-	-	509	-
Deleo Korea Co., Ltd.	-	-	-	2	-
DGT mobility.	6,646	-	-	-	877
D&C MEDIA CO.,LTD.	3	-	4,006	1,858	-
Doctor Brain Culture Industry Special Purpose Company Ltd.	23	-	-	-	-
DREAMSIDE Culture Industry Special Purpose Company Ltd.	-	-	400	-	-
DAIWAON. C. I. INC	-	-	841	120	3
DOZEN CO.,LTD	52	-	13	1,255	-
325E&C co,ltd.	-	-	2,036	-	21
G&G ENTERPRISE CO.,LTD.	-	-	-	1	-
Haksan Publinshing Co., Ltd.	-	-	2,165	199	7
Wyatt co., Ltd	98	-	-	930	175
JASON GROUP Co., Ltd.	-	-	-	53	-
KakaoBank Corp.	1,721	-	181,009	3,870	8,869
Stage five Co., Ltd.	765	-	2,013	-	301
Socialbean Co., Ltd	3	-	-	360	-
Super Comics.	-	1,500	685	190	-
SEOUL MEDIA.INC.	-	-	1,302	410	2
Tide Square Co., Ltd.	-	-	-	2,219	2
HUMART COMPANY(TROST)	1	-	-	8	-
CULTUREHERO	-	-	-	60	-
Cleaning Lab	-	-	-	146	-
Leferi	-	-	-	11	-
Neptune Co., Ltd.	714	4,500	176	882	995

Highup Entertainment	-	-	4,935	-	47
Kakao Growth Hacking Fund	1,436	-	-	-	-
Nimble Neuron	9	-	2,225	2,018	-
MUSTIT. CO., Ltd.	3	-	-	-	-
Daeyoung Chaevi CO., Ltd	-	-	-	9	-
HongKong TXKP Limited	-	387	-	-	-
Kakao Style Corp.	320	-	-	3,666	-
Force Teller	-	-	-	-	-
TNK Factory	111	-	2	2	-
Carrot Market	15	-	-	-	-
Time&Co	-	-	-	63	-
THE ANT	7	-	295	195	-
Metaverse Entertainment	-	-	115	26	1
Grip Company	37	-	3,995	483	773
MORE VISION CO., LTD.	58	-	-	65	-
D&C WEBTOON BIZ	4	-	-	512	-
Fixel Hub co,ltd.	-	-	5	-	-
Threepoint[1]	3	50	-	-	-
Reality Magic	-	-	-	5	-
Second Dive	-	-	-	3,426	-
NEW WAVE COMMERCE	-	-	-	1	-
K Cube NEO Fund	205	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	1,057	-	2,250	-	-
Teins Valley	-	-	8	10	-
TheCheat Corp.	-	-	-	12	-
GRAYGO Corp.	-	-	-	4	-
Nautilus	-	-	-	6	-
Kakao-Shinhan 1st TNYT Fund	96	-	-	-	-
e.Form Works	-	-	-	-	1
TEEware	-	451	-	-	-
Girl Rivers Cultural Industry Company Ltd.	-	-	-	12	-
Korea Payment Networks Limited	-	-	-	145	-
Chengdu Podoteng Technology Co., Ltd.	984	-	-	-	6,735
Clove Corp.	-	-	-	1	-
Dreamus Company	1,693	-	-	1,848	-
DEAR U Co.,Ltd.	4,469	-	-	-	-
Playhard	-	-	-	-	-
treeplla Inc.	-	-	24	-	-
S&Tsolution Co.,Ltd.	18	-	-	-	120
MIDIEOSEUPIEO CO.,LTD.	-	-	-	3	-

Anycall Mobility Corp	30	-	-	-	77
Galaxia SM, INC.	-	-	-	1	-
MYSTIC STORY INC.	303	-	-	-	-
Life Design Company Inc.	1,299	-	-	45	-
ESTEEM ENTERTAINMENT CO., LTD.	-	-	2,073	145	124
Kids Note Co., Ltd.	253	-	-	196	192
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	7	-	-	-	-
PT GREENWIND CULTURE	-	-	-	27	-
ESTEEM	17	-	-	12	-
Studio Flow, Inc.	3	-	-	-	-
GT ENT CO.,LTD.	-	-	19	11	-
Romance Crew	-	-	4,300	-	-
TOYOU DREAM	1	5,000	2,944	1,103	117
Siebert Financial Corp.	-	-	6,008	-	-
	22,465	11,888	223,846	27,143	19,439
Joint ventures					
SPLYT TECHNOLOGIES LTD.[1]	326	17,027	31	1,536	1
SM True Company Limited	837	-	-	-	-
CHANGWON CULTURE BOKHAP TOWN CO.,LTD.	-	-	-	-	156
	1,163	17,027	31	1,536	158
Other related parties					
Kakao Impact Foundation	18	-	2	-	54
K Cube Holdings Co., Ltd.	-	-	308	-	1,571
Brian Impact Foundation	17	-	987	-	249
SUNYOUNG STORY. CO., LTD	-	-	1,200	-	-
Kakao Creative Foundation	-	-	1	-	-
	35	-	2,499	-	1,874
	₩ 23,663	₩ 28,915	₩ 226,376	₩ 28,679	₩ 21,471

[1] The Group accounted for the whole amounts of trade receivables and short-term loans as bad debts.

(in millions of Korean won)

	2022				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables and others	Non-trade payables	Other payables
Associates					
YANADU.	₩ -	₩ -	₩ 15	₩ 24	₩ -
CLAIR, Inc.	-	-	-	2	-
CNT TECH CO., LTD.	8	-	88	291	-
Deleo Korea Co., Ltd.	-	-	-	2	-
DGT mobility.	-	-	-	164	-
D&C MEDIA CO.,LTD.	-	-	2,014	211	-
Doctor Brain Culture Industry Special Purpose Company Ltd.	61	-	-	-	-
DREAMSIDE Culture Industry Special Purpose Company Ltd.	-	-	400	-	-
DAIWAON. C. I. INC	19	-	723	149	30
DOZEN CO.,LTD	61	-	-	842	-
325E&C co,ltd.	-	-	2,588	-	22
G&G ENTERPRISE CO.,LTD.	-	-	-	22	-
Haksan Publinshing Co., Ltd.	-	-	2,607	192	2
Wyatt co., Ltd	109	-	100	1,223	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	3	-	-	-	-
JASON GROUP Co., Ltd.	-	-	-	100	-
KakaoBank Corp.	1,570	-	155,663	1,245	7,424
mycelebs, inc	-	-	325	90	-
Stage five Co., Ltd.	627	-	-	-	372
Socialbean Co., Ltd	7	-	-	406	1
Super Comics.	-	1,000	569	200	-
SEOUL MEDIA.INC.	-	-	982	259	-
Tide Square Co., Ltd.	11	-	24	1,841	-
HUMART COMPANY(TROST)	-	-	-	6	-
CULTUREHERO	-	-	-	20	-
Cleaning Lab	-	-	-	130	-
Leferi	-	-	-	47	-
Neptune Co., Ltd.	-	-	-	44	-
Highup Entertainment	-	-	2,431	-	24
Kakao Growth Hacking Fund	477	-	-	-	-
Nimble Neuron	-	-	2,787	307	-
MUSTIT. CO., Ltd.	3	-	-	-	-
Daeyoung Chaevi CO., Ltd	-	-	-	23	-
Square Lab Inc.	-	-	-	6	2

HongKong TXKP Limited	-	380	-	-	-
Autonomous A2Z	-	-	1	-	-
Kakao Style Corp.	86	-	31	3,430	-
Force Teller	-	-	-	-	-
TNK Factory	2	-	-	11	-
Carrot Market	29	-	34	-	-
Time&Co	-	-	-	46	-
THE ANT	-	-	149	204	100
Metaverse Entertainment	-	-	113	-	-
Grip Company	32	-	4,865	1,420	773
MORE VISION CO., LTD.	-	-	457	-	-
Love Alarm Culture Industry Spetial Purpose Company Ltd.	-	-	2,010	-	-
D&C WEBTOON BIZ	4	-	2,437	1,679	-
Fixel Hub co,ltd.	-	-	17	-	-
PERSONA	-	-	-	-	-
threepoint	3	50	50	-	-
Ocean Drive Studio Corp.	-	10,000	10,348	-	-
Reality Magic	-	-	427	11	-
MAGNET	-	-	-	29	-
Second Dive	-	-	2,800	-	-
NEW WAVE COMMERCE	-	-	-	1	-
K Cube NEO Fund	259	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	1,212	-	-	-	-
Teins Valley	-	-	-	2	-
TheCheat Corp.	-	-	-	11	-
GRAYGO Corp.	14	-	-	16	200
Catchers Cultural Industry Company	-	-	280	-	-
Nautilus	-	-	-	10	-
Kakao-Shinhan 1st TNYT Fund	96	-	-	-	-
GC SOCIAL MEDIA MARKETING, INC..	-	-	-	16	-
Ad X plus Co., Ltd	345	-	-	-	-
e.Form Works	-	-	-	-	1
TEEware	-	-	-	211	-
Tangram Factory, inc.	-	-	-	-	-
Girl Rivers Cultural Industry Company Ltd.	-	-	530	-	-
Korea Payment Networks Limited	-	-	-	1	-
Chengdu Podoteng Technology Co., Ltd.	2,078	-	-	-	4,765
	7,117	11,430	195,866	14,945	13,714

Other related parties					
Kakao Impact Foundation	15	-	239	-	42
K Cube Holdings Co., Ltd.	-	-	393	-	2,071
Brian Impact Foundation	19	-	1,266	-	249
Colorverse Inc.	-	-	-	-	-
GAMERS FOUNDATION	-	-	-	-	-
	34	-	1,898	-	2,362
	₩ 7,151	₩ 11,430	₩ 197,764	₩ 14,945	₩ 16,076

Fund transactions with related parties for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)

	2023									
		Loan transactions						Finance lease transactions		
	Contributions (Collections)	Beginning balance	Changes in scope of consolidation	Loans	Repayment	Exchange differences	Ending balance	Loans[1]	Amortization	Collection
Associates										
threepoint[2]	₩ -	₩ 50	₩ -	₩ -	₩ -	₩ -	₩ 50	₩ -	₩ -	₩ -
Ocean Drive Studio Corp.[3]	-	10,000	(10,000)	-	-	-	-	-	-	-
HongKong TXKP Limited	-	380	-	10	(3)	-	387	-	-	-
TOYOU DREAM	-	-	-	5,000	-	-	5,000	-	-	-
Super Comics.	-	1,000	-	500	-	-	1,500	-	-	-
TEEware	-	-	-	451	-	-	451	64	1	63
Grip Company	-	-	-	-	-	-	-	3,981	136	836
KakaoBank Corp.	-	-	-	-	-	-	-	103,670	3,028	9,707
SM BRAND MARKETING Co., LTD.[3]	-	-	-	-	-	-	-	-	-	82
Neptune Co., Ltd.	-	-	-	4,500	-	-	4,500	-	-	-
UTC Kakao SK Telecom ESG Fund[4]	4,000	-	-	-	-	-	-	-	-	-
MOYO[4]	500	-	-	-	-	-	-	-	-	-
Medility Inc.[4]	150	-	-	-	-	-	-	-	-	-
Bluepoint Discovery Venture Fund No.2[4]	1,200	-	-	-	-	-	-	-	-	-
UNION K-Culture Contents Investment Fund[4]	2,500	-	-	-	-	-	-	-	-	-
Together Kakao Games win-win fund[4]	2,000	-	-	-	-	-	-	-	-	-

Autonomous A2Z[4]	5,000	-	-	-	-	-	-	-	-	-
Kakao Growth Hacking Fund[5]	(1,600)	-	-	-	-	-	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund[5]	(1,950)	-	-	-	-	-	-	-	-	-
Love Alarm Culture Industry Special Purpose Company Ltd.[5,6]	(3)	-	-	-	-	-	-	-	-	-
	11,797	11,430	(10,000)	10,461	(3)	-	11,888	107,715	3,165	10,688
Associates										
SPLYT TECHNOLOGIES LTD.[2]	-	-	13,443	2,590	-	993	17,027	-	-	-
FITNESSCANDY CO.,LTD[4]	1,323	-	-	-	-	-	-	-	-	-
	1,323	-	13,443	2,590	-	993	17,027	-	-	-
Other related parties										
Brian Impact Foundation	-	-	-	-	-	-	-	987	25	278
K Cube Holdings Co., Ltd.	-	-	-	-	-	-	-	308	8	85
	-	-	-	-	-	-	-	1,295	32	364
	₩ 13,120	₩ 11,430	₩ 3,443	₩ 13,051	₩ (3)	₩ 993	₩ 28,915	₩ 109,010	₩ 3,197	₩ 11,052

[1] The amount represents the ending balance of lease receivables to be received by maturity under the sub-lease agreement with the related party in 2023.
[2] The Group accounted for the whole amounts of loans as bad debts.
[3] Transferred from associates to subsidiaries during the year ended December 31, 2023, and the transaction amount before transfer is presented.
[4] The Group additionally acquired through capital increase with consideration during 2023.
[5] The Group recovered some of the principal of investment through the distribution during 2023.
[6] Excluded from the Group's associate during the year ended December 31, 2023, and the transaction amount before exclusion is presented.

(in millions of Korean won)	2022								
		Loan transactions					Finance lease transactions		
	Contributions (Collections)	Beginning balance	Changes in scope of consolidation	Loans	Repayment	Ending balance	Loans[1]	Amortization	Collection
Associates									
threepoint	₩ -	50	-	-	-	50	-	-	-
Ocean Drive Studio Corp.	-	-	-	10,000	-	10,000	-	-	-
HongKong TXKP	-	1,067	-	-	(687)	380	-	-	-

Limited									
Super Comics.	-	-	-	1,000	-	1,000	-	-	-
Kakao Growth Hacking Fund[2]	3,200	-	-	-	-	-	-	-	-
KakaoBank Corp.	-	-	-	-	-	-	93,082	2,982	6,774
Grip Company	-	-	-	-	-	-	4,817	89	413
TEEware	-	-	-	-	-	-	80	1	7
Helios KDBC Video Digital Contents No. 1[2]	2,202	-	-	-	-	-	-	-	-
Neptune Co., Ltd.[3,5]	110,346	-	-	-	-	-	-	-	-
UTC Kakao SK Telecom ESG Fund[2]	4,000	-	-	-	-	-	-	-	-
Loadstars[2]	67	-	-	-	-	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund[4]	(2,550)	-	-	-	-	-	-	-	-
GC Social Marketing Inc.[2]	2,561	-	-	-	-	-	-	-	-
Atwater Capital Partners I,L.P.[2]	470	-	-	-	-	-	-	-	-
	120,296	1,117	-	11,000	(687)	11,430	97,979	3,073	7,194
Other related parties									
Brian Impact Foundation	-	-	-	-	-	-	1,266	13	137
K Cube Holdings Co., Ltd.	-	-	-	-	-	-	393	9	85
Kakao Creative Foundation	500	-	-	-	-	-	-	-	-
	500	-	-	-	-	-	1,659	23	222
	₩ 120,796	₩ 1,117	₩ -	₩ 11,000	₩ (687)	₩ 11,430	₩ 99,638	₩ 3,096	₩ 7,416

[1] The amount represents the ending balance of lease receivables to be received by maturity under the sub-lease agreement with the related party in 2022.
[2]The Group additionally acquired through capital increase with consideration during 2022.
[3] Converted to 1,135,202 ordinary shares as exercising conversion right during 2022.
[4] The Group recovered some of the principal of investment through the first distribution during 2022.
[5] During 2022, acquired 6,913,540 new shares as consideration through the merger and acquisition of Ad(x) Inc.

The compensation paid or payable to key management for the years ended December 31, 2023 and 2022, consists of:

(in millions of Korean won)	2023	2022
Salaries	₩ 5,425	₩ 2,340
Post-employment benefits	116	87
Other long-term benefits	5	12
Share-based compensation	1,242	2,472
	₩ 6,788	₩ 4,910

41. Information for Non-controlling Interests

(1) Changes in accumulated non-controlling interests

The profit or loss allocated to non-controlling interests and accumulated non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2023 and 2022, is as follows:

(in millions of Korean won)

	2023					
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Investment by non-controlling interests and disposal of shares	Others	Accumulated non-controlling interests at the end of the year
Kakao Games Corp.	58.7	₩ 996,788	₩ (232,325)	₩ (34,624)	₩ 321,522	₩ 1,051,361
Kakaopay Corp.	53.6	1,035,258	(16,410)	(3,420)	49,386	1,064,815
Kakao Entertainment Corp.	33.9	494,858	(360,807)	458,471	22,204	614,726
Kakao Mobility Corp.	42.7	495,207	(54,050)	130	1,025	442,312
SM Entertainment Co., Ltd.	66.1	-	(124,582)	940,668	(7,137)	808,949

(in millions of Korean won)

	2022					
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Investment by non-controlling interests and disposal of shares	Others	Accumulated non-controlling interests at the end of the year

Kakao Games Corp.	58.6	₩ 1,150,543	₩ (70,678)	₩ 57,145	₩ (140,222)	₩ 996,788
Kakaopay Corp.	53.1	957,911	11,879	19,840	45,629	1,035,258
Kakao Entertainment Corp.	26.4	599,167	(156,901)	4,655	47,937	494,858
Kakao Mobility Corp.	42.7	355,986	(11,711)	2,501	148,430	495,207

(2) Summarized financial information on subsidiaries

Set out below is summarized financial information for each subsidiary that has non-controlling interests that are material to the Group. The amounts disclosed for each subsidiary are before inter-company eliminations.

Summarized consolidated statements of financial position

(in millions of Korean won)	2023				
	Kakao Games Corp.	**Kakaopay Corp.**	**Kakao Entertainment Corp.**	**Kakao Mobility Corp.**	**SM Entertainment Co., Ltd.**
Current assets	₩ 1,020,760	₩ 2,385,238	₩ 1,152,707	₩ 633,038	₩ 858,316
Non-current assets	2,450,257	437,492	2,152,488	804,508	682,658
Assets of financial services business	-	1,143,756	-	-	-
Current liabilities	710,111	1,108,543	1,499,912	249,418	519,297
Non-current liabilities	1,135,377	95,780	378,575	168,322	112,279
Liabilities of financial services business	-	827,387	-	-	-
Equity	₩ 1,625,528	₩ 1,934,776	₩ 1,426,709	₩ 1,019,806	₩ 909,398

(in millions of Korean won)	2022			
	Kakao Games Corp.	**Kakaopay Corp.**	**Kakao Entertainment Corp.**	**Kakao Mobility Corp.**
Current assets	₩ 1,057,387	₩ 2,259,816	₩ 607,662	₩ 621,334
Non-current assets	2,816,555	315,950	2,846,622	925,206
Assets of financial services business	-	755,656	-	-
Current liabilities	267,339	873,830	1,489,036	276,811
Non-current liabilities	1,591,709	98,849	346,214	126,702
Liabilities of financial services business	-	450,483	-	-
Equity	₩ 2,014,893	₩ 1,908,260	₩ 1,619,034	₩ 1,143,028

Summarized consolidated statements of comprehensive income

(in millions of Korean won)	2023				
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.	SM Entertainment Co., Ltd.
Revenue	₩ 1,025,086	₩ 615,363	₩ 1,873,535	₩ 601,811	₩ 756,076
Profit (loss) for the year	(322,406)	(22,907)	(1,223,466)	(124,183)	59,671
Other comprehensive income	(21,253)	(4,455)	(7,340)	(832)	(9,230)
Total comprehensive income (loss)	₩ (343,659)	₩ (27,361)	₩ (1,230,806)	₩ (125,015)	₩ 50,441

(in millions of Korean won)	2022			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Revenue	₩ 1,147,693	₩ 521,364	₩ 1,864,791	₩ 483,692
Profit (loss) for the year	(196,108)	26,830	(629,795)	(27,695)
Other comprehensive income	(209,030)	2,580	61,314	(1,036)
Total comprehensive income (loss)	₩ (405,138)	₩ 29,410	₩ (568,480)	₩ (28,731)

Summarized consolidated statements of cash flows

(in millions of Korean won)	2023				
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.	SM Entertainment Co., Ltd.
Cash flows from operating activities	₩ 124,621	₩ 253,114	₩ 110,013	₩ 103,507	₩ 84,386
Cash flows from (used in) investing activities	(53,998)	(417,165)	(818,378)	17,387	255,559
Cash flows from (used in) financing activities	(43,900)	(42,188)	1,064,187	(65,813)	(30,701)
Increase (decrease) in cash and cash equivalents	26,723	(206,239)	355,822	55,082	309,244
Cash and cash equivalents at beginning of period	626,770	1,463,509	211,258	390,592	-
Effects of exchange rate changes on cash and cash equivalents	225	(12)	565	-	(6,104)
Cash and cash equivalents at end of period	₩ 653,718	₩ 1,257,258	₩ 567,645	₩ 445,673	₩ 303,140

(in millions of Korean won)	2022			
	Kakao Games Corp.	**Kakaopay Corp.**	**Kakao Entertainment Corp.**	**Kakao Mobility Corp.**
Cash flows from (used in) operating activities	₩ 133,825	₩ (56,866)	₩ (44,597)	₩ 96,998
Cash flows from (used in) investing activities	(963,585)	383,359	(138,474)	(298,344)
Cash flows from (used in) financing activities	644,073	(3,482)	151,884	(31,054)
Increase (decrease) in cash and cash equivalents	(185,687)	323,011	(31,187)	(232,400)
Cash and cash equivalents at beginning of period	808,676	1,140,415	239,614	622,992
Effects of exchange rate changes on cash and cash equivalents	3,781	83	2,832	-
Cash and cash equivalents at end of period	₩ 626,770	₩ 1,463,509	₩ 211,258	₩ 390,592

(3) Transactions with Non-controlling Interests

Effects of transactions with non-controlling interests on the equity attributable to equity holders of the Parent Company for the years ended December 31, 2023 and 2022, are as follows:

(in millions of Korean won)	**2023**	**2022**
Capital increase of a subsidiary[1,2]	₩ 649,759	₩ 21,204
Others[3]	(65,279)	(44,343)
Net effect on equity	₩ 584,480	₩ (23,138)

[1] During 2023, Kakao Entertainment Corp., a subsidiary, decided to increase capital through allotment to a third party. Total amount of the capital increase is ₩ 1,153,980 million. As a result, the Group's interests in Kakao Entertainment Corp. decreased from 73.6% to 66.1%. Due to the above transaction, the non-controlling interest increased by ₩ 502,221 million as at the date of capital increase and the share capital attributed to the equity holders of the Group increased by ₩ 651,759 million.

[2] During 2023, Seoul Arena Co., Ltd, a subsidiary, decided to increase capital through allotment to a third party. Total amount of the capital increase is ₩2,000 million. As a result, the Group's interests in Seoul Arena Co., Ltd decreased from 100.0% to 98.0%. Due to the above transaction, the non-controlling interest increased by ₩ 2,000 million as at the date of capital increase and the share capital attributed to the equity holders of the Group decreased by ₩ 2,000 million.

42. Assets Held for sale

Details of assets of disposal group classified as held for sale as at December 31, 2023, are as follows:

(in millions of Korean won)		**2023**
Property and equipment[1]	₩	7,928
Investment property		494
Investments in associates[2]		41,121
	₩	49,543

[1] The Group classified property and equipment of ₩ 7,928 million (land of ₩ 6,621 million, buildings of ₩ 1,280 million and tools and equipment ₩ 27 million) held by the Group as assets held for sale during the year ended December 31, 2023.
[2] Management of the Group decided to sell some of equity securities of Stage five Co., Ltd., an associate, for the year ended December 31, 2023. The contract was signed on December 18, 2023, and the sale is scheduled to proceed within one year.

There are no gains or losses recognized in relation to items classified as held for sale.

43. Events After the Reporting Period

The Seoul Southern District Prosecutors' Office ("Prosecution") is conducting an investigation in allegations of breach of trust by executives of a subsidiaries in connection with the acquisition of shares in Baram Pictures Corp.. At the end of the reporting period, the outcome of the prosecution investigation and its impact on financial statements cannot be predicted.

The amount exercised for the first early redemption claim (exercise period: January 31, 2024 - March 4, 2024) related to the convertible bonds issued by the subsidiaries is ₩ 370,854 million, and the scheduled early redemption date based on the exercise is April 1, 2024.

Pursuant to the resolution of the Board of Directors' meeting held on January 11, 2024 and February 7, 2024, the Parent Company disposed of 5,729 and 1,067 shares of treasury shares, respectively, for the purpose of employee bonuses on January 16, 2024 and February 27, 2024.

The Parent Company, according to the approval of the Board of Directors' meeting held on February 14, 2024, plans to retire 1,966,496 shares of treasury shares.

Independent Auditor's Report on Internal Control over Financial Reporting for Consolidation Purposes

(English Translation of a Report Originally Issued in Korean)

To the Board of Directors and Shareholders of
KAKAO CORP.

Opinion on Internal Control over Financial Reporting for Consolidation Purposes

We have audited Internal Control over Financial Reporting (ICFR) of KAKAO CORP. and its subsidiaries (collectively referred to as the "Group") for consolidation purposes as at December 31, 2023, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

In our opinion, the Group maintained, in all material respects, effective ICFR for consolidation purposes as at December 31, 2023, based on *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

We also have audited, in accordance with Korean Standards on Auditing, the consolidated financial statements of the Group, which comprise the consolidated statement of financial position as at December 31, 2023, and the consolidated statement of comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flow for the year then ended, and notes to the consolidated financial statements including material accounting policy information, and our report dated March 20, 2024 expressed an unqualified opinion.

Basis for Opinion on Internal Control over Financial Reporting for Consolidation Purposes

We conducted our audit in accordance with Korean Standards on Auditing. Our responsibilities under these standards are further described in the *Auditor's Responsibilities for the Audit of Internal Control over Financial Reporting for consolidation purposes* section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of ICFR for consolidation purposes and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Responsibilities of Management and Those Charged with Governance for Internal Control over Financial Reporting for Consolidation Purposes

Management is responsible for designing, implementing and maintaining effective ICFR for consolidation purposes, and for its assessment about the effectiveness of ICFR for consolidation purposes, included in the accompanying Management's Report on the Effectiveness of Internal Control over Financial Reporting for Consolidation Purposes.

Those charged with governance have the responsibilities for overseeing ICFR for consolidation purposes.

Auditor's Responsibilities for the Audit of Internal Control over Financial Reporting for Consolidation Purposes

Our responsibility is to express an opinion on ICFR for consolidation purposes of the Group based on

our audit. We conducted the audit in accordance with Korean Standards on Auditing. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether effective ICFR for consolidation purposes was maintained in all material respects.

An audit of ICFR for consolidation purposes involves performing procedures to obtain audit evidence about whether a material weakness exists. The procedures selected depend on the auditor's judgment, including the assessment of the risks that a material weakness exists. An audit includes obtaining an understanding of ICFR for consolidation purposes and testing and evaluating the design and operating effectiveness of ICFR for consolidation purposes based on the assessed risk.

Definition and Inherent Limitations of Internal Control over Financial Reporting for Consolidation Purposes

An entity's ICFR for consolidation purposes is a process effected by those charged with governance, management, and other personnel, designed to provide reasonable assurance regarding the preparation of reliable consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea. An entity's ICFR for consolidation purposes includes those policies and procedures that (1) pertain to the maintenance of records that, in reasonable detail, accurately and fairly reflect the transactions and dispositions of the assets of the entity; (2) provide reasonable assurance that transactions are recorded as necessary to permit preparation of consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea, and that receipts and expenditures of the entity are being made only in accordance with authorizations of management and directors of the entity; and (3) provide reasonable assurance regarding prevention, or timely detection and correction of unauthorized acquisition, use, or disposition of the entity's assets that could have a material effect on the consolidated financial statements.

Because of its inherent limitations, ICFR for consolidation purposes may not prevent, or detect and correct, misstatements. Also, projections of any assessment 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.

The engagement partner on the audit resulting in this independent auditor's report is Seung Whan Lee, Certified Public Accountant.

/s/ Samil PricewaterhouseCoopers
Seoul, Korea
March 20, 2024

This report is effective as at March 20, 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 Group's ICFR for consolidation purposes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Management's Report on the Effectiveness of Internal Control over Financial Reporting for Consolidation Purposes

(English Translation of a Report Originally Issued in Korean)

To the Shareholders, Board of Directors and Audit Committee
of KAKAO CORP.

We, as the Chief Executive Officer (CEO) and the Internal Control over Financial Reporting Officer of KAKAO CORP. (the Company), assessed the effectiveness of the design and operation of the Company's Internal Control over Financial Reporting (ICFR) for consolidation purposes for the year ended December 31, 2023.

The Company's management, including ourselves, is responsible for designing and operating ICFR for consolidation purposes. We assessed the design and operating effectiveness of ICFR for consolidation purposes in the prevention and detection of an error or fraud which may cause material misstatements in the preparation and disclosure of reliable consolidated financial statements. We designed and operated ICFR for consolidation purposes in accordance with *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting* established by the Operating Committee of Internal Control over Financial Reporting in Korea (the ICFR Committee). And, we conducted an evaluation of ICFR for consolidation purposes based on *Best Practice Guidance for Evaluating and Reporting Internal Control over Financial Reporting* established by the ICFR Committee.

Based on the assessment results, we believe that the Company's ICFR for consolidation purposes, as at December 31, 2023, is designed and operating effectively, in all material respects, in accordance with *Conceptual Framework for Designing and Operating Internal Control over Financial Reporting*.

Although the consolidated financial statements for the year ended December 31, 2022, were restated during the year ended December 31, 2023, it was confirmed that all corrections were made by establishing and executing appropriate remediation procedures within the year ended December 31, 2023.

We certify that this report does not contain any untrue statement of a fact, or omit to state a fact necessary to be presented herein. We also certify that this report does not contain or present any statements which cause material misunderstandings, and we have reviewed and verified this report with sufficient due care.

March 15, 2024

Hong Euntaek,
Chief Executive Officer

Oh Seyong,
Internal Control over Financial Reporting Officer

KPMG SAMJONG

KPMG SAMJONG Accounting Corp.
152, Teheran-ro, Gangnam-gu, Seoul 06236
(Yeoksam-dong, Gangnam Finance Center 27th Floor)
Republic of Korea

Tel +82 (2) 2112 0100
Fax +82 (2) 2112 0101
www.kr.kpmg.com

Independent Auditors' Report

To the Board of Directors and Shareholders
Kakao Corp.:

Opinion

We have audited the consolidated financial statements of Kakao Corp. and its subsidiaries (the "Group") which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income (loss), changes in equity and cash flows for the years then ended and notes to the consolidated financial statements, comprising significant accounting policies and other explanatory information.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards (K-IFRS).

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing (KSAs). Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in Korea, and we have fulfilled our ethical responsibilities in accordance with these requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our opinion.

Emphasis Of Matters

We draw attention to Note 43 of the consolidated financial statements regarding the matters included below. Our audit opinion is not modified in respective of these matters.

- As described in Note 43 to the consolidated financial statements, the Group has identified misstatements related to the recognition of long-term employee benefits in accordance with K-IFRS 1019, deferred tax liabilities in accordance with K-IFRS 1012 and other financial liabilities in accordance with K-IFRS 1109. As a result, the Group has restated its consolidated financial statements for the year ended December 31, 2022 as these misstatements were considered material. This resulted in decreases in the Group's net assets as at December 31, 2022 and 2021 by ₩ 16.2 billion and ₩ 21.6 billion respectively, an increase in profit for the year ended December 31, 2022 by ₩ 4.4 billion and a decrease in profit for the year ended December 31, 2021 by ₩ 5.7 billion, respectively.

- As described in Note 43 to the consolidated financial statements, the Group has elected to change its accounting treatment in respect of K-IFRS 1115 and has restated the consolidated financial statements for the year ended December 31, 2022 as the impact on the consolidated financial statements is material. This has resulted in a decrease in the Group's revenue and operating expenses for the year ended December 31, 2022 by the same amount.

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements as of and for the year ended December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

A. Recognition of revenue from Search and Display advertising services

Why the matter was decided as the key audit matter

In 2022, the amount of revenue generated from Search and Display advertising services is ₩ 804.6 billion. We considered the significance of these services to the Group's revenue and the complexity involved in measuring the revenue. . Revenue recognition from Search and Display advertising services depends on the terms and conditions of contracts with a large number of advertisers and advertising agencies, and the amount of revenue is determined and recorded in a financial system through a complex process based on large volume of data, including customer information and various contract terms aggregated in the operations system (see Note 2). There is a potential risk that the amount of revenue was improperly recognized due to such complex process and the large volume of data. As a result, we identified recognition of the revenue from Search and Display advertising services as a key audit matter.

How the matter was addressed in our audit

The primary audit procedures we performed to address this key audit matter included:

- Obtaining an understanding of and evaluated accounting policies on recognition of revenue from Search and Display advertising services, and identifying and testing certain controls over the revenue recognition process
- Testing general IT controls for the operations system (program change, security, computer operation, and other)
- Testing the effectiveness of controls related to determining the billing amounts charged to customers in the operations system through independent reperformance.
- Testing the effectiveness of controls in relation to a pre-approval for the change of data by testing samples and inspecting the relevant supporting documents
- Performing reconciliation between the amount of revenue recorded in the operations system and that recognized in the financial reporting system
- For selected samples, examining the accuracy of the amount recognized as revenue by inspecting relevant documents

B. Impairment of goodwill allocated to internet portal service and other services cash-generating unit and commerce service cash-generating unit

Why the matter was decided as the key audit matter

As of December 31, 2022, goodwill allocated to the internet portal service and other services cash-generating unit amounts to ₩ 1,081.9 billion and goodwill allocated to the commerce service cash-generating unit amounts to ₩ 270.9 billion (see Note 19). The Group performed impairment tests on the aforementioned goodwill by calculating value-in-use based on the discounted cash flow (see Note 3).

We identified the accounting for the aforementioned goodwill as a key audit matter due to the significance of the amounts, and the significant judgements made by the Group's management in determining the assumptions such as discount rates, growth rates and future cash flow projections when estimating the value-in-use.

How the matter was addressed in our audit

The primary audit procedures we performed to address this key audit matter included:

- Obtaining an understanding of the Group's policies, procedures and internal controls in relation to accounting for impairment on goodwill
- Evaluating the appropriateness of valuation model used by management to estimate value-in-use
- Evaluating the competence and objectivity of the external specialist engaged by the Group
- Testing internal controls on management's review and approval in relation to future cash flow estimates for impairment tests

- Evaluating whether future cash flow is reasonably estimated based on the business plan approved by management
- Evaluating the reasonableness of key assumptions used to estimate value-in-use
- Evaluating the results of management's sensitivity analysis on the discount rates and the terminal growth rates performed to assess the impact of changes in key assumptions on the impairment tests

Other Matters

The procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

The accompanying consolidated financial statements as of and for the year ended December 31, 2022, as restated and reported by the Board of Directors on March 15, 2024, reflecting the correction of misstatements and the change in accounting policy as disclosed in Note 43, differ from the consolidated financial statements approved by the Board of Directors on February 22, 2023 and the annual general shareholders' meeting on March 28, 2023. We have performed additional audit procedures as we considered necessary to express an audit opinion on the restated consolidated financial statements as of and for the year ended December 31, 2022.

As we are reissuing this audit report on these restated consolidated financial statements, our audit report dated March 20, 2023 is no longer effective and may not be used in connection with the consolidated financial statements as of and for the year ended December 31, 2022.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with K-IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error. In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

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 a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSAs, we exercise professional judgement and maintain professional skepticism throughout the audit. We also:

— Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations or the override of internal control.

— Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control.

— Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.

— Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, then we are required to draw attention in our auditors' report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditors' report. However, future events or conditions may cause the Group to cease to continue as a going concern.

— Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.

— Obtain sufficient appropriate audit evidence regarding the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable related safeguards.

From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Sang-hyun Kang.

KPMG Samjong Accounting Corp.

Seoul, Korea
March 20, 2023
(Except with regards to the Emphasis Of Matters)

March 19, 2024
(The date of the completion of audit procedures solely related to the Emphasis Of Matters)

This report is effective as of the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Financial Position

As of December 31, 2022 and 2021

(in millions of Korean won)	**Notes**		**2022**	**2021**
Assets				
Current assets				
Cash and cash equivalents	4,7,8	₩	4,780,244	5,231,504
Short-term financial instruments	4,7,8		1,210,213	1,573,559
Financial assets at fair value through profit or loss	4,5,7,10		565,644	305,060
Derivative financial assets	4,5,7,10,26		351	352
Trade receivables	4,7,10		440,899	398,117
Other current financial assets	4,7,10		361,873	319,120
Inventories	15		160,328	91,808
Other current assets	14		236,180	182,674
			7,755,732	8,102,194
Non-current assets				
Long-term financial instruments	4,7,8		10,131	10,139
Financial assets at fair value through profit or loss	4,5,7,10		502,078	302,249
Financial assets at fair value through other comprehensive income	5,7,10		1,449,567	1,219,163
Investments in associates and joint venture	16		2,651,898	3,215,802
Non-current derivatives assets	4,5,7,10,26		6,211	-
Other non-current financial assets	4,7,10		269,788	144,002
Property and equipment	17		885,397	554,916
Intangible assets	19		6,022,352	6,347,795
Investment property	18		20,878	101,296
Right-of-use assets	20		1,715,592	1,399,234
Net defined benefit assets	22		69,448	6,297
Other non-current assets	14		353,770	339,173
Deferred income tax assets	24		493,980	76,920
			14,451,090	13,716,986
Assets of financial services business				
Cash and cash equivalents	4,7,8		55,665	94,196
Deposits	4,7,8		66,511	247,755
Financial assets at fair value through profit or loss	4,5,7,10		496,616	495,952
Financial assets at amortized cost	4,7		16,175	-
Property and equipment	17		15,037	11,782
Intangible assets	19,39		70,561	33,228
Right-of-use assets	20		3,093	11,200
Retirement plan assets	22		289	-
Reinsurance assets			108	-
Other financial assets	4,7,10		15,590	30,498
Other assets	14		17,182	40,768
			756,828	965,379
Total assets		₩	22,963,651	22,784,559

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Financial Position, Continued

As of December 31, 2022 and 2021

(in millions of Korean won)	**Notes**		**2022**	**2021**
Liabilities				
Current Liabilities				
Trade and other payables	4,7,12	₩	1,373,954	1,230,985
Short-term borrowings	4,7,21,37		1,096,884	1,258,828
Deposits received	4,7,13		442,303	384,150
Other current financial liabilities	4,7,13		38,623	653,737
Income tax payable	24		157,670	188,902
Provisions	25		20,574	11,243
Derivative financial liabilities	5,7,26		34,076	11,912
Short-term lease liabilities	4,20,37		244,391	169,531
Other current liabilities	14		1,801,743	1,747,895
			5,210,219	5,657,183
Non-current liabilities				
Non-current trade and other payables	4,7,12		110,592	63,708
Long-term borrowings	4,7,21,37		1,176,181	553,054
Non-current provisions	25		70,152	51,934
Long-term lease liabilities	4,20,37		1,643,416	1,318,155
Net defined benefit liabilities	22		18,514	-
Other long-term employee benefits liabilities	23		73,168	67,927
Non-current derivative financial liabilities	5,7,26		3,540	-
Deferred income tax liabilities	24		606,586	756,520
Other non-current financial liabilities	4,7,13		25,620	43,010
Other non-current liabilities	14		70,105	30,495
			3,797,874	2,884,803
Liabilities of financial services business				
Deposits received	4,7,13		394,287	598,311
Net defined benefit liabilities	22		-	338
Other long-term employee benefit liabilities	23		2,844	1,042
Provisions	25		1,124	1,151
Insurance contract liabilities			190	0
Lease liabilities	4,20,37		2,327	10,266
Other financial liabilities	4,5,7,13		33,213	49,080
Other liabilities	14		5,890	14,052
			439,875	674,240
Total liabilities		₩	9,447,968	9,216,226
Equity				
Share capital	1,27	₩	44,592	44,641
Share premium	27		8,116,371	7,781,647
Other components of equity	29		41,031	77,071
Accumulated other comprehensive income(loss)	30		(1,249,666)	371,824
Retained earnings	31		3,031,364	1,689,445
Equity attributable to owners of the Parent Company			9,983,693	9,964,628
Non-controlling interests	41		3,531,989	3,603,705
Total equity			13,515,683	13,568,333
Total liabilities and equity		₩	22,963,651	22,784,559

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Comprehensive Income (Loss)

For the years ended December 31, 2022 and 2021

(in millions of Korean won, except per share amounts)	Note		2022	2021
Revenue	6,11	₩	6,799,048	5,910,513
Operating expenses	32		6,229,692	5,322,629
Bad debt expense			10,795	3,557
Other operating expenses			6,218,897	5,319,072
Operating profit			569,356	587,884
Other non-operating income	33		2,013,527	1,733,429
Other non-operating expenses	33		1,111,461	407,247
Finance income	34		342,770	177,819
Interest income			122,729	36,889
Other finance income			220,041	140,930
Finance costs	34		487,663	315,317
Share of income of associates and joint venture	16		100,294	596,401
Share of loss of associates and joint venture	16		157,923	86,308
Profit before income tax	6		1,268,900	2,286,661
Income tax expense	24		201,906	646,177
	6			
Profit for the year			1,066,995	1,640,484
Profit (loss) attributable to:				
Equity holders of the Parent Company			1,357,996	1,387,314
Non-controlling interest			(291,002)	253,170
Other comprehensive income				
Items not to be reclassified subsequently to profit or loss:				
Remeasurement of net defined benefit liabilities			(2,244)	(5,968)
Gain (loss) on valuation of equity instruments at fair value through other comprehensive income			(1,721,801)	368,152
Share of other comprehensive income (loss) of associates, net of tax			(52,475)	33,127
Revaluation surplus			-	(1,126)
Items to be reclassified subsequently to profit or loss:				
Share of other comprehensive income (loss) of associates, net of tax			1,927	1,290
Change of retained earnings in equity method			-	(624)
Foreign currency translation adjustments, net of tax			44,800	36,950
Other comprehensive income(loss) for the year, net of tax			(1,729,794)	431,801
Total comprehensive income(loss) for the year		₩	(662,800)	2,072,285
Total comprehensive income(loss) for the year is attributable to:				
Equity holders of the Parent Company		₩	(262,499)	1,686,584
Non-controlling interest			(400,301)	385,701
Earnings per share to the equity holders of the Parent Company (in Korean won)				
Basic earnings per share	35	₩	3,118	3,210
Diluted earnings per share	35		3,066	3,135

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Changes in Equity

For the years ended December 31, 2022 and 2021

(in millions of Korean won)	Note	Attributable to equity holders of the Parent Company						Non-controlling interest	Total equity
		Share capital	Share premium	Other components of equity	Accumulated other comprehensive income (loss)	Retained earnings	Total		
Balance at January 1, 2021		₩ 44,301	5,833,196	18,617	86,577	301,009	6,283,700	1,128,059	7,411,759
Comprehensive income :									
Profit for the year		-	-	-	-	1,387,314	1,387,314	253,170	1,640,484
Foreign currency translation adjustments, net of tax	30	-	-	-	26,680	-	26,680	10,271	36,951
Share of other comprehensive loss of associates, net of tax	16,30	-	-	-	15,548	-	15,548	18,869	34,417
Share or retained earnings of associates		-	-	-	-	(624)	(624)	-	(624)
Gain (loss) on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	262,743	-	262,743	105,409	368,152
Reclassification of gain on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(14,647)	14,647	-	-	-
Changes in revaluation surplus	30	-	-	-	(1,126)	-	(1,126)	-	(1,126)
Remeasurement of employee benefits	22,30	-	-	-	(3,951)	1	(3,950)	(2,018)	(5,968)
Total comprehensive income for the year		-	-	-	285,247	1,401,338	1,686,585	385,701	2,072,285
Transactions with equity holders:									
Exercise of stock options	27,28	264	286,790	(27,134)	-	-	259,920	25,767	285,687
Share-based compensation	28	-	-	80,652	-	-	80,652	44,401	125,053
Conversion of convertible bonds	21,27	76	17,914	-	-	-	17,990	-	17,990
Exchange of exchangeable bond	21	-	10,262	-	-	-	10,262	-	10,262
Cash dividends	36	-	-	-	-	(12,902)	(12,902)	-	(12,902)
Change in ownership interest over subsidiaries		-	1,621,723	-	-	-	1,621,723	1,925,625	3,547,347
Change in scope of consolidation		-	11,764	4,936	-	-	16,700	94,152	110,852
Total transactions with equity holders		340	1,948,452	58,453	-	(12,902)	1,994,344	2,089,945	4,084,289
Balance at December 31, 2021		₩ 44,641	7,781,648	77,070	371,825	1,689,445	9,964,629	3,603,706	13,568,333

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Changes in Equity, Continued

For the years ended December 31, 2022 and 2021

(in millions of Korean won)	Note	Attributable to equity holders of the Parent Company						Non-controlling interest	Total equity
		Share capital	Share premium	Other components of equity	Accumulated other comprehensive income (loss)	Retained earnings	Total		
Balance at January 1, 2022		₩ 44,641	7,781,648	77,071	371,824	1,689,445	9,964,629	3,603,705	13,568,334
Comprehensive income :									
Profit for the year		-	-	-	-	1,357,996	1,357,996	(291,002)	1,066,995
Foreign currency translation adjustments, net of tax	30	-	-	-	29,702	-	29,702	15,097	44,800
Share of other comprehensive loss of associates, net of tax	16,30	-	-	-	(32,859)	-	(32,859)	(17,689)	(50,548)
Gain (loss) on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(1,615,956)	-	(1,615,956)	(105,845)	(1,721,801)
Reclassification of gain on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(991)	991	-	-	-
Remeasurement of employee benefits	22,30	-	-	-	(1,386)	5	(1,381)	(862)	(2,244)
Total comprehensive income for the year		-	-	-	(1,621,490)	1,358,991	(262,499)	(400,301)	(662,800)
Transactions with equity holders:									
Exercise of stock options	27,28	276	110,372	(39,607)	-	-	71,041	41,273	112,314
Share-based compensation	28	-	-	84,564	-	-	84,564	74,584	159,148
Retirement of treasury stocks	21,27	(324)	81,317	(80,996)	-	-	(2)	-	(2)
Cash dividends	36	-	-	-	-	(22,990)	(22,990)	-	(22,990)
Change in ownership interest over subsidiaries		-	(23,138)	-	-	-	(23,138)	101,729	78,590
Reclassification of share premium to retained earnings		-	(5,918)	-	-	5,918	-	-	-
Change in scope of consolidation		-	(11,461)	-	-	-	(11,461)	(25,744)	(37,204)
Income tax effect		-	183,551	-	-	-	183,551	136,742	320,293
Total transactions with equity holders		(48)	334,724	(36,039)	-	(17,072)	281,565	328,584	610,149
Balance at December 31, 2022		₩ 44,592	8,116,372	41,031	(1,249,665)	3,031,364	9,983,695	3,531,988	13,515,683

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Cash Flows

For the years ended December 31, 2022 and 2021

(in millions of Korean won)	Note		2022	2021
Cash flows from operating activities				
Cash generated from operations	37	₩	935,230	1,487,783
Interest received			118,713	32,739
Interest paid			(113,101)	(28,455)
Dividend received			55,458	41,883
Income tax paid			(317,923)	(227,378)
Net cash inflow from operating activities			678,376	1,306,572
Cash flows from investing activities				
Increase in short-term financial instruments			342,616	(886,796)
Decrease (increase) in long-term financial instruments			7	35
Purchase of property and equipment			(452,916)	(216,219)
Disposal of property and equipment			14,340	3,506
Purchase of intangible assets			(189,960)	(154,485)
Disposal of intangible assets			99,340	78,083
Acquisition of financial assets at fair value through profit or loss			(2,161,219)	(1,189,751)
Disposal of financial assets at fair value through profit or loss			1,744,502	993,407
Acquisition of financial assets at fair value through other comprehensive income			(63,014)	(36,281)
Disposal of financial assets at fair value through other comprehensive income			43,396	294
Acquisition of associates and joint ventures			(58,343)	(679,860)
Disposal of associates and joint ventures			79,372	177,652
Acquisition of subsidiaries, net of cash acquired			(174,036)	(1,223,774)
Disposal of subsidiaries, net of cash transferred			34,851	2,435
Decrease (increase) in other current financial assets			18,982	(39,136)
Increase in other non-current financial assets			(66,252)	(87,996)
Decrease in financial liabilities at fair value through profit or loss			(754,073)	-
Cash outflow from transfer of business			-	(38,229)
Other cash outflow from investing activities			(31,698)	(43,894)
Net cash outflow from investing activities			(1,574,105)	(3,341,009)
Cash flows from financing activities				
Proceeds from short-term borrowings			1,263,672	1,184,504
Repayments of short-term borrowings			(1,560,734)	(456,913)
Proceeds from long-term borrowings			710,478	518,562
Repayments of long-term borrowings			(413)	(6,350)
Principal elements of lease payments			(148,175)	(105,689)
Exercise of stock options			72,490	64,551
Payments of dividends			(22,990)	(12,902)
Cash inflows from transactions with non-controlling interests			281,706	3,409,728
Cash outflows from transactions with non-controlling interests			(209,035)	(159,581)
Other cash flows from financing activities			24,822	5,256
Net cash inflow from financing activities		₩	411,821	4,441,166

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIAIRIES

Consolidated Statements of Cash Flows, Continued

For the years ended December 31, 2022 and 2021

(in millions of Korean won)	**Note**		**2022**	**2021**
Net increase(decrease) in cash and cash equivalents		₩	(489,791)	2,431,383
Effect of exchange rate changes on cash and cash equivalents			(5,884)	24,654
Cash and cash equivalents at the beginning of year			5,325,700	2,894,317
Cash and cash equivalents at the end of year		₩	4,835,909	5,325,700

See accompanying notes to the consolidated financial statements.

1. General Information

Kakao Corp. (the "Parent Company") has prepared the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("Korean IFRS") 1110, *Consolidated Financial Statements*, and its consolidated subsidiaries include Daum Global Holdings and the other 141 entities.

(1) Description of the Parent Company

General information about Kakao Corp. and its subsidiaries (collectively, the "Group") is as follows:

The Parent Company was incorporated in February 1995 and provides advertising services, contents offerings including Emoticons, games and music, and other online services through its online platforms.

The Parent Company was listed on the KOSDAQ market in Korea on November 9, 1999 and was transferred to the KOSPI market in Korea on July 10, 2017.

The Parent Company's headquarter is located in Youngpyong-dong, Jeju City, in Jeju Province, Korea. As of December 31, 2022, the Parent Company's share capital amounted to ₩ 44,592 million and the Parent Company's shareholders are as follows:

	Number of shares (in shares)	Percentage of ownership (%)
Kim Bum Soo	59,101,147	13.3
K Cube Holdings Co., Ltd.	46,781,422	10.5
National Pension Service	26,968,191	6.1
MAXIMO PTE. LTD.	26,396,880	5.9
Other related parties	1,656,904	0.4
Treasury shares	8,724,627	2.0
Others	275,794,518	61.8
	445,423,689	100.0

1. General Information, Continued

(2) Consolidated subsidiaries

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
Daum Global Holdings	₩ 2,554	Holding company	Korea	December 31	510,810	100.0
KAKAO BRAIN Corp.	613	Software development	Korea	December 31	1,225,800	100.0
Kakao Ventures Corp.	18,511	Holding company	Korea	December 31	3,702,216	100.0
KAKAO Venture Fund [2,6]	5,100	Investment/holding company	Korea	December 31	19	36.7
Kakao digital contents Fund [2,6]	34,874	Investment/holding company	Korea	December 31	141	40.4
Kakao Game Growth Share Fund [6]	15,000	Investment/holding company	Korea	December 31	150	100.0
Kakao Copilot Fund No. 1 [39]	25,840	Investment/holding company	Korea	December 31	25,600	99.1
KAKAO_CCVC Jeju Creative Economy Innovative Fund	2,000	Investment/holding company	Korea	December 31	190	95.0
KnWorks Co., Ltd. (formerly, DK Service)	1,611	Service operations	Korea	December 31	322,136	100.0
DK Techin	4,500	Service operations	Korea	December 31	900,000	100.0
DK CHINA Co., Ltd	1,093	Service operations	China	December 31	1	100.0
Seoul Arena Co., Ltd[1]	1,600	Real estate development	Korea	December 31	1,600,000	100.0
Kakao healthcare Corp.[1]	60,900	Information communication services	Korea	December 31	12,180,000	100.0
Linewalks Corp. [7]	33	Software development and distribution	Korea	December 31	67,204	100.0
LOC&ALL. INC.	611	Software development and services	Korea	December 31	122,231	100.0
LINKAGE LAB Co., Ltd.	149	Services	Korea	December 31	29,851	100.0
Kakao Investment Co., Ltd.	7,459	Holding company	Korea	December 31	745,964	100.0
KI SG PTE. LTD [4]	1,313	Holding company	Singapore	December 31	1,100,000	100.0
Kids Note Co., Ltd.[2,4]	3,800	Software development and information services	Korea	December 31	367,668	48.4
AWINS [5]	136	Wholesale toys and hobbies and playthings	Korea	December 31	23,987	88.0
Kakao Piccoma Corp.	273,597	Software development and services	Japan	December 31	876,620	91.1
DK CORPORATION[3]	587	Advertising agency and others	Japan	December 31	386	100.0
Piccoma Europe [3]	35,840	Application software development and distribution	France	December 31	26,000,000	100.0
Studio1pic Corp. [3]	150	Application software development and distribution	Korea	December 31	30,000	100.0
Sherpa Studio Corp. [3]	1,047	Electronic publishing	Japan	December 31	12,000	60.0
Voithru Inc. [3]	211	Information communication services	Korea	December 31	1,522,139	72.0
Voithru Japan [17]	47	Information communication services	Japan	December 31	50,000	100.0
KAKAO G Corp.	83,934	Software development and services	Japan	December 31	81,000,000	100.0
Panzea Pte. Ltd.[24]	150,042	Software development	Singapore	December 31	122,926,000	100.0

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
KRUST UNIVERSE PTE. LTD.[25]	₩ 147,069	Software development	Singapore	December 31	122,000,000	100.0
Ground X Corp. (formerly, Ground 1 Corp.)[31]	5,608	E-commerce, internet information services	Korea	December 31	1,0839,164	96.6
KLAYBAY PTE. LTD. [1,31]	37	Software and application development	Singapore	December 31	30,000	100.0
Kakao Mobility Corp.[26]	25,475	Software development and distribution	Korea	December 31	145,992,000	57.3
KM Solution Corp. [21]	35	Services	Korea	December 31	6,909	100.0
KM parking and space Corp.[21]	158	Services	Korea	December 31	11,111	100.0
CMNP Corp. [21]	1,369	Transportation service	Korea	December 31	2,737,000	100.0
K Drive Corp. [32]	4,820	Services	Korea	December 31	9,640,000	100.0
TJ Partners Corp. [21]	762	Transportation service	Korea	December 31	1,524,000	100.0
KM ONE Corp. [22]	69	Taxi service	Korea	December 31	138,000	100.0
KM Two Corp. [22]	82	Taxi service	Korea	December 31	164,000	100.0
KM Three Corp. [22]	80	Taxi service	Korea	December 31	160,000	100.0
KM Four Corp. [22]	71	Taxi service	Korea	December 31	142,000	100.0
KM Five Corp. [22]	71	Taxi service	Korea	December 31	142,000	100.0
KM SIX Corp. [22]	93	Taxi service	Korea	December 31	186,000	100.0
KM Seven Corp. [22]	61	Taxi service	Korea	December 31	122,000	100.0
Donggo Taxi Corp. [22]	103	Taxi service	Korea	December 31	20,696	100.0
Jinhwa Corp. [22]	693	Taxi service	Korea	December 31	138,671	100.0
WithONE's Inc[21].	30	Information communication services	Korea	December 31	60,000	100.0
KM PARK.CO.,Ltd[21]	23,000	Services	Korea	December 31	4,600,000	100.0
RS Solutions Corp[21].	198	Software development and consulting	Korea	December 31	39,749	100.0
Korea freight forwarders association Corp. [2,21]	50	Services	Korea	December 31	4,900	100.0
Kakao Entertainment Corp.[26]	19,885	Software development and services	Korea	December 31	29,269,283	73.6
SamyangCNC Co.,Ltd.[8]	50	Contents production and distribution	Korea	December 31	500,000	100.0
Daon Creative inc[8]	283	Contents production and distribution	Korea	December 31	417,310	73.7
PT. Neo Bazar Indonesia[9]	12,907	Software development and services	Indonesia	December 31	9,905,415	100.0
RS MEDIA Co., Ltd. [8]	452	Contents production and distribution	Korea	December 31	64,909	71.8
Soundist Entertainment.Co.,Ltd. [8]	3,060	Contents production and distribution	Korea	December 31	367,219	60.0
Feelyeon Management [8]	24	Contents production and distribution	Korea	December 31	3,447	72.7
Intime [8]	200	Contents production and distribution	Korea	December 31	28,000	70.0
Legendaries Corp.(Formerly, BATTLE ENTERTAINMENT CORP.) [8]	240	Contents production and distribution	Korea	December 31	32,058	66.7
PAGE LAB Inc. [8]	4	Contents production and distribution	Korea	December 31	632	79.0
KWBOOKS [8]	101	Contents production and distribution	Korea	December 31	10,200	50.5

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
IST Entertainment Corp. [8]	₩ 50	Entertainment management	Korea	December 31	10,000	100.0
EDAM Entertainment Corp [8]	50	Entertainment management	Korea	December 31	52,500	52.5
OOTB Incorporated [8]	13	Movies and videos production	Korea	December 31	13,143	100.0
Mega Monster Corporations[8]	256	Contents production	Korea	December 31	481,729	94.1
J,WIDE-COMPANY[8]	53	Entertainment management	Korea	December 31	105,883	100.0
BH Entertainment[8]	574	Entertainment management	Korea	December 31	114,815	100.0
READY ENTERTAINMENT[8]	450	Entertainment management	Korea	December 31	90,000	100.0
Shanghai Ready Entertainment Co.,Ltd. [20]	290	Entertainment management	China	December 31	100,000	100.0
SOOP ENTERTAINMENT CO., LTD[8]	1,372	Entertainment management	Korea	December 31	274,429	100.0
AWESOMEENT CO. LTD. [8]	547	Entertainment management	Korea	December 31	109,490	100.0
moonlight film [8,27]	1	Movies production	Korea	December 31	1,620	81.0
sanai pictures [8]	2	Movies production	Korea	December 31	1,620	81.0
VAST.CO.,Ltd. [8]	50	Entertainment management	Korea	December 31	10,000	100.0
Antenna Corp. [8]	65	Entertainment management	Korea	December 31	13,038	100.0
Baram Pictures Corp. [8]	152	Broadcast programs production	Korea	December 31	30,482	100.0
Logos Film Corporation[8]	50	Broadcast programs production	Korea	December 31	10,000	100.0
STORY & PICTURES MEDIA[8]	100	Broadcast programs production	Korea	December 31	20,000	100.0
STARSHIP ENTERTAINMENT CORP.[8]	62	Record production and entertainment management	Korea	December 31	7,464	59.7
SHOWNOTE Inc. [18]	324	Performance planning	Korea	December 31	64,883	100.0
KAKAO ENTERTAINMENT ASIA CO.,LTD. [19]	2,032	Digital contents production and distribution	Thailand	December 31	565,000	100.0
Kakao Entertainment (Thailand) Ltd. [8]	1,081	Publishing and electronic publishing	Thailand	December 31	299,997	100.0
Kiwi Vine Corp. (formerly, Kiwi Media Corp.) [8]	124	Translation services	Korea	December 31	100,000	80.9
Cradle Studio Crop. [8]	10	Entertainment management	Korea	December 31	10,410	51.0

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
STUDIO PHEONIX CO.,LTD. [30]	₩ 1,079	VR contents development	Thailand	December 31	299,990	100.0
STUDIO ORANGE CO.,LTD. [30]	1,079	Animation studio	Thailand	December 31	299,990	100.0
3Y Corporation [8]	14	Broadcast programs production	Korea	December 31	1,362	100.0
Radish Korea Inc. [34]	506	Publishing and electronic publishing	Korea	December 31	101,245	100.0
TAPAS ENTERTAINMENT, INC.(formerly, Radish Media, Inc.) [8]	-	Publishing and electronic publishing	USA	December 31	265,154,848	97.4
Wuxiaworld Limited[34]	2	Information communication services	Hong Kong	December 31	11,111	100.0
Wuxiaworld Publishing USA Ltd[35]	12	Information communication services	USA	December 31	10,000	100.0
INISOFT Co., Ltd. [8]	1,250	Software development and consulting	Korea	December 31	249,600	99.8
Kross Pictures Corp. [8]	498	Contents production and distribution	Korea	December 31	99,698	100.0
Kross Comics Corp. [8]	982	Information communication services	Korea	December 31	196,494	100.0
KROSS COMICS INDIA PRIVATE LIMITED[28]	117	Information communication services	India	December 31	700,199	100.0
KROSS TELEVISION INDIA PRIVATE LIMITED[27]	1,190	Information communication services	India	December 31	6,999,998	100.0
KROSS PICTURES INDIA PRIVATE LIMITED[29]	69	Information communication services	India	December 31	408,999	100.0
Glink Media Corp. [8]	30	Advertising agency	Korea	December 31	300,000	100.0
Gleline Corp. [8]	20	Creation and art related services	Korea	December 31	28,000	70.0
Dolphiners Films[8]	-	Advertisements and movie videos productions	Korea	December 31	20	100.0
Studio K110 Co., Ltd. [8]	100	Advertis100ents production and advertising agency	Korea	December 31	200,000	100.0
Zip Cinema Corp. [8]	84	Movies production	Korea	December 31	16,790	100.0
Nextlevelstudio Inc. [8]	21	Print publishing	Korea	December 31	2,578	61.2
Kakao Entertainment America Corp.[1,8,38]	-	Entertainment management	Korea	December 31	-	100.0
Kakao Games Corp.[2]	8,228	Game development and services	Korea	December 31	33,730,000	41.4
NGLE CORPORATION [12]	205	Software development and services	Korea	December 31	210,000	51.2
Dalian Technology Co., Ltd. [10]	374	Game software development	China	December 31	250	100.0
METABORA Co., Ltd [11]	1,790	Game software development and distribution	Korea	December 31	10,932,057	57.7

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
METABORA SINGAPORE PTE. LTD. (formerly, BORANETWORK. PTE. LTD[12]	₩ -	System software development and distribution	Singapore	December 31	10	100.0
Kakao Games Europe B.V.[11]	670,302	Game software development and distribution	Netherlands	December 31	495,037,594	100.0
Kakao Games USA, Inc. [14]	2,305	Game software development and distribution	USA	December 31	500,000	100.0
GLOHOW HOLDINGS PTE. LTD. [14]	1,669	Game software distribution	Singapore	December 31	14,001	54.9
GLOWHOW Co., Ltd. [16]	342	Game software distribution	Thailand	December 31	91,061	100.0
Glohow Co., Ltd. [16]	209	Software development	Taiwan	December 31	50,000	100.0
Glohow Joint Stock Company[1,16]	60	Game software development and mobile publishing	Vietnam	December 31	90,680	80.0
Kakao Games Japan Corp.[11]	2,024	Game software development and distribution	Japan	December 31	2,000,000	100.0
Kakao VX[11]	22,516	Software development and distribution	Korea	December 31	2,935,686	65.2
TAESIK MAUMGOLF CO.,LTD.[15]	578	Golf simulator sales	China	December 31	500,000	100.0
GSWING SPORTING GOODS CO., LTD.[15]	574	Golf simulator sales	China	December 31	500,000	100.0
Gaseung Development Company[15]	100	Golf course development and operation	Korea	December 31	110,000	55.0
Beagle Co., Ltd [15]	650	Software development and distribution	Korea	December 31	129,938	100.0
Lionheart Studio Corp. [11]	37,450	Game software development and distribution	Korea	December 31	41,156,591	54.9
Life MMO Corp. [11]	1,009	Software development and distribution	Korea	December 31	199,999	80.8
XLGAMES Inc. [11]	4,340	Game software development and distribution	Korea	December 31	4,585,703	52.8

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
SENA Technologies, Inc[11]	₩ 2,485	Electronic/communication/computer products manufacturing and sales	Korea	December 31	2,676,750	54.3
SENA Technologies, Inc[37]	6,902	Home appliances, telecommunication equipment wholesale and retail business	USA	December 31	50,000	100.0
Shenzhen Sena Technologies Co., Ltd. [36]	386	Telecommunication equipment manufacturing and development, wholesale and retail business	China	December 31	210	100.0
SENA Europe GmbH[36]	258	Home appliances, telecommunication equipment wholesale and retail business	Germany	December 31	1,000	100.0
SENA SAS[36]	259	Home appliances, telecommunication equipment wholesale and retail business	France	December 31	1,000	100.0
Qingyuan SENA smart Helmets, Inc. [1,36]	5,551	Manufacturing	China	December 31	4,200	100.0
Kakaopay Corp.[2,26]	66,501	Software development and distribution	Korea	December 31	62,351,920	46.9
KP Insurance Services Corp. [23]	633	Financial services and insurance services	Korea	December 31	126,180	96.4
Kakaopay Securities Corp. [23]	53,834	Financial services	Korea	December 31	7,256,092	67.4
Kakaopay Insurance Corp. [13]	100,000	Insurance services	Korea	December 31	20,000,000	100.0
Kakao Enterprise Corp.	8,328	Software development and distribution	Korea	December 31	14,175,265	85.1
EXNTU Corp. [33]	100	Software development and distribution	Korea	December 31	6,000	100.0
Magenta Works Inc. [33]	20	Software development and distribution	Korea	December 31	20,000	100.0
Kakao Space Corp.	1,206	Real estate development and consulting	Korea	December 31	120,588	100.0
KAKAO IX JAPAN Corp.	5,241	Wholesale and retail sales	Japan	December 31	143,055	100.0
KAKAO IX CHINA Co.,LTD.	30,634	Wholesale and retail sales	China	December 31	26,909,700	100.0
KAKAO IX HK, LTD.	53	Retail sales	Hong Kong	December 31	350,000	100.0

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

[1] Newly established in 2022.

[2] The Company has classified the investee as a subsidiary because its shareholding is 50% or less, but the Group has determined that it can exercise effective control based on the potential voting rights it has over the investee.

[3] As a subsidiary of Kakao Piccoma Corp. (formerly, KAKAO JAPAN Corp.), the number of shares and the percentage of ownership represent Kakao Piccoma Corp.'s ownership as of December 31, 2022.

[4] As a subsidiary of Kakao Investment Co., Ltd., the number of shares and the percentage of ownership represent Kakao Investment Co., Ltd.'s ownership as of December 31, 2022.

[5] As a subsidiary of Kids Note Co., Ltd., the number of shares and the percentage of ownership represent Kids Note Co., Ltd.'s ownership as of December 31, 2022.

[6] As a subsidiary of Kakao Ventures Corp., the number of shares and the percentage of ownership represent ownership of the Parent Company and Kakao Ventures Corp. as of December 31, 2022.

[7] As a subsidiary of Kakao healthcare Corp., the number of shares and the percentage of ownership represent Kakao Space Corp.'s ownership as of December 31, 2022.

[8] As a subsidiary of Kakao Entertainment Corp., the number of shares and the percentage of ownership represent Kakao Entertainment Corp.'s ownership as of December 31, 2022.

[9] As a subsidiary of Kakao Entertainment Corp., the number of shares and the percentage of ownership represent Kakao Entertainment Corp. and Kakao Investment Co., Ltd. 's ownership as of December 31, 2022.

[10] As a subsidiary of NGLE CORPORATION, the number of shares and the percentage of ownership represent NGLE CORPORATION 's ownership as of December 31, 2022.

[11] As a subsidiary of Kakao Games Corp., the number of shares and the percentage of ownership represent Kakao Games Corp.'s ownership as of December 31, 2022.

[12] As a subsidiary of METABORA Co., Ltd., the number of shares and the percentage of ownership represent METABORA Co.,Ltd.'s ownership as of December 31, 2022.

[13] As a subsidiary of Kakaopay Corp., the number of shares and the percentage of ownership represent ownership of the Parent Company and Kakaopay Corp. as of December 31, 2022.

[14] As a subsidiary of Kakao Games Europe B.V., the number of shares and the percentage of ownership represent Kakao Games Europe B.V.'s ownership as of December 31, 2022.

[15] As a subsidiary of Kakao VX, the number of shares and the percentage of ownership represent Kakao VX's ownership as of December 31, 2022.

[16] As a subsidiary of GLOHOW HOLDINGS PTE. LTD., the number of shares and the percentage of ownership represent GLOHOW HOLDINGS PTE. LTD.'s ownership as of December 31, 2022.

[17] As a subsidiary of Voithru Inc. the number of shares and the percentage of ownership represent Voithru Inc.'s ownership as of December 31, 2022.

[18] As a subsidiary of STARSHIP ENTERTAINMENT CORP., the number of shares and the percentage of ownership represent STARSHIP ENTERTAINMENT CORP.'s ownership as of December 31, 2022.

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

[19] As a subsidiary of Kakao Enterprise Corp., the number of shares and the percentage of ownership represent Kakao Enterprise Corp., STUDIO PHEONIX CO.,LTD., and STUDIO ORANGE CO.,LTD. 's ownership as of December 31, 2022.

[20] As a subsidiary of READY ENTERTAINMENT, the number of shares and the percentage of ownership represent READY ENTERTAINMENT's ownership as of December 31, 2022.

[21] As a subsidiary of Kakao Mobility Corp., the number of shares and the percentage of ownership represent Kakao Mobility Corp.'s ownership as of December 31, 2022.

[22] As a subsidiary of TJ Partners Corp., the number of shares and the percentage of ownership represent TJ Partners Corp.'s ownership as of December 31, 2022.

[23] As a subsidiary of Kakaopay Corp., the number of shares and the percentage of ownership represent Kakaopay Corp.'s ownership as of December 31, 2022.

[24] As a subsidiary of Kakao G Corp., the number of shares and the percentage of ownership represent Kakao G Corp.'s ownership as of December 31, 2022.

[25] As a subsidiary of PANZEA PTE. LTD., the number of shares and the percentage of ownership represent PANZEA PTE. LTD.'s ownership as of December 31, 2022.

[26] In accordance with the agreements with non-controlling interests of some of the above subsidiaries, the Group should obtain a pre-approval from investors, when the Group wants to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer to the third party or other methods not determined in the agreements such as exercise of tag-along right.

[27] As a subsidiary of Kross Pictures Corp. the number of shares and the percentage of ownership represent Kross Pictures Corp.'s ownership as of December 31, 2022.

[28] As a subsidiary of Kross comics Corp. the number of shares and the percentage of ownership represent Kross comics Corp.'s ownership as of December 31, 2022.

[29] As a subsidiary of KROSS TELEVISION INDIA PRIVATE LIMITED. the number of shares and the percentage of ownership represent KROSS TELEVISION INDIA PRIVATE LIMITED 's ownership as of December 31, 2022.

[30] As a subsidiary of Kakao Entertainment Corp. (formerly, Kakao Page Corp.), STUDIO PHEONIX CO.,LTD. and STUDIO ORANGE CO.,LTD. hold the share of ownership.

[31] As a subsidiary of Krust Universe Pte. Ltd., the number of shares and the percentage of ownership represent Krust Universe Pte. Ltd.'s ownership as of December 31, 2022.

[32] As a subsidiary of CMNP Corp., the number of shares and the percentage of ownership represent CMNP Corp.'s ownership as of December 31, 2022.

[33] As a subsidiary of Kakao Enterprise Corp., the number of shares and the percentage of ownership represent Kakao Enterprise Corp.'s ownership as of December 31, 2022.

[34] As a subsidiary of TAPAS ENTERTAINMENT, INC.(formerly, Radish Media, Inc.), the number of shares and the percentage of ownership represent TAPAS ENTERTAINMENT, INC.(formerly, Radish Media, Inc.).'s ownership as of December 31, 2022.

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

[35] As a subsidiary of Wuxiaworld Limited, the number of shares and the percentage of ownership represent Wuxiaworld Limited's ownership as of December 31, 2022.

[36] As a subsidiary of SENA Technologies, Inc.(Korea), the number of shares and the percentage of ownership represent SENA Technologies, Inc.(Korea)'s ownership as of December 31, 2022.

[37] As a subsidiary of SENA Technologies, Inc.(USA), the number of shares and the percentage of ownership represent SENA Technologies, Inc.(USA)'s ownership as of December 31, 2022.

[38] As a subsidiary of Kakao Entertainment Corp., The company was established in 2022 and has no paid-in capital as of December 31, 2022.

[39] As a subsidiary of Kakao Ventures Corp., the number of shares and the percentage of ownership represent Kakao Ventures Corp. and KAKAO BRAIN Corp.'s ownership as of December 31, 2021.

1. General Information, Continued

(2) Consolidated subsidiaries, continued

2) Subsidiaries newly included in the consolidation during the year ended December 31, 2022:

Subsidiaries	Reason
Nextlevelstudio Inc.	Included to a subsidiary through acquisition of control
Glohow Joint Stock Company	Newly established
Today's Pickup Corp.	Included to a subsidiary through acquisition of control
MZPlaying Inc.	Included to a subsidiary through acquisition of control
RS Solutions Corp.	Included to a subsidiary through acquisition of control
Beagle Co., Ltd	Included to a subsidiary through acquisition of control
EDAM Entertainment Corp.	Included to a subsidiary through acquisition of control
KLAYBAY PTE. LTD.	Newly established
KAKAO healthcare Corp..	Newly established
WithONE's Inc	Included to a subsidiary through acquisition of control
KM PARK.CO.,Ltd	Included to a subsidiary through acquisition of control
Neozensoft CO.,LTD.	Included to a subsidiary through acquisition of control
OOTB CO.,LTD.	Included to a subsidiary through acquisition of control
Seoul Arena Co., Ltd	Newly established
SAKURA Exchange BitCoin, Inc.	Included to a subsidiary through acquisition of control
Sandwichtime Corp.	Included to a subsidiary through acquisition of control
Whynotme Production Corp.	Included to a subsidiary through acquisition of control
Korea freight forwarders association Corp.	Included to a subsidiary through acquisition of control
LINEWALKS Inc.	Included to a subsidiary through acquisition of control
Qingyuan SENA smart Helmets, Inc	Newly established
Voithru Japan	Included to a subsidiary through acquisition of control
Voithru Inc.	Included to a subsidiary through acquisition of control
Kakao Entertainment America Corp.	Newly established

1. General Information, Continued

(2) Consolidated subsidiaries, continued

3) Subsidiaries excluded from the consolidation during the year ended December 31, 2022:

Company	Reason
Ad Page	Merged with Kakao Games Corp., a subsidiary
Beijing Da Yun Cultural Communication Co.,Ltd	Liquidation
Shenzhen Electronics Co., Ltd.	Liquidation
Today's Pickup Corp.	Merged with Kakao Mobility Corp., a subsidiary
MZPlaying Inc.	Merged with Kakao Mobility Corp., a subsidiary
SONNORI CORP.	Excluded from consolidation due to loss of control
KAKAO IX USA, LTD.	Liquidation
B Media Company	Excluded from consolidation due to loss of control
INISOFT JAPAN LLC.	Liquidation
NeoBazar Inc	Merged with Kakao Entertainment Corp., a subsidiary
Ballmate Corp.	Merged with Kakao VX., a subsidiary
HIGHLINE ENTERTAINMENT	Merged with STARSHIP ENTERTAINMENT CORP., a subsidiary
Neozensoft CO.,LTD.	Merged with Kakao Healthcare Corp., a subsidiary
Whynotme Production Corp.	Merged with SamyangCNC Co.,Ltd., a subsidiary
NEXELON.INC	Excluded from consolidation due to loss of control
DK CHINA Sanhe Co., Ltd.	Liquidation
TAPAS MEDIA, INC.	Merged with TAPAS ENTERTAINMENT, INC.(formerly, Radish Media Inc.,), a subsidiary
FLEX M Corp	Excluded from consolidation due to loss of control
GRAYGO CORP.,	Excluded from consolidation due to loss of control
Mezondbaha	Excluded from consolidation due to loss of control
Clove Club Corp.	Excluded from consolidation due to loss of control
Yewon Books	Merged with KW Books, Inc., a subsidiary
Sandwichtime Corp.	Merged with Nextlevelstudio Inc.., a subsidiary
SAKURA Exchange BitCoin, Inc.	Excluded from consolidation due to loss of control
AD X Co., Ltd	Merged with Neptune Co., Ltd., a subsidiary
NFLY STUDIO.IN	Excluded from consolidation due to loss of control
CODDOG.INC	Excluded from consolidation due to loss of control
NCROQUIS.Inc	Excluded from consolidation due to loss of control
Beijing KAKAO Co., Ltd.	Merged with KAKAO IX CHINA CO.,LTD.., a subsidiary
PATH MOBILE INC PTE. LTD.	Liquidation
Ground X Corp.	Liquidation
Tapas Media Korea Inc.	Liquidation
PT. Path Mobile Indonesia	Merged with PT NEO BAZAR INDONESIA., a subsidiary
Piccomics Corp.	Merged with Kakao Piccoma Corp., a subsidiary

1. General Information, Continued

(3) The summarized financial information for consolidated subsidiaries as of and for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022					
	Assets	**Liabilities**	**Equity**	**Revenue**	**Profit (loss) for the year**	**Total Comprehensive income (loss)**
Kakao Entertainment Corp.	₩ 2,924,805	1,551,876	1,372,929	1,292,527	(438,074)	(443,248)
Kakaopay Corp.	2,896,844	973,164	1,923,680	482,769	96,342	99,079
Kakao Games Corp.	2,053,988	631,922	1,422,066	753,476	(69,308)	(254,057)
Kakao Mobility Corp.	1,392,137	303,091	1,089,046	304,325	(68,774)	(69,933)
Kakaopay investment Corp.	1,384,142	45,945	1,338,197	21	(18,838)	(22,089)
Kakao Games Europe B.V	1,287,290	627,407	659,882	7,127	(27,359)	(27,715)
Kakaopay Securities Corp.	691,954	448,045	243,909	62,604	(48,026)	(48,013)
Kakao Piccoma Corp.	826,467	139,620	686,847	531,245	33,592	33,837
Kakao VX	363,760	119,541	244,219	173,508	15,087	14,246
Kakao Enterprise Corp.	221,883	167,412	54,471	160,742	(161,225)	(161,188)
Kakao G Corp.	159,059	13	159,046	-	5,371	5,426
Gaseung Development Company	84,874	84,726	148	-	(4,273)	(4,273)
	₩ 14,287,202	5,092,762	9,194,440	3,768,344	(685,484)	(877,928)

(in millions of Korean won)	2021					
	Assets	**Liabilities**	**Equity**	**Revenue**	**Profit (loss) for the year**	**Total Comprehensive income (loss)**
Kakao Entertainment Corp.	₩ 3,096,746	1,295,533	1,801,213	877,213	(244,466)	(245,280)
Kakaopay Corp.	2,704,764	963,513	1,741,251	403,417	(10,731)	(10,534)
Kakao Games Corp.	2,216,487	722,983	1,493,504	793,144	27,684	219,485
Kakao Mobility Corp.	1,059,007	226,169	832,838	206,389	25,452	24,554
Kakaopay Securities Corp.	864,506	672,555	191,951	75,216	(17,048)	(17,063)
Kakao Piccoma Corp.	816,103	116,051	700,052	451,202	52,034	52,142
Kakao Games Europe B.V.	494,686	33,933	460,753	18,389	(18,254)	(18,187)
Kakao VX	347,908	119,225	228,683	113,763	(32,360)	(32,591)
Kakao Investment Co., Ltd.	333,403	15,530	317,873	53	13,636	14,739
Kakao Enterprise Corp.	141,337	95,797	45,540	93,849	(96,337)	(96,603)
Gaseung Development Company	84,518	80,096	4,422	-	(3,564)	(3,564)
Kakao G Corp.	78,677	(30)	78,707	-	(1,416)	(1,416)
	₩ 12,238,142	4,341,355	7,896,787	3,032,635	(305,370)	(114,318)

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(1) Basis of preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been translated into English from the Korean language financial statements. During the year ended December 31, 2020, the Group newly acquired Kakaopay Securities Corp., which engages in financial services business. Accordingly, assets and liabilities for non-financial services and financial services business are separately presented in the consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

The financial statements have been prepared on a historical cost basis, except for the following:

- Certain financial assets and liabilities (including derivative instruments)
- assets held for sale – measured at fair value less costs to sell, and
- defined benefit pension plans – plan assets measured at fair value.

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

(2) Changes in accounting policy and disclosures

- *New and amended standards adopted by the Group*

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2022.

2. Significant Accounting Policies, Continued

(2) Changes in accounting policy and disclosures, continued

1) Amendments to K-IFRS No. 1103 *Business Combinations* – Reference to Conceptual Framework

The amendments require that assets acquired and liabilities assumed in a business combination meet the definitions of assets and liabilities in Conceptual Framework of financial reporting in order to be recognized. This may increase the amount of liabilities that meet the criteria for recognition at the acquisition date of a business combination, but allows the application of K-IFRS No.1037, *Provisions, Contingent Liabilities and Contingent Assets*, and K-IFRS No. 2121 *levies*, if the liabilities were incurred separately and not acquired in a business combination. The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

2) Amendments to K-IFRS No. 1016 *Property, Plant and Equipment* – Proceeds before Intended Use

Under the amendment, for items that are produced while bringing an asset to the condition necessary for the intended use, an entity shall recognize the proceeds from selling such items, and the costs of those items, in profit or loss. It is prohibited to deduct such amount from the acquisition cost of property, plant and equipment. The Group determined that these amendments do not have a significant impact on the financial statements.

3) Amendments to K-IFRS No. 1037 *Provisions, Contingent Liabilities and Contingent Assets* – Onerous Contracts: Cost of Fulfilling a Contract

The amendment clarified the cost of fulfilling an onerous contract that it comprises the incremental costs of fulfilling a contract and an allocation of other costs that relate directly to fulfilling a contract. The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

4) Annual Improvements to K-IFRS 2018 – 2020 Cycle:

(a) K-IFRS No. 1101 *First Time Adoption of K-IFRS*: The scope of the measurement of assets and liabilities of a subsidiary that is a first-time adopter should also include cumulative translation differences.

(b) K-IFRS No. 1109 *Financial Instruments*: Fees paid to third parties must be derecognized from the financial liability cash flows (10% test) under the new conditions.

(c) K-IFRS No. 1116 *Leases*: Deletion of lease incentive example 13

(d) K-IFRS No. 1041 *Agriculture*: Fair value measurements of biological assets, etc. should also include tax-related cash flows for those assets.

The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

2. Significant Accounting Policies, Continued

(2) Changes in accounting policy and disclosures, continued

5) Amendments to K-IFRS No. 1116 *Leases* – COVID-19-related rent concessions beyond June 30, 2021

The amendment extends the availability of the practical expedient, which allows lessees not to assess whether rent concessions as a direct consequence of the COVD-19 pandemic are lease modification, so that it applies to rent concessions for which reduction in lease payments due on or before June 30, 2022. Lessee are required to apply the practical expedient consistently to all lease contracts with similar characteristics in similar circumstances. The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

- *New standards and interpretations not yet adopted by the Group*

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2022 reporting periods and have not been early adopted by the Group.

(a) Amendments to K-IFRS No. 1001 *Presentation of Financial Statements* – Classification of Liabilities as Current or Non-current

(b) Enactment of K-IFRS No. 1117 *Insurance Contracts*

(c) Amendments to K-IFRS No. 1001 *Presentation of Financial Statements* – Disclosure of Accounting Policies

(d) Amendments to K-IFRS No. 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* – Definition of Accounting Estimates

(e) Amendments to K-IFRS No. 1012 *Income Taxes* – Deferred Tax Related to Assets and Liabilities Arising From a Single Transaction

2. Significant Accounting Policies, Continued

(3) Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110, *Consolidated Financial Statements*.

(a) Subsidiaries

Subsidiaries are all entities over which the Parent Company has control. The Group controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Consolidation of a subsidiary begins from the date the Group obtains control of a subsidiary and ceases when the Group loses control of the subsidiary.

The Group applies the acquisition method to account for business combinations. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are initially measured at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquiree on an acquisition-by-acquisition basis in the event of liquidation, either at fair value or at the non-controlling interest's proportionate share of the recognized amounts of acquiree's identifiable net assets. All other non-controlling interests are measured at their acquisition-date fair values, unless another measurement basis is required by standards. Acquisition-related costs are expensed as incurred.

Goodwill is recognized as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree over the identifiable net assets acquired. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Balances of receivables and payables, income and expenses and unrealized gains on transactions between the Parent Company and its subsidiaries are eliminated during the consolidation. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

In transactions with non-controlling interest, which do not result in loss of control, the Group recognizes directly in equity any difference between the amount of the non-controlling interests and the fair value of the consideration paid or received, and attributes it to the owners of the Parent Company.

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value and the different between its fair value and carrying amount is recognized in profit or loss.

2. Significant Accounting Policies, Continued

(3) Consolidation, continued

(b) Associates

Associates are entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. If the Group's share of losses of an associate equals or exceeds its interest in the associate (including long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognizing its share of further losses. After the Group's interest is reduced to zero, additional losses are provided for, and a liability is recognized, only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate. If there is an objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss. If an associate uses accounting policies other than those of the Group for like transactions and events in similar circumstances, if necessary, adjustments shall be made to make the associate's accounting policies conform to those of the Group when the associate's financial statements are used by the Group in applying the equity method.

(c) Joint arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator has rights to the assets, and obligations for the liabilities, relating to the joint operation and recognizes the assets, liabilities, revenues and expenses relating to its interest in a joint operation. A joint venturer has rights to the net assets relating to the joint venture and accounts for that investment using the equity method.

(4) Segment reporting

Information of each operating segment is reported in a manner consistent with the business segment reporting provided to the chief operating decision maker. As it is disclosed in Note 6, the Group has eight reportable segments including advertising, game and entertainment. The chief operating decision maker is responsible for allocating resources and assessing performance of the operating segments.

(5) Foreign currency translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

2. Significant Accounting Policies, Continued

(5) Foreign currency translation, continued

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss. They are deferred in other comprehensive income if they relate to qualifying cash flow hedges and qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit or loss, within finance costs. All other foreign exchange gains and losses are presented in the statement of profit or loss within 'other income or other expenses'.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss as part of the fair value gain or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

(c) Translation into the presentation currency

The results of operations and financial position of the Group's entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

2. Significant Accounting Policies, Continued

(5) Foreign currency translation, continued

- Assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period.
- Income and expenses for each statement of comprehensive income are translated at average rates; and
- Equity is translated at the historical exchange rate; and
- All resulting exchange differences are recognized in other comprehensive income.

(6) Significant accounting policies

1) Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits in banks, and other short-term highly liquid investments with original maturities of three months or less.

2) Financial Assets

(a) Classification

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income. Changes in fair value of the investments in equity instruments that are not accounted for as other comprehensive income are recognized in profit or loss.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

2) Financial Assets, continued

(b) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

A. Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- Amortized cost: Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.

- Fair value through other comprehensive income: Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other non-operating income or expenses' and impairment losses are presented in 'other non-operating expenses'.

- Fair value through profit or loss: Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'finance income and costs in the year in which it arises.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

2) Financial Assets, continued

B. Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'finance income and costs' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

(c)Impairment

The Group assesses on a forward looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. An entity recognizes a credit loss allowance at an amount equivalent to 12-month expected credit losses or lifetime expected credit losses in three stages, as shown in the table below, depending on whether the credit risk has increased significantly since initial recognition of the financial asset. For trade receivables and lease receivables, the Group applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables.

Classification		Credit loss allowances
Stage1	The credit risk has not increased significantly since initial recognition (*)	12-month expected credit loss: expected credit losses resulted from possible default events within the 12 months after the reporting date
Stage2	The credit risk has increased significantly since initial recognition	Lifetime expected credit loss: expected credit loss resulted from all possible default events over the expected life of a financial instrument
Stage3	Credit has been impaired	

(*) If the credit risk at the end of the reporting period is low, the credit risk may not be considered to have increased significantly.

When assessing whether a financial asset's credit risk has increased significantly since initial recognition and when estimating expected credit losses, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes qualitative, quantitative information and analysis based on the Group's historical experience and informed credit assessment, including forward-looking information.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

2) Financial Assets, continued

① Measurement of expected credit losses

Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured at the present value of all cash shortfalls(i.e. the differences between all contractual cash flows to be received in accordance with the contract and the contractual cash flows that the Group expects to receive). Expected credit losses are discounted at the effective interest rate of the financial asset.

② Credit-impaired financial assets

At the end of each reporting period, the Group assesses whether the credit of financial assets measured at amortized cost and debt securities measured at fair value through other comprehensive income are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

③ Presentation of allowance for expected credit losses in the statement of financial position

The loss allowance for a financial asset measured at amortized cost is deducted from the gross carrying amount of the asset. For debt instruments measured at fair value through other comprehensive income, the loss allowance is included in profit or loss and recognized in other comprehensive income.

④ Write-off

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as "borrowings" in the consolidated statement of financial position (Note 21).

(e) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the 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. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

3) Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently re-measured at their fair value. Changes in the fair value of the derivatives that are not qualified for hedge accounting are recognized in the consolidated statement of comprehensive income as 'finance income (costs)' according to the nature of transactions.

4) Trade Receivables

Trade receivables are recognized initially at the amount of consideration that is unconditional, unless they contain significant financing components when they are recognized at fair value. Trade receivables are subsequently measured at amortized cost using the effective interest method, less loss allowance. See Notes 10 for further information about the Group's accounting for trade receivables.

5) Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the average method.

6) Property and Equipment

Property and equipment are stated at its historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Depreciation on property and equipment, except land, is calculated using the straight-line method to allocate the difference between their cost and their residual values over their estimated useful lives, as follows:

	Estimated useful lives
Buildings	20 – 40 years
Structures	20 years
Machinery and equipment	4 – 6 years
Vehicles	4 – 6 years
Furniture	2 – 5 years

The depreciation method, residual values and useful lives of property and equipment are reviewed and adjusted at each financial year-end, if appropriate, accounted for as changes in accounting estimates.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

7) Government Grants

Government grants are recognized at their fair values when there is reasonable assurance that the grant will be received and the Group will comply with the conditions attached to it. Government grants related to assets are presented by deducting the grants in arriving at the carrying amount of the assets, and grants recognized as income are deferred and presented by deducting the expenses related to the purpose of the government grants.

8) Intangible Assets

(a) Goodwill

Goodwill arises on the acquisition of subsidiaries, associates and business combination are included in intangible assets. Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of the net identifiable assets of the acquired subsidiary, associates, joint ventures and businesses at the date of acquisition. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Any impairment is recognized immediately as an expense and is not subsequently reversed.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the CGUs, or group of CGUs, that is expected to benefit from the synergies of the combination. Goodwill is monitored at the operating segment level. Goodwill impairment reviews are undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. The carrying amount of goodwill is compared to the recoverable amount, which is the higher of value in use and the fair value less costs to sell.

(b) Membership and brand

Membership and brand are regarded as intangible assets with indefinite useful life and not amortized because there is no foreseeable limit to the period over which the asset is expected to be utilized.

(c) Other intangible assets

Other intangible assets such as development costs and industrial property rights are initially recognized at its historical costs and amortized using the straight-line method over their estimated useful lives and the unit of production method. Other intangible assets have definite useful life and are carried at cost less accumulated amortization.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

Their estimated useful lives of other Intangible assets are as follows:

	Estimated useful lives
Industrial property rights	5 – 10 years
Others	Indefinite, 2 – 15 years
Development costs	5 years
Exclusive rights	Contractual period

(d) Digital assets

The Group accounts for digital assets acquired from third parties as intangible assets. Digital assets are initially recognized at cost and subsequently stated at cost less accumulated impairment losses.

(i) KLAY Token

The Group accomplished the development of the digital asset KLAY, alongside the creation of the Klaytn Mainnet in 2019. At the time of completion, the total quantity of developed KLAY was 10 billion, which has increased to 11 billion as of December 31, 2022. The digital asset KLAY was developed based on blockchain technology.

The digital asset KLAY was developed to be used as a means of payment for various fees incurred while using the Klaytn Mainnet. These fees are related to creating and executing Smart Contracts within the Klaytn Mainnet, sending, recording, and uploading transactions through DApp that are registered on the Klaytn Mainnet, and utilizing services provided by DApp.

The Group has expensed all costs incurred in the development of the digital asset KLAY. However, for KLAYs that were acquired from a third party for a fee, such as mining compensation, the amount of KLAY and amounts to KRW 49.2 billion as of December 31, 2022, which is recognized as an asset in the consolidated statement of financial position.

According to the Klaytn Position Paper, a white paper published by the Group, the Group completed the roadmap for upgrading the Mainnet and developing user-friendly interfaces by performing various tasks related to supporting major toolkits, upgrading the platform, and expanding the ecosystem. The transfer of governance started and was completed in 2021.

(ii) BORA Token

The Group plans to create the BORA Platform, a global content service platform based on blockchain technology, which will offer a range of services. In order to access the services provided by the Group via the BORA Platform, customers will need to use BORA Tokens, which are issued by the Group. These tokens are considered utility tokens, as stated in the BORA 2.0 White Paper. BORA Tokens serve as the means of exchange for all transactions conducted on the BORA Portal, and token holders are able to use them to purchase goods and services available on the BORA Portal.

(6) Significant accounting policies, continued

BORA Tokens were issued by METABORA SINGAPORE PTD.LTD, a subsidiary of Way2bit Co. Ltd., in 2018. In 2020, Friends Games Corporation, a subsidiary of the Group, acquired additional shares of Way2bit Co. Ltd. and consolidated Way2bit Co. Ltd. and its subsidiaries. In 2021, Friends Games Corporation, a subsidiary of the Group, merged into Way2bit Co. Ltd.

As of December 31, 2022, BORA Tokens are controlled by METABORA SINGAPORE PTE.LTD (formerly known as BORANETWORK PTE. LTD), a subsidiary of the Group.

The Group currently holds unsold or unused BORA Tokens resulting from the business combination. Since BORA Tokens serve as a means to purchase services and goods provided by the Group, they have not been recognized as assets.

In addition, after the business combination, BORA Tokens sold to customers were not recognized as revenue. Revenue will only be recognized in the future when customers use BORA Tokens to pay for goods and services of the BORA Portal.

The Group controls and operates the BORA Portal and is responsible for issuing and managing BORA Tokens. Moreover, the Group collaborates with various partners to offer games and other services in addition to the Group's own games on the BORA Portal, allowing customers who hold BORA Tokens to access a wide range of services on BORA Portal.

Depending on the degree of activation of the BORA Portal in the future, the accounting method for the sale of BORA Tokens may change.

9) Investment Property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. The Group depreciates investment properties, except for land, using the straight-line method over their useful lives of 40 years.

10) Impairment of Non-financial Assets

Goodwill or intangible assets with indefinite useful lives are not subject to amortization and are tested annually for impairment. Assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Non-financial assets, other than goodwill, that suffered impairment are reviewed for possible reversal of the impairment at each reporting date.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

The recoverable amount is estimated for each individual asset or for each cash-generating unit to which the asset belongs if the recoverable amount of the individual asset is not estimated. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of cash inflows of other assets or groups of assets. The recoverable amount is determined to be the greater of the value in use or the fair value less cost to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or cash-generating unit.

The goodwill acquired in a business combination is allocated to each cash-generating unit that is expected to benefit from the synergy effect of the business combination. Impairment losses on cash-generating units allocated first to reduce the carrying amount of goodwill allocated to the cash-generating unit, and then to reduce the carrying amounts of the other asset in the cash-generating unit on a pro rata basis.

11) Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

12) Financial Liabilities

(a) Classification and measurement

The Group's financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not a designated as hedging instruments and an embedded derivative that is separated are also classified as held for trading.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings' and 'other financial liabilities' in the statement of financial position. These financial liabilities are initially measured at fair value deducting the transaction costs directly attributable to the issue. Other financial liabilities are subsequently measured at amortized cost using the effective interest method, and interest expenses are recognized using the effective interest method.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

12) Financial Liabilities, continued

Preferred shares that require mandatory redemption at a particular date are classified as liabilities. Interest expenses on these preferred shares using the effective interest method are recognized in the statement of profit or loss as 'finance costs', together with interest expenses recognized from other financial liabilities.

(b) Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

13) Provisions

Provisions for service warranties, make good obligation, and legal claims are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

14) Current and Deferred Income Tax

Income tax expense for the period consists of current and deferred tax. Income tax is recognized as income or expense for the period in the consolidated statement of comprehensive income, except to the extent that it relates to items recognized in other comprehensive income or directly in equity, or it relates to a business combination. In this case, income tax is also recognized in other comprehensive income or directly in equity, respectively. Income tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period.

When the Parent Company and subsidiaries are economically combined, the Group considers the Parent Company and subsidiaries as a single taxable unit and applies the consolidated tax return to pay corporate tax based on the aggregated income. In accordance with the consolidated tax return, the Group calculates the current income tax of the Group including domestic subsidiaries wholly owned by the Parent Company. This amount is recognized as the current income tax liability of the Parent Company, which is obligated to pay, and the amount of Group's current income tax allocated to the Company is recognized as the current income tax.

Current income tax is calculated through calculating taxable income after 1) calculating taxable income for each consolidated entity, 2) eliminating consolidation adjustment items for each consolidated entity, 3) adjusting intercompany transaction gains and losses between consolidated entities, and 4) allocating consolidation adjustment items for each consolidated items. After calculating the taxable income, the tax amount is calculated by applying the tax rate to the tax base which calculated by deducting the amount of net operating loss, non-taxable income and income deduction. Finally, current income tax is calculated by adding or deducting tax credits, tax deductions and additions. Taxable income differs from the income stated in the statement of comprehensive income as it excludes gains or losses that will be added or deducted in other taxable periods and items that are not taxable or deductible from the pre-tax income in the statement of comprehensive income. Income tax payable related to the Group's current income tax is calculated at the tax rates that have been enacted or substantively enacted.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

14) Current and Deferred Income Tax, continued

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. In addition, The Group recognizes a deferred tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The Group reviews the carrying amount of the deferred tax asset at the end of each reporting period and reduces the carrying amount of the deferred tax asset if it is no longer probable that sufficient taxable income will be available to allow the benefits of the deferred tax asset to be utilized. .

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax laws that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred tax liabilities and deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset when the Group has a legally enforceable right to offset and intends either to settle on a net basis, or to realize the assets and settle the liability simultaneously.

15) Employee Benefits

(a) Post-employment benefits

The Group operates pension plans. The Group has both defined contribution plans and defined benefit plans.
A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The contributions are recognized as employee benefit expenses when an employee has rendered service.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

15) Employee Benefits, continued

(a) Post-employment benefits, continued

The Group recognizes the contribution payable to a defined contribution plan in exchange for that service as a liability, after deducting any contribution already paid. If the contribution already paid exceeds the contribution due for service before the end of the reporting period, the Group recognizes that excess as an asset to the extent that the prepayment will lead to a reduction in future payments or a cash refund.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries 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 and that have terms to maturity approximating to the terms of the related pension obligation. On the other hand, remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (excluding interest), are recognized in other comprehensive income. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments.

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

(b) Share-based payments

Equity-settled share-based payments granted to employees are estimated at fair value of equity instruments at the grant date and recognized as employee benefit expenses over the vesting period. The number of equity instruments expected to vest is remeasured with consideration to non-market vesting conditions at the end of the reporting period, with any changes from the original measurement recognized in profit or loss for the year and equity.

When the options are exercised, the Group issues new shares. The proceeds received, net of any directly attributable transaction costs, are recognized as capital stock (nominal value) and capital surplus.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

15) Employee Benefits, continued

(b) Share-based payments, continued

Under cash-settled share-based payment plan, the Group compensates the difference of the fair value and exercise price of option as the consideration for employee services received. Total expense that will be recognized over the vesting period is determined by reference to the fair value of the option grated. Until the liability is settled, the Group is required to remeasure the fair value of the liability at the end of each reporting period and at the date of settlement, with any changes in value recognized in profit or loss for the year.

(c) Other long-term employee benefits

The Parent Company and certain subsidiaries provide long-term employee benefits, which are entitled to employees with service period for at least three years. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Group recognizes service cost, net interest on other long-term employee benefits and remeasurement as profit or loss for the year. These liabilities are valued annually by independent and qualified actuaries.

(d) Short-term employee benefits

Short-term employee benefits are recognized at the amount expected to be settled within 12 months from the end of the reporting period in which the employee has provided service in exchange for the service, and are recognized in profit or loss when the service is provided. Short-term employee benefits are recognized at an undiscounted amount.

16) Share capital

The Group classifies ordinary shares as equity. Incremental costs directly attributable to the equity transactions are recognized as a deduction from equity, net of any tax effects.

When the Group repurchases its share capital, the amount of the consideration paid is recognized as a deduction from equity and classified as treasury shares. The profits or losses from the purchases, disposal, reissue, or retirement of treasury shares are not recognized as current profit or loss. If the Group acquires and retains treasury shares, the consideration paid or received is directly recognized in equity.

17) Revenue recognition

Revenues are mainly comprised of advertisement, content, commerce revenue and merchandise sales.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

17) Revenue recognition, continued

(a) Advertising revenue

The Group generally provides advertising services to a customer during the period of a contract and recognizes the allocated transaction price for a performance obligation over the period of service as revenue. However, in the case of a contract in which advertising services are priced based on the sum of the total number of advertising services provided other than the contracted period, the Group recognizes revenue when it satisfies its performance obligation. Advertising revenue is either prepaid by the customer at the set transaction price, or charged afterwards as the Group satisfies its obligations.

(b) Contents revenue and others

The Group provides a variety of contents to a customer. Transaction prices are immediately paid when a customer purchases contents online. The Group recognizes revenue at the time when contents are used at which point the right to use contents are transferred and controlled by the customer and there are no unfulfilled obligations of the Group that may affect the use of contents. The Group recognizes revenue over the time when there are obligations of the Group that may affect the use of contents over the period over which contents are used by customers.

The Group pays the commission fees when a customer pays for the game services provided by the Group. The incremental costs are those commission fees that the Group incurs to acquire a contract with a customer that would not have been incurred if the contract had not been acquired. The Group recognizes the incremental costs as an asset and amortizes it over the expected period of providing the game service to customers.

(c) Commerce revenue and goods sales

The Group sells goods or provides services as a principal or agent through KakaoTalk platforms and recognizes revenue when the performance obligation is satisfied.

(d) Other revenues

With respect to fintech business, the Group identifies each performance obligation for services provided and recognizes revenues when each performance obligation is completed in accordance with K-IFRS No. 1115.

The Group capitalizes the incremental costs of obtaining a contract and amortizes it over a certain period in accordance with K-IFRS No. 1115 for the costs incurred in connection with sales contracts that would not have been incurred if the contract had not been obtained.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

18) Finance income and finance cost

The Group's finance income and finance cost include:
- Interest income
- Interest expense
- Dividend income
- Net gain or loss on the disposal of investments in debt securities measured at fair value through other comprehensive income
- Net gain or loss on financial assets measured at fair value through profit or loss
- Foreign currency gains and losses on financial assets and financial liabilities
- Impairment loss (or reversal of impairment loss) on investments in debt securities measured at amortized cost or fair value through other comprehensive income

Interest income or interest expense is recognized using the effective interest method. Dividend income is recognized when the Group's right to receive dividends is established. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the gross carrying amount of the financial asset (when the asset is not credit-impaired) or to the amortized cost of the financial liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

19) Dividend

Dividend to the Group’s shareholders is recognized as a liability in the consolidated financial statements in the year in which the dividends are approved by the Group’s shareholders.

20) Lease

(a) Lessor

The Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices at inception or on modification of a contract that contains a lease component.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

20) Lease, continued

(a) Lessor, continued

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies K-IFRS No. 1115 to allocate the consideration in the contract.

When the Group is a lessor, the Group recognizes lease payments received under operating leases as income on a straight-line basis over the lease term. Initial direct cost incurred by the Group in arranging an operating lease are added to the carrying amount of the underlying asset and recognized as an expense on the same basis as the lease income. Each leased asset is presented in the consolidated statement of financial position on the basis of its characteristics.

(b) Lessee

The Group leases offices, vehicles and machinery. Lease contracts are typically made for fixed periods of 3 to 8 years, but may have extension options as described below.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, with respect to real estate leases for which the Group is a lessee, the Group applied a practical expedient and elected not to separate a non-lease component from a lease component, and instead account for them as a single lease component.

Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as collaterals for the borrowings.

The Group determines the lease term by including the enforceable extended period when the lessee is reasonably certain to exercise an extension option within the non-cancellable period of lease and when the lessee is reasonably certain not to exercise a termination option. When assessing the enforceable period, the Group considers economic penalties imposed on the lessee and lessor when they have right to terminate the lease contract without the counterparty's consent.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

20) Lease, continued

(b) Lessee, continued

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate, initially measured using the index or rate as of the commencement date
- Amounts expected to be payable by the Group (the lessee) under residual value guarantees
- The exercise price of a purchase option if the Group (the lessee) is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the Group (the lessee) exercising that option

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

The Group calculates the incremental borrowing interest rate as follows.
· If possible, reflect the change in financial position after receiving third-party financing in the latest third-party financial interest rate received by individual lessees.
· Reflect lease-specific adjustments such as country, currency, collateral, and guarantee

When an individual lessee can readily observe the interest rate on a loan with a same term but a different payment profile (via recent financing sources or market data), the Group sets that interest rate as a starting point for calculating the incremental borrowing interest rate.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset. When the carrying amount of a right-of-use asset decreases to zero, the remeasurement amount is recognized in profit or loss.

Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

20) Lease, continued

(b) Lessee, continued

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. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset’s useful life.

In the consolidated statement of financial position, the Group presents the right-of-use assets which does not qualify the definition of investment property separately from other assets.

Payments associated with short-term leases of equipment and vehicles and leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT-equipment and small items of office furniture.

(c) Variable lease payments

Some machinery leases contain variable payment terms that are linked to usage. Variable payment terms are used for a variety of reasons, including minimizing the fixed costs base for machinery. Variable lease payments that depend on usage are recognized in profit or loss when machinery is used and when the usage is confirmed by the settlement.

(d) Extension and termination options

Extension and termination options are included in a property across the Group. These terms are used to maximize operational flexibility in terms of managing contracts.
Most of the extension and termination options held by the Group can be exercised upon agreement between the lessors and the Group.

21) Earnings per share

Basic earnings per share is calculated by dividing net profit for the year available to ordinary shareholders by the weighted-average number of ordinary shares outstanding during the year. Diluted earnings per share are calculated using the weighted-average number of ordinary shares outstanding adjusted to include the potentially dilutive effect of ordinary equivalent shares outstanding.

22) Business Combinations between entities under a Common Control

Book value method applies to a business combination under a common control. Related assets and liabilities are measured at book value of the consolidated financial statements. In addition, the difference between the sum of book values of the assets and liabilities transferred and the consideration paid is recognized as share premium.

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

23) Compound Financial Instruments

Compound financial instruments are convertible bonds and redeemable convertible preferred shares that can be converted into equity instruments of the Parent Company at the option of the holder and exchangeable bond that can be converted into equity instruments of the subsidiary at the option of the holder.

The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have equity conversion rights and exchange rights. The equity component is recognized initially on the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Subsequent to the initial recognition, it will not be remeasured. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

In accordance with the Interpretation Statements No.00094 issued by the Financial Supervisory Service in Korea, the Group recognized some conversion rights and exchange rights (pre-emptive rights) as equity. This accounting treatment is applicable within Korean IFRS as defined in item1 of paragraph1 of Article 13 of Acts on External Audit for Stock Companies.

24) Approval of Issuance of the Financial Statements

The issuance of the consolidated financial statements of the Group was previously authorized by the Board of Directors in February, 2023 and at the annual shareholders' meeting in March, 2023. Additionally, the restated consolidated financial statements as described in Note 43 were reported to the Board of Directors on March 15, 2024.

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

1) Subsidiary

Subsidiaries are all 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 involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity.

2) Associates and joint venture

In determining whether the Group has significant influence, the Group takes into account whether the Group directly or indirectly holds 20% or more of the voting rights over the investee, whether the Group participates in the board or other decision-making body equivalent thereto of the investees, or whether the Group's potential voting rights will affect these rights.

3) Estimated impairment of goodwill

The Group tests annually whether goodwill has suffered any impairment. The recoverable amounts of cash-generating units are determined based on value-in-use calculations (Note 19).

4) Income taxes

The Group's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain (Note 24).

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the *Tax System for Recirculation of Corporate Income*, the Group is liable to pay additional income tax calculated based on the tax laws. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

3. Critical Accounting Estimates and Assumptions, Continued

5) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period (Note 5).

6) Impairment of financial assets

The provision for impairment for financial assets are based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period

7) Provisions

As of December 31, 2022, the Group recognizes provisions as explained in Notes 2 (6) 13). These provisions are estimated based on past experience.

8) Net defined benefit liabilities

The present value of net defined benefit liabilities depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 22).

9) Other long-term employee benefits liabilities

The present value of other long-term employee benefits liabilities depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 23).

10) Share-based compensation

The Group measures equity-settled share-based compensation at the fair value at the date of grant of equity instruments. The fair value is estimated by using the evaluation model which considers grant condition of equity instruments. In addition, the Group measures cash-settled share-based compensation based on the fair value of share options granted by considering condition of service provision. The amount of liability is re-estimated at the end of each reporting period and at the settlement date until the liability is settled.

11) Revenue recognition

As points provided to customers provide material rights that customers would not have received without entering into the contract, the promise to provide points is a separate performance obligation. The transaction price is allocated to products and points on a relative stand-alone selling price basis. Management estimates the stand-alone selling price of points based on the discount applied when points are redeemed, and likelihood of point redemption expected on the basis of past experience. The stand-alone selling price of products are estimated based on the retail price.

3. Critical Accounting Estimates and Assumptions, Continued

12) Lease

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For leases of office, vehicles and machinery, the following factors are normally the most relevant:

- If there are significant penalties to terminate (or not extend), the Group is typically reasonably certain to extend (or not terminate).
- If any leasehold improvements are expected to have a significant remaining value, the Group is typically reasonably certain to extend (or not terminate).
- Otherwise, the Group considers other factors including historical lease durations and the costs and business disruption required to replace the leased asset.

Most extension options in offices, vehicles and machinery leases have not been included in the lease liability, because the Group could replace the assets without significant cost or business disruption.

The lease term is reassessed if an option is actually exercised (or not exercised) or the Group becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

13) Fair value of assets and liabilities from business combination

The fair value of identifiable assets and liabilities acquired in a business combination is measured based on management's assumptions about the selection of valuation methods and input variables.

4. Financial Risk Management

(1) Financial risk factors

The Group's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Group's financial performance.

1) Market risk

i) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises through floating rate deposits and borrowings. The objective of interest rate risk management lies in maximizing corporate value by minimizing uncertainty caused by fluctuations in interest rates.

As of December 31, 2022, if the market interest rate of floating rate deposits had increased/decreased by 100bp with other variables held constant, the effect on profit before income tax for the year ended December 31, 2022, would have been increased/decreased by ₩ 15,442 million (2021: ₩ 16,731 million) and ₩ 17,071 million (2021: ₩ 8,883 million) due to increased/decreased interest income of floating rate deposits and borrowings, respectively.

ii) Price risk

The Group invests in debt and equity securities for managing liquidity, operational needs and others. The Group 's investment portfolio consists of direct and indirect investments in listed and non-listed securities.

As of December 31, 2022, if all other variables were constant and the value of marketable equity had increased or decreased by 5.0%, gain and loss on valuation of equity securities at fair value (before income tax) and other comprehensive income (before income tax) would have been increased or decreased by ₩ 35,448 million (2021: ₩ 58,352 million).

Impacts of investment financial instruments of the Group on profit or loss and other comprehensive income are described in Note 10.

iii) Foreign exchange risk

Foreign exchange risk is defined as the risk that the fair value of financial instruments or future cash flows fluctuate because of changes in foreign exchange rates. Foreign exchange risk arises from financial instruments presented in currencies other than functional currency. Therefore, foreign exchange risk does not arise from non-monetary financial instruments or financial instruments presented in functional currency.

(1) Financial risk factors, continued

iii) Foreign exchange risk, continued

The Group's exposure to foreign currency risk at the end of the reporting period, expressed in Korean won, was as follows:

(in millions of Korean won)	2022							
	USD	**JPY**	**CNY**	**EUR**	**GBP**	**HKD**	**SGD**	**TWD**
Financial assets								
Cash and cash equivalents	₩ 86,520	9,248	3,132	83	-	-	92	535
Short-term financial instruments	42,138	-	-	-	-	-	-	-
Trade receivables	115,621	574	2,709	17,033	-	1	-	-
Other financial asset	73,237	25	-	301	-	-	-	-
	₩317,516	9,848	5,841	17,416	-	1	92	535
Financial liabilities								
Trade and other payables	₩ 43,974	604	-	2,342	12	-	-	-
Borrowings	31,683	-	-	-	-	-	-	-
Other financial liability	20,202	-	-	-	-	-	-	-
	₩ 95,859	604	-	2,342	12	-	-	-

If the Korean won has weakened/strengthened by 5% with all other variables held constant, the effect on profit before income tax for the year ended December 31, 2022, would have been increased/decreased by ₩ 12,633 million (2021: ₩ 1,851 million).

2) Credit risk

Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks or financial institutions, as well as credit exposures to customers, including outstanding receivables.

i) Risk management

For banks and financial institutions, only independently rated parties with a minimum rating of 'A' are accepted.

If corporate customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the Board. Sales to individual customers are required to be settled in cash or using major credit cards, mitigating credit risk.

The Group's investments in debt instruments are considered to be low risk investments.

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

ii) Security

Some trade receivables are provided with guarantees or credit enhancements such as letters of credit that may require performance if the counterparty fails to comply with the contract.

iii) Impairment of financial assets

The Group has four types of financial assets that are subject to the expected credit loss model:

- trade receivables for sales of goods and provision of services, and
- other financial assets carried at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified impairment loss was immaterial.

- Non-financial services business

A. Trade receivables

The Group applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables. There are no customers exceeding their credit limits for the year, and all of the trade receivables are considered to have low credit risk. Management does not expect any losses upon if the above counterparties are in default under the terms of the agreements.

Details of loss allowance provision for trade receivables as of December 31, 2022 are as follows:

(in millions of Korean won)

	Current	3 months overdue	6 months overdue	9 months overdue	Over 9 months overdue	Total
Expected loss rate	0.88%	7.80%	59.49%	85.97%	86.16%	2.73%
Gross carrying Amount	₩ 435,294	7,995	2,474	1,301	6,225	453,289
Impairment loss Allowance	₩ (3,813)	(624)	(1,472)	(1,119)	(5,363)	(12,390)

Trade receivables are excluded when collection is no longer reasonably anticipated. Indicators that can no longer reasonably anticipate recovery include failure to comply with the debt adjustment with the consolidated entity and failure to pay contractual cash flows for more than 120 days.

Impairment on trade receivables is presented net amount of bad debt expenses in the consolidated income statement. The subsequent collection of the amount is recognized as a deduction for the same account.

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

The changes in loss allowance for trade receivables at amortized costs for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		**2022**	**2021**
Beginning of the year	₩	8,072	5,973
Changes in consolidation range		(133)	1,342
Increase recognized in profit or loss		4,783	2,293
Reversal		(38)	(40)
Write-off		(1,107)	(241)
Reclassification		843	(1,305)
Other (CTDs)		(30)	50
End of the year	₩	12,390	8,072

Maximum exposure to credit risk of the Group as of December 31, 2022 are all carrying amounts.

B. Other financial assets at amortized cost

Other financial assets at amortized cost include uncollected, loans and other bonds.
Changes in the loss allowance for other financial assets measured at amortized cost are as follows:

(in millions of Korean won)		**2022**	**2021**
Beginning of the year	₩	43,442	43,346
Increase recognized in profit or loss		996	289
Other (CTDs and Changes in consolidation range)		(5,626)	(193)
End of the year	₩	38,812	43,442

Except for lease receivables, other financial assets at amortized costs are considered to have low credit risk, and the loss allowance recognized during the period was, therefore, limited to 12 months expected losses. Management considers to be low credit risk when they have a low risk of default and the issuer has a strong capacity to meet its contractual cash flow obligations in the near term.

The amounts recognized in profit or loss in relation to impairment in 2022 and 2021 are as follows:

(in millions of Korean won)		**2022**	**2021**
Trade receivables	₩		
-Changes in loss allowance of trade receivables		4,783	2,293
Other financial assets			
-Changes in loss allowance of other financial assets		996	289
Other current assets			
-Changes in loss allowance of other current assets		5,016	976
	₩	10,795	3,557

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

Maximum exposure to credit risk of the Group as of December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Cash equivalents	₩	4,780,115	5,231,504
Short-term financial instruments		1,210,213	1,573,559
Trade receivables		440,899	398,117
Current derivative financial assets		351	352
Non-current derivative financial assets		6,211	-
Financial assets at fair value through profit or loss		1,067,722	457,391
Other current financial assets		361,873	319,120
Long-term financial instruments		10,132	10,139
Other non-current financial assets		269,788	144,002
Total	₩	8,147,304	8,134,184

- Financial services business

A. Other financial assets at amortized cost

Other financial assets at amortized cost include uncollected, loans and other bonds.
Changes in the loss allowance for other financial assets measured at amortized cost are as follows:

(in millions of Korean won)		2022	2021
Beginning of the year	₩	265	265
End of the year	₩	265	265

There is no amount recognized in profit or loss in relation to impairment for the years ended December 31, 2022 and 2021.

Maximum exposure to credit risk of the Group as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Cash equivalents	₩	55,665	94,196
Deposits		66,511	247,755
Financial assets at fair value through profit or loss		496,616	495,952
Financial assets at amortized costs		16,175	-
Other current financial assets		15,590	30,498
Total	₩	650,558	868,401

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

3) Liquidity risk

Cash flow forecasting is performed by the Group finance department. The Group finance department monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. Such forecasting takes into consideration the Group's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and, if applicable external regulatory or legal requirements.

- Non-financial services business

Details of the Group's liquidity risk analysis as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 1,373,954	-	-	1,373,954
Short-term and long-term borrowings[1]	1,127,965	105,870	1,073,221	2,307,056
Derivative liabilities	34,076	3,540	-	37,616
Other current financial liabilities	38,623	-	-	38,623
Deposits received	442,303	-	-	442,303
Short-term lease liabilities	248,075	-	-	248,075
Non-current trade and other payables	-	84,577	26,015	110,592
Other non-current financial liabilities	-	482	25,138	25,620
Long-term lease liabilities	-	119,157	2,062,091	2,181,248
Financial guarantee liabilities [2]	907	5,552	-	6,459
	₩ 3,265,903	319,178	3,186,466	6,771,546

[1] For convertible bonds and exchangeable bonds, total cash flow is disclosed with the contractual early

[2] Cash flows from financial guarantee contracts that are not presented in the consolidated financial statements are presented.

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

(in millions of Korean won)	2021			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 1,231,204	-	-	1,231,204
Short-term and long-term borrowings[1]	959,328	399,049	501,101	1,859,478
Other current financial liabilities	653,737	-	-	653,737
Deposits received	384,150	-	-	384,150
Short-term lease liabilities	172,084	-	-	172,084
Non-current trade and other payables	-	5,637	58,072	63,709
Other non-current financial liabilities	-	269	42,741	43,010
Long-term lease liabilities	-	192,825	1,625,097	1,817,922
Financial guarantee liabilities [2]	-	-	4,872	4,872
	₩ 3,400,503	597,780	2,231,883	6,230,166

[1] For convertible bonds and exchangeable bonds, total cash flow is disclosed with the contractual early repayment date as maturity.

[2] Cash flows from financial guarantee contracts that are not presented in the consolidated financial statements are presented.

The table above analyses the Group's non-derivative financial liabilities into relevant maturity. The amounts disclosed in the table are the contractual undiscounted cash flows including interest.

- Financial services business

Details of the Group's liquidity risk analysis as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Deposits received	₩ 394,287	-	-	394,287
Non-trade payables	15,925	-	-	15,925
Other financial liabilities	18,087	-	-	18,087
Lease liabilities	1,481	697	256	2,434
	₩ 429,780	697	256	430,734

(in millions of Korean won)	2021			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Other financial liabilities	₩ 49,080	-	-	49,080
Deposits received	598,311	-	-	598,311
Lease liabilities	2,377	4,031	5,098	11,506
	₩ 649,768	4,031	5,098	658,897

(2) Capital risk management

The Group's objectives when managing capital are to maintain an optimal capital structure. The Group monitors financial ratios such as debt-to-capital ratio, which is calculated by dividing total liabilities by total equity.

The debt-to-capital ratios as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		**2022**	**2021**
Total liabilities (A)	₩	9,447,969	9,216,225
Total equity (B)		13,515,683	13,568,334
Debt-to-capital ratio (A/B)		69.90%	67.92%

4. Financial Risk Management, Continued

(3) Offsetting financial assets and financial liabilities

Details of the Group's recognized financial assets subject to offsetting, enforceable master netting arrangements or similar agreements as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022				
	Gross assets	**Gross liabilities offset**	**Net amounts presented in the statement of financial position**	**Amounts not offset**	**Net amount**
Trade receivables[1]	₩ 1	-	1	-	1
Non-trade receivables[2]	84,682	73,432	11,250	-	11,250

(in millions of Korean won)	2022				
	Gross liabilities	**Gross assets offset**	**Net amounts presented in the statement of financial position**	**Amounts not offset**	**Net amount**
Non-trade payables[2]	₩ 84,682	56,963	27,719	-	27,719

[1] The amount presented includes the amount after offsetting trade receivables from media reps and agency fee.

[2] The amount of sales/purchase due to difference in consignment sales and settlement was offset and calculated.

(in millions of Korean won)	2021				
	Gross assets	**Gross liabilities offset**	**Net amounts presented in the statement of financial position**	**Amounts not offset**	**Net amount**
Trade receivables[1]	₩ 659	163	496	34	462
Non-trade receivables[2]	59,935	33,303	26,632	-	26,632

(in millions of Korean won)	2021				
	Gross liabilities	**Gross assets offset**	**Net amounts presented in the statement of financial position**	**Amounts not offset**	**Net amount**
Non-trade payables[2]	₩ 59,961	33,327	26,634	-	26,634

[1] The amount presented includes the amount after offsetting trade receivables from media reps and agency fee.

[2] The amount of sales/purchase due to difference in consignment sales and settlement was offset and calculated.

5. Fair Value

(1) Fair value of financial instruments

There are no significant changes in the business environment and economic environment that affect the fair value of the consolidated entity's financial assets and financial liabilities during the current year.

(2) Fair value hierarchy

The Group classifies fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in measurements.

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Unobservable inputs for the asset or liability (Level 3).

Fair value hierarchy classifications of the financial assets and liabilities that are measured at fair value as of December 31, 2022 and 2021:

- Non-financial services business

(in millions of Korean won)	2022			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss[1]	₩ 2,367	140,614	924,741	1,067,722
Financial assets at fair value through other comprehensive income[2,3]	706,350	-	743,217	1,449,567
Derivative financial assets[4]	-	-	6,562	6,562
	₩ 708,717	140,614	1,674,521	2,523,851
Derivative financial liabilities	₩ -	-	37,616	37,616
	₩ -	-	37,616	37,616

[1] During 2022, the Group acquired shares of Smart Korea's UTC BioHealthcare Venture Investment Fund and others.
[2] During 2022, the Group acquired 806,400 shares of the former shares of the Japanese content company Kadokawa Corporation.
[3] During 2022, the Group lost significant influence over Dunamu Inc. and reclassified the 5,181,167 shares held to financial assets at fair value through other comprehensive income.
[4] During 2022, the stock options of Grip Company held by the Group was classified as derivative asset.

5. Fair Value, Continued

(2) Fair value hierarchy, continued

(in millions of Korean won)	2021			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets at fair value through profit or loss[5]	₩ 377	-	606,932	607,309
Financial assets at fair value through other comprehensive income[1,2,3,4]	1,166,654	-	52,509	1,219,163
Derivative financial assets	-	-	352	352
	₩ 1,167,031	-	659,793	1,826,824
Financial liabilities at fair value through other comprehensive income	₩ -	-	542,900	542,900
Derivative financial liabilities	-	-	11,912	11,912
	₩ -	-	554,812	554,812

[1] During 2021, the Group acquired 474,000 shares of the former shares of the Japanese content company Kadokawa Corporation.

[2] During 2021, the Group sold 70,000 out of 200,323 shares of Assio Co., Ltd.

[3] During 2021, the Group sold 38,073 out of 50,764 shares of Six Shop Co., Ltd. and reclassified the remaining equity shares into financial assets at fair value through other comprehensive income from investments in associates.

[4] During 2021, Krafton Corp. was listed and was reclassified from Level 3 to Level 1.

[5] During 2021, the Group participated in capital increase of Neptune Corp. and exercised conversion rights, and reclassified financial assets at fair value through profit or loss to investments in associates.

- Financial services business

(in millions of Korean won)	2022			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets at fair value through profit or loss	₩ 236	494,161	2,219	496,616
Financial liabilities at fair value through profit or loss	₩ -	-	15,073	15,073

(in millions of Korean won)	2021			
	Level 1	**Level 2**	**Level 3**	**Total**
Financial assets at fair value through profit or loss	₩ -	494,405	1,547	495,952
Financial liabilities at fair value through profit or loss	₩ -	-	17,748	17,748

5. Fair Value, Continued

(3) Valuation technique and inputs

The fair value of financial instruments traded in active markets is based on quoted market prices at the statement of financial position date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, a company 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. The quoted market price used for financial assets held by the Group is the current bid price. These instruments are included in Level 1. Instruments included in Level 1 consist primarily of KOSPI and KOSDAQ equity investments classified as trading securities or available-for-sale.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3.

As of December 31, 2022, valuation technique and the inputs used for recurring and non-recurring fair value measurements and disclosed fair value that are categorized within Level 2, 3 of the fair value hierarchy are as follows:

- Non-financial services business

(in millions of Korean won)		Fair value	Level	Valuation technique	Inputs
Financial assets at fair value through profit or loss					
Short-term financial instruments	₩	140,614	2	NPV method	Discount rate
Compound financial instrument		648,897	3	Market value method	Market value and others
Securities and Funds		275,844	3		
	₩	1,065,355			
Financial assets at fair value through other comprehensive income					
Non-listed equity securities [1]	₩	743,217	3	DCF and NAV	Net asset value, Discount rate, estimated cash flow
Derivative financial assets and liabilities					
Derivative financial assets [2]	₩	6,562	3	Binominal tree method and others	Probability of risk neutral, increase in risk neutral, decrease in risk neutral
Derivative financial liabilities		37,616	3		

[1] Included equity securities of Dunamu Inc. reclassified during 2022.

[2] Classified the stock options of Grip Company held by the Group was classified as derivative asset in 2022.

5. Fair Value, Continued

(3) Valuation technique and inputs, continued

- Financial services business

(in millions of Korean won)		Fair value	Level	Valuation technique	Inputs
Financial assets at fair value through profit or loss					
Other deposits	₩	395,127	2	Market value method	Interest rate
Short-term financial instruments		99,035	2	Market value method	Interest rate
Compound financial instrument		405	3	Income approach method	Underlying
Securities		804	3	DCF	Estimated cash flow
Joint fund for damages		1,010	3	Cost method	
	₩	496,380			
Financial liabilities at fair value through profit or loss					
Contingent consideration	₩	15,073	3	DCF	Estimated cash flow

(4) Valuation processes for fair value measurements categorized within level 3

The financial division of the Group performs the fair value measurements required for financial reporting purposes, including level 3 fair values. This division reports to the Chief Financial Officer ("CFO") and the Audit Committee, and discusses valuation processes and results with CFO and Audit Committee at least once every year depending on the materiality.

The results of the sensitivity analysis for the effect on profit or loss (before income tax) or other comprehensive income (before income tax) from changes in fair value (1%) for each financial instrument for the year ended December 31, 2022 are as follows:

- Non-financial services business

(in millions of Korean won)	2022	
Financial assets[1]	**Favorable changes**	**Unfavorable changes**
Financial assets at fair value through profit or loss	₩ 5,388	(4,396)
Financial assets at fair value through other comprehensive income	38,336	(29,544)
	₩ 43,724	(33,940)

[1] Sensitivity analysis on the change of fair value is calculated by increasing or decreasing the discount rate, which is a major unobservable input, by 1% or increasing or decreasing the volatility of the underlying asset by 10%.

- Financial services business

(in millions of Korean won)	2022	
Financial liabilities[1]	**Favorable changes**	**Unfavorable changes**
Financial liabilities at fair value through profit or loss	₩ 735	(695)

[1] The fair value of contingent consideration is calculated by increasing or decreasing the investee company's cost of capital, which is a major unobservable input, by 1%.

6. Segment Information

The financial information reported to the chief operating decision-maker to allocate resources to operating segment and to evaluate the performance of operating segment is consistent with that used in preparing the financial statements.

The following summary describes the operations of each reportable segment.
(1) Kakao Corp.: Advertising, platform based service provision
(2) Kakao Games Corp.: Game development and publishing
(3) Kakao Entertainment Corp.: Entertainment management and contents production and distribution
(4) Kakao Mobility Corp.: Database information provision
(5) Kakaopay Corp.: Mobile platform based financial services
(6) Kakao Piccoma Corp.: Platform provision and webtoon distribution
(7) Kakao G Corp.: Investing blockchain business and technology development
(8) Others: Application software development and distribution

(in millions of Korean won)	2022				
	Kakao Corp.	**Kakao Games Corp.**	**Kakao Entertainment Corp**	**Kakao Mobility Corp.**	**Kakaopay Corp.** [1]
Revenue	₩ 2,456,591	1,147,693	1,864,791	483,692	521,671
Revenue from intercompany transactions	(175,869)	(32,542)	(86,466)	(8,101)	(150,139)
External revenue	2,280,722	1,115,151	1,778,324	475,591	371,532
Segment profit(loss) before income tax	1,872,117	(194,688)	(592,334)	(29,681)	(7,665)
Segment profit(loss) for the Year	1,611,791	(196,108)	(629,795)	(27,695)	26,795
Segment assets	10,791,496	3,873,942	3,454,284	1,546,540	3,331,530
Segment liabilities	3,720,642	1,859,048	1,835,250	403,512	1,423,305
Segment depreciation	206,634	19,936	29,257	61,918	25,446
Segment amortization	18,255	63,555	99,175	2,395	13,737

[1] ₩ 50,078 million of financial services business revenue is included.

6. Segment Information, Continued

(in millions of Korean won)	2022				
	Kakao Piccoma Corp.	Kakao G Corp.	Others	Consolidation adjustments	Total
Revenue	₩ 531,245	106,364	319,691	(632,689)	6,799,048
Revenue from intercompany transactions	(3,011)	(28)	(176,533)	632,689	-
External revenue	528,234	106,336	143,158	-	6,799,048
Segment profit(loss) before income tax	60,479	93,223	(68,978)	136,428	1,268,900
Segment profit(loss) for the Year	33,592	85,920	(116,542)	279,037	1,066,995
Segment assets	826,467	367,280	2,642,504	(3,870,392)	22,963,652
Segment liabilities	139,620	101,674	531,219	(566,302)	9,447,969
Segment depreciation	5,690	3,547	28,783	(15,414)	365,798
Segment amortization	265	704	5,415	265	203,766

(in millions of Korean won)	2021				
	Kakao Corp. [1]	Kakao Games Corp.	Kakao Entertainment Corp. [2]	Kakao Mobility Corp.	Kakaopay Corp. [3]
Revenue	₩ 2,669,167	1,012,481	1,424,925	320,308	458,647
Revenue from intercompany transactions	(290,484)	(42,196)	(161,399)	(6,567)	(126,664)
External revenue	2,378,683	970,285	1,263,526	313,741	331,983
Segment profit(loss) before income tax	719,821	722,077	59,290	4,025	(25,951)
Segment profit(loss) for the Year	619,110	520,158	38,525	27,078	(33,863)
Segment assets	10,029,503	4,304,187	3,711,659	1,087,970	3,432,709
Segment liabilities	3,490,166	1,883,697	1,561,324	254,538	1,637,071
Segment depreciation	137,748	11,229	22,021	21,397	13,380
Segment amortization	16,331	23,156	84,923	1,670	6,250

[1] It was calculated by adding the financial information of Kakao Commerce Corp. before the merger.

[2] It was calculated by adding the financial information of Kakao M Corp. before the merger.

[3] ₩ 63,851 million of financial services business revenue is included.

6. Segment Information, Continued

(in millions of Korean won)	2021				
	Kakao Piccoma Corp.	Kakao G Corp.	Others	Consolidation adjustments	Total
Revenue	₩ 461,117	130,203	609,069	(1,175,404)	5,910,513
Revenue from intercompany transactions	(2,260)	(46,849)	(498,985)	1,175,404	-
External revenue	458,857	83,354	110,084	-	5,910,513
Segment profit(loss) before income tax	45,775	89,073	527,874	144,677	2,286,661
Segment profit(loss) for the Year	48,444	56,677	464,511	(100,155)	1,640,484
Segment assets	845,169	139,533	1,736,552	(2,502,723)	22,784,559
Segment liabilities	123,214	55,819	469,651	(259,254)	9,216,225
Segment depreciation	3,755	1,272	18,483	(1,405)	227,880
Segment amortization	148	36	2,599	160	135,363

For the years ended December 31, 2022 and 2021, the Group's revenues are primarily generated in Korea, and the most of non-current assets held by the group are located in Korea.

(in millions of Korean won)	2022					
	Domestic	Asia	North America	Europe	Others	Total
Revenue	₩ 5,400,366	916,579	280,417	100,562	101,123	6,799,047

There was no external customer contributing more than 10% of the total revenue for the years ended December 31, 2022 and 2021.

7. Financial Instruments by Category

Carrying amounts of financial assets and liabilities by category as of December 31, 2022 and 2021, are as follows:

- Non-financial services business

(in millions of Korean won)		2022	2021
Financial assets at fair value through profit or loss	₩	1,067,722	607,309
Financial assets at fair value through other comprehensive income		1,449,567	1,219,163
Financial assets at amortized costs			
Cash and cash equivalents		4,780,244	5,231,504
Trade receivables, net		440,899	398,117
Short-term financial instruments		1,210,213	1,573,559
Long-term financial instruments		10,132	10,139
Other current financial assets		361,873	319,120
Other non-current financial assets		269,788	144,002
		7,073,150	7,676,441
Derivative financial assets			
Current derivative assets		351	352
Non-current derivative assets		6,211	-
		6,562	352
	₩	9,597,001	9,503,265

(in millions of Korean won)		2022	2021
Financial liabilities at fair value through profit or loss [1]	₩	-	542,900
Financial liabilities at amortized costs			
Trade and other payables		1,373,954	1,230,985
Short-term borrowings		1,096,884	1,258,828
Deposits received		442,303	384,150
Other current financial liabilities		38,623	110,838
Non-current trade and other payables		110,592	63,708
Long-term borrowings		1,176,181	553,054
Other non-current financial liabilities[2]		25,620	43,010
		4,264,158	3,644,573
Derivative financial Liabilities			
Current derivative financial liabilities		34,076	11,912
Non-current derivative financial liabilities		3,540	-
		37,616	11,912
	₩	4,301,773	4,199,385

7. Financial Instruments by Category, Continued

- Non-financial services business, continued

[1] The liabilities related to the acquisition of shares in Lionheart Studio Co., Ltd. by the Group have been paid during the current year.
[2] As of December 31, 2022, the Group recognized non-controlling interests in fund with maturity as financial liabilities amounting to ₩ 35,735 million (2021: ₩ 58,252 million).

Gains or losses of financial instruments by category for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022					
	Gain (loss) on valuation (other comprehensive income (loss))	Gain (loss) on valuation / disposal (profit or loss)	Interest income (expenses)	Dividend income	Impairment loss	Gain (loss) on foreign currency translation
Financial assets						
Financial assets at fair value through profit or loss	₩ -	31,201	90	5,941	-	2
Financial assets at fair value through other comprehensive income	(1,728,675)	10,409	-	50,273	20	-
Financial assets at amortized costs and other financial assets	-	-	118,694	-	(872)	(23,896)
Derivative financial assets	-	1,065	-	-	-	-
Financial liabilities						
Financial liabilities at fair value through profit or loss	-	(211,173)	-	-	-	-
Financial liabilities at amortized costs and other financial liabilities	-	-	(47,385)	-	-	(206)
Derivative financial liabilities	-	(23,964)	-	-	-	-

(in millions of Korean won)

	2021					
	Gain (loss) on valuation (other comprehensive income (loss))	Gain (loss) on valuation / disposal (profit or loss)	Interest income (expenses)	Dividend income	Impairment loss	Gain (loss) on foreign currency translation
Financial assets						
Financial assets at fair value through profit or loss	₩ -	35,085	42	17,834	-	66
Financial assets at fair value through other comprehensive income	368,152	-	-	20,744	-	-
Financial assets at amortized costs and other financial assets	-	-	36,847	-	(2,089)	29,800
Derivative financial assets	-	(6,686)	-	-	-	-
Financial liabilities						
Financial liabilities at fair value through profit or loss	-	-	-	-	-	-
Financial liabilities at amortized costs and other financial liabilities	-	-	(15,469)	-	9	(29,473)
Derivative financial liabilities	-	(44,402)	-	-	-	-

7. Financial Instruments by Category, Continued

- Financial services business

(in millions of Korean won)		**2022**	**2021**
Financial assets at fair value through profit or loss	₩	496,616	495,952
Financial assets at amortized costs			
Cash and cash equivalents		55,665	94,196
Deposits		66,511	247,755
Financial assets at amortized costs and other financial assets		16,175	-
Other financial assets		15,590	30,498
		153,942	372,449
	₩	650,558	868,401

(in millions of Korean won)		**2022**	**2021**
Financial liabilities at fair value through profit or loss	₩	15,073	17,748
Financial liabilities at amortized costs			
Deposits received		394,287	598,311
Other financial liabilities		18,140	31,332
		412,427	629,643
	₩	427,500	647,391

7. Financial Instruments by Category, Continued

- Financial services business, continued

Gains or losses of financial instruments by category for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022			
	Gain (loss) on valuation /disposal (profit or loss)	**Interest income (expenses)**	**Dividend income**	**Gain (loss) on foreign currency translation**
Financial assets				
Financial assets at fair value through profit or loss	₩ 2,429	7,711	1	3,035
Financial assets at amortized costs and other financial assets	-	4,484	-	-
Derivative assets	(844)	-	-	-
Financial liabilities				
Financial liabilities at amortized costs and other financial liabilities	2,676	-	-	-
Financial liabilities at fair value through profit or loss	-	(1,456)	-	-

(in millions of Korean won)	2021			
	Gain (loss) on valuation /disposal (profit or loss)	**Interest income (expenses)**	**Dividend income**	**Gain (loss) on foreign currency translation**
Financial assets				
Financial assets at fair value through profit or loss	₩ 1,430	3,203	2,524	16
Financial assets at amortized costs and other financial assets	-	133	-	-
Derivative assets	(39)	-	-	-
Financial liabilities				
Financial liabilities at amortized costs and other financial liabilities	(3,581)	-	-	-
Financial liabilities at fair value through profit or loss	-	(3,241)	-	(5)

8. Cash and Cash Equivalents, Short-term and Long-term Financial Instruments and Restricted Financial Instruments

Cash and cash equivalents comprise cash on hand, demand deposits and short-term, highly liquid investments that are readily convertible to known amounts of cash which are subject to an insignificant risk of changes in value.

(1) Non-financial services business

Details of cash and cash equivalents and short-term and long-term financial instruments as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Bank deposits and cash on hand and others	₩	4,780,244	5,231,504
Short-term financial instruments[1]		1,210,213	1,573,559
Long-term financial instruments – time deposits and others		10,132	10,139
	₩	6,000,589	6,815,202

[1] See Note 38 for information about restricted deposits and payment guarantees.

In addition, the Group's deposits of ₩ 6,107 million are pledged as collateral in relation to employees' bank loans (Note 38).

(2) Financial services business

Details of cash and cash equivalents and deposits as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Cash and cash equivalents	₩	55,665	94,196
General instrument deposit		4,000	124,000
Separate investment deposit		33,103	121,232
Market derivatives transaction deposit		2,000	-
Deposit for opening a checking account		2	2
Other deposits		27,406	2,521
	₩	122,176	341,951

8. Cash and Cash Equivalents, Short-term and Long-term Financial Instruments and Restricted Financial Instruments, Continued

Details of restricted financial instruments as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022		2021
General instrument deposit	₩	4,000		4,000
Long-term financial instruments deposit		2		2
Derivatives transaction deposit		2,000		-
	₩	6,002		4,002

The details of financial instruments that are reserved in accordance with the related laws as of December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	Category	2022	2021	Purpose
Deposit	Separate investment deposit[1]	₩ 25,200	121,200	Separate depositing of customer's deposit
	Foreign currency Separate investment Deposit	7,903	32	Separate depositing of customer's deposit
	Other deposits	1,500	2,500	Korea Exchange and securities market margin
Financial assets at fair value through profit or loss	Separate investment deposit (trust) [1]	395,127	494,405	Separate depositing of customer's deposit
	Joint funds for damages[2]	1,010	1,214	Korea Exchange and Korea Securities Depository
		₩ 430,739	619,351	

[1] In accordance with Paragraph 4 in Article 74 of Financial Investment Services and Capital Markets Act, the Group separated customer's deposit and placed it in deposits with Korea Securities Finance Corp. in order to return the customer's deposit or to meet the demand of the customers. The deposits shall not be transferred to or provided as collateral and shall not be offset or seized by anyone.

[2] In accordance with Article 394 and Article 303 of Financial Investment Services and Capital Markets Act, the Group set aside the joint funds for damages in Korea Exchange and Korea Securities Depository to jointly compensate for losses incurred from default arising from transactions on the securities market.

9. Credit Quality of Financial Assets

The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to external credit ratings (if available) or to historical information about counterparty default rates.
Cash and cash equivalents are all deposited in the financial institutions with high credit ratings.

10. Financial Assets

- Non-financial services business

(1) Financial assets at fair value through profit or loss and derivative financial assets

Financial assets mandatorily measured at fair value through profit or loss and derivative financial assets include the following classes of financial assets:

(in millions of Korean won)		2022	2021
Financial assets at fair value through profit or loss			
Non-current			
Beneficiary securities and fund	₩	224,747	127,564
Listed shares		2,367	372
Unlisted equity securities		54,497	-
Compound financial instruments		220,467	174,313
		502,078	302,249
Current			
Beneficiary securities		140,614	10,051
Listed shares		-	5
Compound financial instruments		425,030	295,004
		565,644	305,060
	₩	1,067,722	607,309
Derivative financial assets			
Current derivative financial assets	₩	351	352
Non-current derivative financial assets		6,211	-
	₩	6,562	352

The amounts recognized in profit or loss are as follows:

(in millions of Korean won)		2022	2021
Gain (loss) on financial assets at fair value through profit or loss	₩	37,235	53,027
Gain (loss) on derivative financial assets		1,065	(6,686)

10. Financial Assets, Continued

(2) Financial assets at fair value through other comprehensive income

Equity investments at fair value through other comprehensive income comprise the following individual investments:

(in millions of Korean won)		**2022**	**2021**
Non-current			
Listed equity securities	₩	706,350	1,166,654
FNC ENTERTAINMENT		3,510	5,298
SK TELECOM CO., LTD.		182,323	222,712
SK Square Co., Ltd.		83,426	165,111
Kadokawa CORP.		287,688	363,395
Action Square Co., Ltd.		3	6
VAIV company Inc		9,400	26,800
Krafton Corp. (formerly, Bluehole Corp.)		139,999	383,332
Unlisted equity securities[1]		743,217	52,509
	₩	1,449,567	1,219,163

[1] See Note 5 for details of unlisted equity securities.

The amounts recognized in profit or loss are as follows:

(in millions of Korean won)		**2022**	**2021**
Gain (loss) on financial assets at fair value through other comprehensive income	₩	60,703	20,744

Upon disposal of these equity investments, any balance within the accumulated other comprehensive income for these equity investments is reclassified to retained earnings and is not reclassified to profit or loss.

10. Financial Assets, Continued

(3) Trade Receivables, Other Current Financial Assets and Other Non-current Financial Assets

Trade receivables and allowance for doubtful accounts as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Trade receivables	₩	453,289	406,189
Less: allowance for doubtful accounts (Note 4)		(12,390)	(8,072)
Trade receivables, net	₩	440,899	398,117

There is no collateral held by the Group.

Details of other current financial assets and other non-current financial assets as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other current financial assets			
Non-trade receivables	₩	315,916	264,620
Accrued revenues		21,324	10,837
Short-term loans receivable		13,084	44,480
Short-term loans to employees		2,333	-
Leasehold Deposits		9,457	7,567
Others		5,951	2,436
		368,065	329,940
Other non-current financial assets			
Long-term non-trade receivables		32,803	42,332
Long-term loans receivable		31,848	2,665
Leasehold deposits		157,646	129,785
Long-term loans to employees		300	-
Others		79,811	1,843
		302,408	176,625
		670,474	506,565
Less: allowance for doubtful accounts (Note 4)		(38,812)	(43,442)
Other current financial assets and other non-current financial assets, net	₩	631,661	463,123

10. Financial Assets, Continued

- Financial services business

(1) Financial assets at fair value through profit or loss

1) Financial assets mandatorily measured at fair value through profit or loss include the following classes of financial assets:

(*In millions of Korean won*)

		2022	2021
Financial assets at fair value through profit or loss			
Short-term financial instruments and Compound financial instruments	₩	99,440	-
Listed shares		236	-
Equity securities		804	333
Others (money in trust etc.)		396,137	495,619
	₩	496,616	495,952

2) The amounts recognized in profit or loss are as follows:

(*In millions of Korean won*)

		2022	2021
Gain on financial assets at fair value through profit or loss	₩	13,177	7,174

(2) Other financial assets

(*In millions of Korean won*)

		2022	2021
Other financial assets			
Non-trade receivables	₩	14,096	26,906
Accrued revenues		1,073	763
Leasehold deposits		687	3,094
		15,855	30,763
Less: allowance for doubtful accounts (Note 4)		(265)	(265)
Other financial assets, net	₩	15,590	30,498

11. Contract Assets and Liabilities

(1) Details of incremental costs (other current assets and other non-current assets), costs to fulfil a contract (other non-current assets), contract assets (other current assets) and contract liabilities (other current liabilities), recognized in relation to contracts with customers, as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		**2022**	**2021**
Contract assets	₩	46,497	13,789
Incremental costs		7,685	5,808
Costs to fulfill a contract		-	196
Contract liabilities		336,426	334,949
Refund liabilities		722	694

11. Contract Assets and Liabilities, Continued

(2) Expenses and revenue recognized in relation to contract assets and contract liabilities

The following table shows how much of the revenue and expenses recognized in the current reporting period relates to carried-forward contract assets and contract liabilities.

(in millions of Korean won)		2022	2021
Expenses recognized that was included in the contract assets balance at the beginning of the year			
Incremental costs	₩	5,526	5,052
Costs to fulfil a contract – platform		-	10,653
	₩	5,526	15,705
Revenue recognized that was included in the contract liability balance at the beginning of the year			
Contract liabilities – platform	₩	315,652	274,125

Classification of revenue from contracts with customers

(in millions of Korean won)		2022	2021
Timing of revenue recognition			
At a point in time	₩	3,305,438	2,968,680
Over a period		3,493,610	2,941,833
	₩	6,799,048	5,910,513

12. Trade and Other payables

Trade and other payables as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Trade and other payables			
Trade payables	₩	94,417	69,748
Non-trade payables		1,274,889	1,157,104
Withhold deposits received		4,648	4,133
		1,373,954	1,230,985
Non-current trade and other payables			
Long-term non-trade payables		110,504	63,665
Withhold deposits received		87	43
		110,592	63,708
	₩	1,484,545	1,294,692

13. Other Financial Liabilities

(1) Non-financial services business

Other financial liabilities as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other current financial liabilities			
Accrued expenses	₩	37,783	110,732
Leasehold Deposit Received		340	105
Financial liabilities at fair value through profit or loss		-	542,900
Others		500	-
		38,623	653,737
Deposits received			
Deposits received		442,303	384,150
Other non-current financial liabilities			
Long-term accrued expenses		13,098	43,010
Long-term leasehold Deposit Received		11,023	-
Others		1,500	-
		25,620	43,010
	₩	506,547	1,080,898

(2) Financial services business

Other financial liabilities as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other financial liabilities			
Accrued expenses	₩	2,216	2,195
Non-trade Payables		15,924	29,137
Financial liabilities at fair value through profit or loss		15,073	17,748
		33,213	49,080
Deposits received			
Deposits received		394,287	598,311
	₩	427,500	647,391

14. Other Assets and Liabilities

(1) Non-financial services business

Other assets as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other current assets			
Advance payments	₩	126,165	89,254
Prepaid expenses		84,888	78,945
Prepaid value added tax		7,185	7,744
Corporate tax refund receivable		9,921	5,591
Others		8,020	1,140
		236,180	182,674
Other non-current assets			
Long-term advance payments		339,399	326,361
Long-term prepaid expenses		13,970	12,668
Others		400	144
		353,770	339,173
	₩	589,950	521,847

Other liabilities as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other current liabilities			
Advances from customers	₩	1,349,633	1,303,759
Deferred revenues		66,117	75,821
Withholdings		167,554	124,466
Value added tax payable		62,261	89,900
Government grants		116	262
Accrued expenses – short-term employee benefits liabilities		156,061	153,687
		1,801,743	1,747,895
Other non-current liabilities			
Long-term advances from customers		27,261	27,967
Long-term deferred revenues		41,406	-
Long-term employee benefits liabilities		1,439	2,522
Others		-	5
		70,105	30,494
	₩	1,871,848	1,778,390

14. Other Assets and Liabilities, continued

(2) Financial services business

Other assets as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other assets			
Advance payments	₩	15,094	39,825
Prepaid expenses		1,808	910
Prepaid value added tax		278	33
	₩	17,181	40,767

Other liabilities as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Other liabilities			
Advances from customers	₩	289	-
Deferred revenues		133	113
Withholdings		1,093	3,182
Value added tax payable		334	1,372
Accrued expenses – short-term employee benefits liabilities		4,040	9,385
	₩	5,890	14,052

15. Inventories

(in millions of Korean won)		2022	2021
Merchandise	₩	123,085	56,224
(Valuation allowance for merchandise)		(4,854)	(3,943)
Finished goods		4,631	7,076
(Valuation allowance for finished goods)		(554)	(489)
Raw materials		34,561	29,437
(Valuation allowance for raw materials)		(2,240)	(3,572)
Others		5,699	7,075
	₩	160,328	91,808

Inventories recognized as an expense during the year ended December 31, 2022, amounted to ₩ 483,433 million (2021: ₩ 328,216 million). These were included in 'operating expenses'.

In 2022, the Group recognized unusual valuation loss of inventory of ₩ 11 million (2021: ₩ 2,529 million) as non-operating expense. Loss on valuation of inventories to net realizable value amounted to ₩ 61 million (2021: ₩ 5,607 million). These were recognized as an expense during the year ended December 31, 2022, and included in 'operating expenses' in profit or loss.

16. Investments in Associates and Joint Venture

Investments in associates and joint venture as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

		2022			2021
Name[1]	**Location**	**Percentage of ownership (%)**	**Acquisition cost**	**Book value**	**Book value**
Associates					
Addcredit Corp. [3,8]	Korea	17.70%	₩ 300	-	30
DAUM Venture Fund [9]	Korea	39.50%	1,186	-	-
Dunamu Inc. [3,6]	Korea	-	-	-	514,249
CNT TECH CO., LTD. [3]	Korea	18.20%	5,001	6,948	5,418
Tide Square Co., Ltd. [15]	Korea	22.40%	26,464	7,015	-
KakaoBank Corp.	Korea	27.20%	788,748	1,589,134	1,540,065
Korea Credit Data	Korea	22.60%	4,246	20,423	1,678
Kakao Style Corp. [7]	Korea	51.10%	173,437	132,611	163,382
UTC Kakao SK Telecom ESG Fund [2]	Korea	48.20%	6,000	5,710	1,925
Humanscape	Korea	22.40%	17,028	15,078	20,400
Grip Company [12]	Korea	48.80%	177,077	164,121	180,000
D&C MEDIA CO.,LTD.	Korea	23.30%	33,789	42,426	41,495
mycelebs, inc [3]	Korea	14.10%	5,000	-	-
DAIWAON. C. I. INC [3]	Korea	19.80%	15,048	10,303	9,780
Haksan Publinshing Co., Ltd. [3]	Korea	19.80%	14,653	11,632	10,595
SEOUL MEDIA.INC.	Korea	22.20%	10,000	7,374	6,764
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC. [9]	Korea	20.00%	4	-	-
Super Comics.	Korea	20.00%	2,000	1,392	1,708
HongKong TXKP Limited	Hong Kong	49.00%	23,196	23,581	22,888
325 E&C	Korea	40.00%	2,400	1,819	2,006
UNION K-Culture Contents Investment Fund	Korea	33.30%	7,500	7,865	6,973
EDAM Entertainment Corp. [11]	Korea	-	-	-	12,098
Highup Entertainment	Korea	40.00%	4,000	3,510	3,480
Helios KDBC Video Digital Contents No. 2	Korea	29.80%	4,442	4,269	2,170
Metaverse Entertainment	Korea	39.20%	12,000	9,152	11,680
Atwater Capital Partners I, L.P. [2]	USA	34.50%	1,181	1,753	709
Wyatt co., Ltd	Korea	24.20%	17,729	7,121	20,053
MANNACEA	Korea	21.90%	10,000	113	1,090
Deleo Korea Co., Ltd. [3,8]	Korea	9.00%	3,000	162	3,000
YANADU. [3,9]	Korea	17.00%	5,842	-	3,044
LINEWALKS Inc. [11]	Korea	-	-	-	3,071
Daeyoung Chaevi CO., Ltd [3]	Korea	12.30%	7,500	7,500	7,500
Adlock Advertainment [3]	Korea	12.80%	1,000	1,132	1,132
Stage five Co., Ltd. [5]	Korea	34.20%	77,276	64,019	91,473
DEVOTION FOODS Inc. [3,8]	Korea	18.70%	3,000	2,155	3,000
JASON GROUP Co., Ltd. [3,8]	Korea	13.10%	29,997	17,236	29,396
MUSTIT. CO., Ltd. [3]	Korea	4.40%	9,992	5,723	7,926
Nubility [3]	Korea	7.80%	2,000	1,556	1,435
CLEON CO.,LTD [20]	Korea	-	-	-	1,600
KLleon Inc. [3,20]	USA	12.70%	1,600	640	-
Bluepoint Discovery Venture Fund No.2	Korea	20.80%	800	738	788
TNK Factory	Korea	34.90%	38,302	39,910	38,105
Atwater Whip SPV, LP [2]	USA	26.60%	3,746	5,110	-
Japle Co., Ltd. [8]	Korea	37.40%	500	-	130
KIDSPAY CO. Ltd. [16]	Korea	-	-	-	46
Ocean Drive Studio Co., Ltd.	Korea	30.30%	19,501	3,359	11,852
Second Dive [3]	Korea	19.80%	10,000	7,761	8,728
Neptune Co., Ltd. [2,8,13]	Korea	41.30%	383,191	193,064	296,893

(in millions of Korean won)

Name[1]	Location	2022 Percentage of ownership (%)	2022 Acquisition cost	2022 Book value	2021 Book value
Reality Magic	Korea	21.10%	₩ 5,556	4,557	5,328
Brokk Sindri [16]	Korea	-	-	-	-
Loadstars [2]	Korea	22.30%	82	11	70
Teins Valley	Korea	32.50%	500	404	531
RPG Gate Corp. [18]	Korea	-	-	-	416
GC Social Marketing Inc. [2]	USA	39.40%	3,578	3,570	1,118
DIGISONIC CO., LTD. [3]	Korea	10.00%	100	55	165
InnoSignal CO., LTD. [3]	Korea	14.50%	100	185	189
CHEQUER GLOBAL, Inc. [3,9]	USA	9.80%	400	-	-
EASYGO CO., LTD.	Korea	20.00%	100	92	93
DOZEN CO.,LTD [3]	Korea	9.80%	547	2,276	1,199
The M Company [3]	Korea	9.90%	884	1,167	1,060
DGT mobility. [2]	Korea	33.90%	3,500	4,664	2,994
S&Tsolution Co.,Ltd.	Korea	20.00%	1,245	1,100	1,093
Anycall Mobility Corp	Korea	20.00%	1,000	1,026	1,018
Kakao-Shinhan 1st TNYT Fund [3]	Korea	19.40%	5,970	4,747	5,076
Kakao Growth Hacking Fund [2,3]	Korea	15.30%	16,000	14,349	12,557
KIF-Kakao Wooribank Technology Financing Fund [3,19]	Korea	19.70%	12,450	22,180	18,722
K Cube NEO Fund [3]	Korea	15.60%	2,520	1,981	1,731
ATU e-sports Growth PE Fund	Korea	25.10%	5,499	5,308	5,498
PEOPLEFUND COMPANY [6]	Korea	-	-	-	254
LUXROBO CO., LTD. [3]	Korea	6.60%	3,385	1,348	3,601
Skelter Labs, Inc. [3]	Korea	10.90%	2,501	369	1,446
TOROOC Inc.	Korea	20.10%	2,500	66	201
Galux [3]	Korea	4.80%	5,001	4,210	5,001
RECON Labs. [3]	Korea	2.00%	500	382	500
Autonomous A2Z [3]	Korea	10.50%	6,500	5,229	6,933
CLAIR, Inc. [3]	Korea	2.40%	500	210	297
G&G ENTERPRISE CO.,LTD. [3,8]	Korea	11.50%	2,924	3,112	4,174
Socialbean Co., Ltd [3]	Korea	2.40%	999	40	136
Caring Corp. [3,5]	Korea	10.30%	3,142	8,057	2,968
e.Form Works [9]	Korea	40.20%	733	-	733
LOVO INC. [3]	USA	17.30%	4,107	4,183	4,107
Romance Crew [9]	Korea	20.00%	40	-	40
HitchMED Co., Ltd. [2]	Korea	27.00%	1,725	1,447	-
MORE VISION [2]	Korea	20.00%	1,500	1,676	-
Love Alarm Culture Industry Special Purpose Company Ltd. [2]	Korea	30.00%	3	10	-
Catchers Culture Industry Special Purpose Company Ltd. [2]	Korea	30.00%	3	1	-
GRAYGO Corp. [17]	Korea	34.10%	68,247	71,005	-
TheCheat [10]	Korea	23.60%	2,509	2,545	-
altimobility Corp. [2,3]	Korea	11.90%	5,600	2,882	-
TEEware Corp. [2,3]	Korea	17.00%	1,375	1,301	-
Let's go Together Kakao Games Win-win Fund [2]	Korea	38.70%	6,000	5,942	-
Jeju-vision Venture Investment Association No.1. [2]	Korea	21.90%	300	300	-
Enolink Holdings, Inc. [2,3]	USA	8.00%	7,264	6,348	-
Girl Rivers Cultural Industry Company Ltd. [2]	Korea	30.00%	3	1	-
Others (69 companies) [2,4,5,8,9]	Korea and others	2.0%~49.0%	67,160	35,574	25,952
			2,214,227	2,647,325	3,204,956
Joint Venture					
DAUM KAKAO PHILIPPINES CORP. [8]	Philippines	50.00%	1,072	-	182
Asankakao Medical Data Co., Ltd. [16]	Korea	-	-	-	4,269
PHI digital healthcare Inc. [8,14]	Korea	50.00%	5,000	4,574	6,395

(in millions of Korean won)

Name[1]	Location	2022 Percentage of ownership (%)	2022 Acquisition cost	2022 Book value	2021 Book value
			6,072	4,574	10,846
			₩ 2,220,299	2,651,898	3,215,802

[1] All investments in associates and joint venture are all unlisted securities excluding D&C MEDIA CO., LTD., Neptune Co., Ltd., and KakaoBank Corp.

[2] Newly and additionally acquired during 2022.

[3] Although the Group holds less than 20% of equity shares, the Group is considered to have a significant influences as the Group holds voting power to participate in the investee's Board of Directors.

[4] Small-sized entities invested by KAKAO Venture Fund, Kakao Digital Contents Fund, Kakao Game Growth Share Fund, KAKAO_CCVC Jeju Creative Economy Innovative Fund and Kakao Copilot 1 Fund with the ownership percentage of 2.0%~49.0% and classified as associates as the Group is considered to have a significant influence.

[5] Partially disposed during 2022.

[6] Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2022.

[7] Although the equity interest exceeds 50%, considering related agreements, the Group has significant influence over the investee, thus recognized it as an associate.

[8] Due to decrease in sales, the recoverable amount is less than the carrying amount as of December 31, 2022, thus, the Group recognized the amount of difference as an impairment loss during 2022.

[9] The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

[10] Reclassified from a financial instrument at fair value through other comprehensive income to an associate due to acquisition of additional shares during 2022.

[11] Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2022.

[12] Reclassified to a derivative asset from a stock purchase right related to stocks held by the Group during 2022.

[13] Converted to 1,135,202 common shares as exercising the remaining convertible bond conversion right during 2022.

[14] Spun off during 2022.

[15] Resumed the use of the equity method, due to the amount of change in capital incurred by the investees exceeded the loss incurred during discontinued period of the equity method.

[16] Disposed during 2022.

[17] Reclassified from a subsidiary to an associate due to loss of control during 2022.

[18] Excluded from the Group's associate due to loss of control on Ad (x) Inc.

[19] The Group recovered some of the principal of investment through the first distribution during 2022.

[20] Flipped shares to KLleon Inc., a U.S. corporation during 2022.

16. Investments in Associates and Joint Venture, Continued

Changes in carrying amounts of investments in associates and joint venture for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022									
Name	**Beginning balance**	**Changes in scope of consolidation**	**Acquisition**	**Disposal**	**Impairment**	**Reclassification**	**Gain (loss) on valuation of equity-method investments**	**Share in other comprehensive income (loss) of associates**	**Others[1]**	**Ending balance**
Associates										
Addcredit Corp. [6]	₩ 30	-	-	-	(30)	-	-	-	-	-
Dunamu Inc. [4,5]	514,249	-	-	(7,703)	-	(2,067,743)	16,345	1,193	1,543,659	-
CNT TECH CO., LTD.	5,418	-	-	-	-	-	1,188	614	(271)	6,948
Tide Square Co., Ltd. [12]	-	-	-	-	-	-	(6,990)	(854)	14,859	7,015
KakaoBank Corp.	1,540,065	-	-	-	-	-	68,225	(16,790)	(2,366)	1,589,134
Korea Credit Data	1,678	-	-	-	-	-	(7,254)	-	25,999	20,423
Kakao Style Corp.	163,382	-	-	-	-	-	(31,335)	948	(383)	132,611
UTC Kakao SK Telecom ESG Fund [3]	1,925	-	4,000	-	-	-	(215)	-	-	5,710
Humanscape	20,400	-	-	-	-	-	(1,100)	(4,448)	227	15,078
Grip Company [8]	180,000	-	-	-	-	(2,922)	(12,913)	(43)	-	164,121
D&C MEDIA CO.,LTD.	41,495	-	-	-	-	-	921	10	-	42,426
DAIWAON. C. I. INC	9,780	-	-	-	-	-	528	(5)	-	10,303
Haksan Publinshing Co., Ltd.	10,595	-	-	-	-	-	1,081	(44)	-	11,632
SEOUL MEDIA.INC.	6,764	-	-	-	-	-	610	-	-	7,374
Super Comics.	1,708	-	-	-	-	-	(316)	-	-	1,392
HongKong TXKP Limited	22,888	-	-	-	-	-	(904)	1,597	-	23,581
325 E&C	2,006	-	-	-	-	-	(186)	-	-	1,819
UNION K-Culture Contents Investment Fund	6,973	-	-	-	-	-	892	-	-	7,865
EDAM Entertainment Corp. [7]	12,098	(41,600)	-	-	-	-	659	-	28,843	-
Highup Entertainment	3,480	-	-	-	-	-	30	-	-	3,510
Helios KDBC Video Digital Contents No. 1 [3]	2,170	-	2,202	-	-	-	(102)	-	-	4,269
Metaverse Entertainment	11,680	-	-	-	-	-	(3,072)	(15)	559	9,152
Atwater Capital Partners I, L.P. [3]	709	-	470	-	-	-	504	69	-	1,753
Wyatt co., Ltd	20,053	-	-	-	-	-	(13,019)	87	-	7,121
MANNACEA	1,090	-	-	-	-	-	(977)	-	-	113
Deleo Korea Co., Ltd. [6]	3,000	-	-	-	(303)	-	(2,535)	-	-	162
YANADU. [14]	3,044	-	-	-	-	-	(5,863)	-	2,819	-
LINEWALKS Inc. [7]	3,071	(2,857)	-	-	-	-	(174)	-	(41)	-

(in millions of Korean won)

	2022									
Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
Daeyoung Chaevi CO., Ltd	7,500	-	-	-	-	-	-	-	-	7,500
Adlock Advertainment	1,132	-	-	-	-	-	-	-	-	1,132
Stage five Co., Ltd. [4]	91,473	-	-	(18,505)	-	-	(2,100)	(11)	(6,839)	64,019
DEVOTION FOODS Inc. [6]	3,000	-	-	-	(229)	-	(616)	-	-	2,155
JASON GROUP Co., Ltd. [6]	29,396	-	-	-	(11,370)	-	(774)	(16)	-	17,236
MUSTIT. CO., Ltd.	7,926	-	-	-	-	-	(5,254)	-	3,051	5,723
Nubility	1,435	-	-	-	-	-	(663)	-	784	1,556
CLEON CO., LTD [18]	1,600	-	-	-	-	(651)	(949)	-	-	-
KLleon Inc. [18]	-	-	-	-	-	651	(11)	-	-	640
Bluepoint Discovery Venture Fund No.2	788	-	-	-	-	-	(50)	-	-	738
TNK Factory	38,105	-	-	-	-	-	1,347	261	197	39,910
Atwater Whip SPV, LP [2]	-	-	3,746	-	-	-	1,178	186	-	5,110
Japle Co., Ltd. [6]	130	-	-	-	(31)	-	(99)	-	-	-
KIDSPAY CO. Ltd. [13]	46	-	-	(22)	-	-	(24)	-	-	-
Ocean Drive Studio Co., Ltd.	11,852	-	-	-	-	-	(8,493)	-	-	3,359
Second Dive	8,728	-	-	-	-	-	(967)	-	-	7,761
Neptune Co., Ltd. [3,6,10]	296,892	-	88,493	-	(157,822)	21,853	(20,238)	(35,576)	(538)	193,064
Reality Magic	5,327	-	-	-	-	-	(770)	-	-	4,557
Brokk Sindri [13]	-	-	-	-	-	-	-	-	-	-
Loadstars [3]	69	-	67	-	-	-	(125)	-	-	11
Teins Valley	531	-	-	-	-	-	(127)	-	-	404
RPG Gate Corp. [17]	416	(352)	-	-	-	-	(64)	-	-	-
GC Social Marketing Inc. [3]	1,117	-	2,561	-	-	-	(45)	(63)	-	3,570
DIGISONIC CO., LTD.	164	-	-	-	-	-	(206)	-	97	55
InnoSignal CO., LTD.	189	-	-	-	-	-	(4)	-	-	185
EASYGO CO., LTD.	93	-	-	-	-	-	(1)	-	-	92
DOZEN CO.,LTD	1,199	-	-	-	-	-	1,082	-	(6)	2,276
The M Company	1,060	-	-	-	-	-	107	-	-	1,167
DGT mobility. [3]	2,994	-	1,000	-	-	-	670	-	-	4,664
S&Tsolution Co.,Ltd.	1,093	-	-	-	-	-	7	-	-	1,100
Anycall Mobility Corp	1,018	-	-	-	-	-	8	-	-	1,026
Kakao-Shinhan 1st TNYT Fund	5,076	-	-	-	-	-	(331)	2	-	4,747
Kakao Growth Hacking Fund [3]	12,557	-	3,200	-	-	-	(1,408)	-	-	14,349

(in millions of Korean won)

	2022									
Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
KIF-Kakao Wooribank Technology Financing Fund [16]	18,722	-	-	(2,550)	-	-	4,069	1,939	-	22,180
K Cube NEO Fund	1,732	-	-	-	-	-	249	-	-	1,981
ATU e-sports Growth PE Fund	5,499	-	-	-	-	-	(192)	-	-	5,308
PEOPLEFUND COMPANY [5]	255	-	-	-	-	-	(909)	(162)	816	-
LUXROBO CO., LTD.	3,602	-	-	-	-	-	(1,680)	8	(583)	1,348
Skelter Labs, Inc.	1,447	-	-	-	-	-	(2,192)	75	1,039	369
TOROOC Inc.	201	-	-	-	-	-	(288)	-	153	66
Galux	5,000	-	-	-	-	-	(564)	-	(226)	4,210
RECON Labs.	500	-	-	-	-	-	(136)	-	18	382
Autonomous A2Z	6,933	-	-	-	-	-	(1,705)	-	-	5,229
CLAIR, Inc	297	-	-	-	-	-	(130)	-	43	210
G&G ENTERPRISE CO.,LTD. [6]	4,174	-	-	-	(1,030)	-	(34)	2	-	3,112
Socialbean Co., Ltd	136	-	-	-	-	-	(96)	-	-	40
Caring Corp. [4]	2,968	-	-	(638)	-	-	(1,729)	-	7,456	8,057
e.Form Works [14]	733	-	-	-	-	-	(833)	-	100	-
LOVO INC.	4,107	-	-	-	-	-	(347)	229	194	4,183
Romance Crew [14]	40	-	-	-	-	-	(40)	-	-	-
HitchMED Co., Ltd. [2]	-	-	1,725	-	-	-	(277)	(1)	-	1,447
MORE VISION [2]	-	-	1,500	-	-	-	176	-	-	1,676
Love Alarm Culture Industry Special Purpose Company Ltd. [2]	-	-	3	-	-	-	7	-	-	10
Catchers Culture Industry Special Purpose Company Ltd. [2]	-	-	3	-	-	-	(2)	-	-	1
GRAYGO Corp. [15]	-	68,247	-	-	-	-	(2,360)	-	5,118	71,005
TheCheat [9]	-	-	1,499	-	-	1,009	37	-	-	2,545
altimobility Corp. [2]	-	-	5,600	-	-	-	(2,718)	-	-	2,882
TEEware Corp. [2]	-	-	1,375	-	-	-	(33)	123	(164)	1,301
Let's go Together Kakao Games Win-win Fund [2]	-	-	6,000	-	-	-	(58)	-	-	5,942
Jeju-vision Venture Investment Association No.1. [2]	-	-	300	-	-	-	-	-	-	300
Enolink Holdings, Inc. [2]	-	-	7,264	-	-	-	(617)	(299)	-	6,348
Girl Rivers Cultural Industry Company Ltd. [2]	-	-	3	-	-	-	(2)	-	-	1

(in millions of Korean won)

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
					2022					
Others (69 companies) [2,3,4,6]	25,952	-	16,552	(5,738)	(1,499)	(1,300)	(9,698)	(97)	11,402	35,574
	3,204,956	23,438	147,563	(35,156)	(172,313)	(2,049,103)	(56,994)	(51,081)	1,636,015	2,647,325
Joint Venture										
DAUM KAKAO PHILIPPINES CORP. [6]	182	-	-	-	(182)	-	-	-	-	-
Asankakao Medical Data Co., Ltd. [13]	4,269	-	-	(4,127)	-	-	(142)	-	-	-
PHI digital healthcare Inc. [6,11]	6,395	-	-	(83)	(1,245)	-	(493)	-	-	4,574
	10,846	-	-	(4,210)	(1,427)	-	(635)	-	-	4,574
₩	3,215,802	23,438	147,563	(39,367)	(173,740)	(2,049,103)	(57,629)	(51,081)	1,636,015	2,651,898

16. Investments in Associates and Joint Venture, Continued

[1] Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2022.

[2] Newly acquired and established during 2022.

[3] Additionally acquired during 2022.

[4] Partially disposed during 2022.

[5] Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2022.

[6] Due to decrease in sales, the recoverable amount is less than the carrying amount as of December 31, 2022, thus, the Group recognized the amount of difference as an impairment loss during 2022.

[7] Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2022.

[8] Reclassified to a derivative asset from a stock purchase right related to stocks held by the Group during 2022.

[9] Reclassified to associates from financial instruments measured at fair value through other comprehensive income as the Group acquired significant influence through additional acquisitions during 2022.

[10] Converted to 1,135,202 common shares as exercising the remaining convertible bond conversion right during 2022.

[11] Spun off during 2022.

[12] Resumed the use of the equity method, due to the amount of change in capital incurred by the investees exceeded the loss incurred during discontinued period of the equity method.

[13] Disposed during 2022.

[14] The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

[15] Reclassified from a subsidiary to an associate due to loss of control during 2022.

[16] The Group recovered some of the principal of investment through the first distribution during 2022.

[17] Excluded from the Group's associate due to loss of control on Ad (x) Inc.

[18] Flipped shares to KLleon Inc., a U.S. corporation during 2022.

16. Investments in Associates and Joint Venture, Continued

(in millions of Korean won)

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
2021										
Associates										
Addcredit Corp.	₩ 138	-	-	-	-	-	(108)	-	-	30
Tapas Media, Inc.[9]	10,907	(10,361)	-	-	-	-	(481)	(64)	-	-
DAUM Venture Fund [6,7]	5,276	-	-	(8,656)	-	-	3,376	4	-	-
Dunamu Inc. [5,6]	73,848	-	-	(124,301)	-	-	488,938	2,513	73,251	514,249
CNT TECH CO., LTD.	4,581	-	-	-	-	-	895	(58)	-	5,418
Korea Credit Data	3,284	-	-	-	-	-	(4,221)	-	2,615	1,678
MANNACEA	2,354	-	-	-	-	-	(1,500)	-	237	1,090
Left Right Co., Ltd. [4,19]	67	-	-	(30)	(32)	-	(5)	-	-	-
LUXROBO CO., LTD. [5]	5,236	-	-	(894)	-	-	(649)	-	(91)	3,602
Deleo Korea Co., Ltd.	3,000	-	-	-	-	-	-	-	-	3,000
Skelter Labs, Inc.	2,630	-	-	-	-	-	(2,129)	2	943	1,447
TOROOC Inc.	482	-	-	-	-	-	(394)	-	112	201
DIGISONIC CO., LTD.	104	-	-	-	-	-	(382)	-	443	165
D&C MEDIA CO.,LTD.	38,211	-	-	-	-	-	3,033	251	-	41,495
K Cube NEO Fund	2,081	-	-	-	-	-	(350)	-	-	1,732
InnoSignal CO., LTD.	164	-	-	-	-	-	25	-	-	189
CLAIR, Inc.	351	-	-	-	-	-	(200)	-	146	297
KIF-Kakao Wooribank Technology Financing Fund	12,358	-	-	-	-	-	6,254	110	-	18,722
ADSOTA CORP. [16]	656	(677)	-	-	-	-	(7)	28	-	-
YANADU.	3,175	-	-	-	-	-	(3,228)	-	3,096	3,044
NOWBUSKING COMPANY [4]	2,156	-	-	(2,156)	-	-	-	-	-	-
LINEWALKS Inc.	3,255	-	-	-	-	-	(184)	-	-	3,071
CHEQUER Inc.	191	-	-	-	-	-	(222)	31	-	-
Wyatt co., Ltd (formerly, Hasys co.,ltd)	17,709	-	-	-	-	-	2,259	(132)	217	20,053
mycelebs, inc	5,000	-	-	-	-	-	(5,000)	-	-	-
DAIWAON. C. I. INC [20]	8,733	-	-	-	169	-	873	5	-	9,780
Haksan Publinshing Co., Ltd.[20]	8,923	-	-	-	875	-	515	282	-	10,595

(in millions of Korean won)

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
	2021									
PEOPLEFUND COMPANY	4,732	-	-	-	-	-	(5,587)	-	1,110	255
SEOUL MEDIA.INC.[19]	7,031	-	-	-	(883)	-	616	-	-	6,764
GC Social Marketing Inc.	1,005	-	-	-	-	-	116	(3)	-	1,118
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	1	-	-	-	-	-	(1)	-	-	-
Tide Square Co., Ltd.	10,510	-	-	-	-	-	(11,299)	789	-	-
EASYGO CO., LTD.	95	-	-	-	-	-	(2)	-	-	93
G&G ENTERPRISE CO.,LTD.	4,265	-	-	-	-	-	(90)	(2)	-	4,174
KakaoBank Corp.	940,889	-	-	-	-	-	56,886	(10,532)	552,822	1,540,065
325 E&C	2,138	-	-	-	-	-	(132)	-	-	2,006
UNION K-Culture Contents Investment Fund[3]	4,698	-	2,500	-	-	-	(225)	-	-	6,973
EDAM Entertainment Corp	11,526	-	-	-	-	-	571	-	-	12,098
Daeyoung Chaevi CO., Ltd	7,500	-	-	-	-	-	-	-	-	7,500
Ocean Drive Studio Co., Ltd.[3]	7,107	-	9,498	-	-	-	(4,754)	-	-	11,852
Socialbean Co., Ltd	356	-	-	-	-	-	(331)	-	110	135
DOZEN CO.,LTD[3]	695	-	52	-	-	-	452	-	-	1,199
Super Comics.	1,893	-	-	-	-	-	(185)	-	-	1,708
Stage five Co., Ltd.[3]	91,660	-	2,000	-	-	-	(1,303)	(13)	(871)	91,473
Adlock Advertainment	1,132	-	-	-	-	-	-	-	-	1,132
Second Dive	9,523	-	-	-	-	-	(802)	-	7	8,728
Lionheart Studio[9]	20,318	(705,345)	-	-	-	-	27,368	-	657,659	-
KROSS PICTURES[9]	5,880	(6,250)	-	-	-	-	399	(28)	-	-
DGT mobility.	2,556	-	-	-	-	-	439	-	-	2,994
DEVOTION FOODS Inc.	3,000	-	-	-	-	-	-	-	-	3,000
Japle Co., Ltd.	500	-	-	-	-	-	(370)	-	-	130
ATU e-sports Growth PE Fund I	5,499	-	-	-	-	-	-	-	-	5,499
S&Tsolution Co.,Ltd.	1,100	-	-	-	-	-	(7)	-	-	1,093
Radish Media. Inc[9]	30,972	(44,680)	16,459	-	-	-	(3,165)	414	-	-
Kakao-Shinhan 1st TNYT Fund[3]	2,339	-	3,582	-	-	-	(856)	11	-	5,076
Kakao Growth Hacking Fund[3]	3,188	-	9,600	-	-	-	(231)	-	-	12,557

(in millions of Korean won)

	2021									
Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
Atwater Whip SPV, LP [4]	12,200	-	-	(12,200)	-	-	-	-	-	-
KIDSPAY CO. Ltd. [19]	502	-	-	-	(27)	-	(429)	-	-	46
Way2Bit Co., Ltd. [13]	5,012	(6,708)	-	-	-	-	1,696	-	-	-
Loadstars	15	-	-	-	-	-	(76)	-	131	70
Teins Valley	500	-	-	-	-	-	31	-	-	531
JASON GROUP Co., Ltd. [6]	29,997	-	-	(131)	-	-	(470)	-	-	29,396
PLANETS CO. LTD. [16]	700	(692)	-	-	-	-	67	(75)	-	-
Anycall Mobility Corp.	1,004	-	-	-	-	-	14	-	-	1,017
Highup Entertainment [2]	-	-	4,000	-	-	-	(520)	-	-	3,480
Helios KDBC Video Digital Contents No. 1[2]	-	-	2,240	-	-	-	(70)	-	-	2,170
Neptune Co., Ltd. [8]	-	-	193,520	-	-	79,325	(8,801)	33,249	(401)	296,892
FM Ad [8,16]	-	(39)	-	-	-	20	19	-	-	-
Caring Corp. [2]	-	-	4,002	-	-	-	(1,035)	-	-	2,967
MUSTIT. CO., Ltd. [2]	-	-	9,992	-	-	-	(2,066)	-	-	7,926
RPG Gate Corp. [2]	-	-	500	-	-	-	(84)	-	-	416
NBT Inc[4]	923	-	-	(923)	-	-	-	-	-	-
Ad X Co., Ltd. [9,12]	17,719	(17,440)	-	-	-	-	(279)	-	-	-
SHOH ENTERPRISE PTE. LTD[10]	3,892	-	-	-	-	(3,892)	-	-	-	-
Sixshop[5,11]	1,385	-	-	(761)	-	(254)	(370)	-	-	-
Kakao Style Corp. [2]	-	-	173,437	-	-	-	(10,613)	557	-	163,381
UTC Kakao SK Telecom ESG Fund[2]	-	-	2,000	-	-	-	(75)	-	-	1,925
HongKong TXKP Limited[15]	-	23,196	-	-	-	-	(1,457)	1,149	-	22,888
Nubility[2]	-	-	2,000	-	-	-	(565)	-	-	1,435
CLEON CO.,LTD[2]	-	-	1,600	-	-	-	-	-	-	1,600
Reality Magic[18]	-	-	3,000	-	-	2,555	(228)	-	-	5,327
Brokk Sindri[14]	-	-	-	-	-	-	-	-	-	-
The M Company[2]	-	-	884	-	-	-	176	-	-	1,060
Autonomous A2Z[2]	-	-	6,500	-	-	-	159	-	275	6,933
13MILE.CO.LTD[4]	-	-	-	-	-	-	-	-	-	-

(in millions of Korean won)

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others[1]	Ending balance
					2021					
Humanscape[2]	-	-	17,028	-	-	-	(1,076)	4,448	-	20,400
Grip Company[2]	-	-	180,000	-	-	-	-	-	-	180,000
Metaverse Entertainment[2]	-	-	12,000	-	-	-	(320)	-	-	11,680
Atwater Capital Partners I, L.P. [3,8]	-	-	478	-	-	233	(12)	10	-	708
Romance Crew[17]	-	40	-	-	-	-	-	-	-	40
Bluepoint Discovery Venture Fund No.2[2]	-	-	800	-	-	-	(12)	-	-	788
TNK Factory[15]	-	38,105	-	-	-	-	-	-	-	38,105
Galux[2]	-	-	5,001	-	-	-	-	-	-	5,001
RECON Labs. [2]	-	-	500	-	-	-	-	-	-	500
e.Form Works[2]	-	-	733	-	-	-	-	-	-	733
LOVO INC. [2]	-	-	4,107	-	-	-	-	-	-	4,107
Others (50 companies)[3,5,9]	22,383	-	6,699	(3,967)	(472)	(3,374)	(7,900)	(232)	12,819	25,951
	1,493,210	(730,851)	674,712	(154,019)	(370)	74,613	510,319	32,712	1,304,630	3,204,956
Joint Venture										
DAUM KAKAO PHILIPPINES CORP.	176	-	-	-	-	-	(25)	31	-	182
Asankakao Medical Data Co., Ltd.	4,500	-	-	-	-	-	(231)	-	-	4,269
PHI digital healthcare Inc.	6,531	-	-	-	-	-	30	-	(166)	6,395
USABANG CULTURE INDUSTRIAL Ltd. [4]	2	-	-	(2)	-	-	-	-	-	-
	11,209	-	-	(2)	-	-	(226)	31	(166)	10,846
	₩ 1,504,419	(730,851)	674,712	(154,021)	(370)	74,613	510,093	32,743	1,304,464	3,215,802

16. Investments in Associates and Joint Venture, Continued

[1] Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2021.
[2] Newly acquired and established during 2021.
[3] Additionally acquired during 2021.
[4] Disposed during 2021.
[5] Partially disposed during 2021.
[6] The Group received dividend income from Dunamu Inc. amounting to ₩ 4,255 million, JASON GROUP Co., Ltd. amounting to ₩ 131 million, and DAUM Venture Fund amounting to ₩ 2,605 million and deducted it from the carrying amount of investments in associates.
[7] Collected partial amount of investments from the fifth and sixth distribution.
[8] Reclassified to associates from financial instruments measured at fair value through profit or loss as the Group acquired significant influence through additional acquisitions during 2021.
[9] Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2021.
[10] Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2021.
[11] Reclassified to a financial instrument at fair value through other comprehensive income from an associate due to loss of significant influence during 2021.
[12] As Ad X Co., Ltd. was reclassified as a subsidiary, it was included to an associate.
[13] It was merged with Friendsgames Co., Ltd. during 2021.
[14] Included to an associate as Way2Bit Co., Ltd. was merged with Friendsgames Co., Ltd. during 2021.
[15] Reclassified from a subsidiary to an associate due to loss of control during 2021.
[16] As TNK Factory was reclassified from a subsidiary to an associate, it was excluded from the Group's associate during 2021.
[17] As Gleline is included as a subsidiary it was included as an associate during 2021.
[18] Reclassified from a financial instrument at fair value through profit or loss to an associate due to acquisition of additional shares during 2021.
[19] Due to decrease in sales, the recoverable amount is less than the carrying amount as of December 31, 2021, thus, the Group recognized the amount of difference as an impairment loss during 2021.
[20] As the recoverable amount is determined to exceed the carrying amount through assessment, the Group recognized the reversal of impairment during 2021.

16. Investments in Associates and Joint Venture, Continued

Fair value of investments in associates that has a quoted market price as of December 31, 2022 and 2021, is as follows:

(in millions of Korean won)

	Company	2022		2021	
		Fair value	Book value	Fair value	Book value
Associates	KakaoBank Corp.	₩ 3,147,670	1,589,134	7,642,490	1,540,065
	Neptune Co., Ltd.	193,064	193,064	289,472	296,893
	D&C MEDIA CO.,LTD	64,179	42,426	117,424	41,495

The tables below provide a reconciliation of the summarized financial information presented to the carrying amount of its interest in material associates and joint venture.

(in millions of Korean won)

	2022				
	Net assets at the end of the year (a)	The Group's share in % (b)	The Group's share in KRW (a*b)	Goodwill and etc.	Book value
KakaoBank Corp.	₩ 5,706,214	27.20%	1,550,450	38,684	1,589,134
Stage five Co., Ltd [1]	21,336	31.30%	6,681	57,338	64,019
D&C MEDIA CO.,LTD. [2]	72,954	23.30%	16,992	25,434	42,426
Neptune Co., Ltd. [2]	392,388	41.30%	161,998	31,066	193,064
Kakao Style Corp. [1]	33,741	53.40%	18,005	114,606	132,611
Grip Company	148,050	48.80%	72,295	91,825	164,121

[1] The Group's share in net asset is calculated by taking into account of conditions of the investing companies' preferred shares.

[2] The equity interest percentage excluding treasury shares is used.

(in millions of Korean won)

	2021				
	Net assets at the end of the year (a)	The Group's share in % (b)	The Group's share in KRW (a*b)	Goodwill and etc.	Book value
KakaoBank Corp.	₩ 5,494,586	27.26%	1,497,886	42,179	1,540,065
Dunamu Inc.	3,337,693	15.33%	511,668	2,580	514,248
Stage five Co., Ltd [1]	226,371	9.72%	22,007	69,465	91,472
D&C MEDIA CO.,LTD. [3]	67,732	23.27%	15,761	25,734	41,495
Neptune Co., Ltd. [2]	394,036	32.63%	128,559	168,334	296,893
Kakao Style Corp.	81,924	51.32%	42,043	121,339	163,382
Grip Company [1]	122,264	57.00%	69,688	110,312	180,000

[1] The Group's share in net asset is calculated by taking into account of conditions of the investing companies' preferred shares.

[2] Reclassified to associates from financial instruments measured at fair value through profit or loss as the Group acquired significant influence through additional acquisitions during 2021.

[3] The equity interest percentage excluding treasury shares is used.

16. Investments in Associates and Joint Venture, Continued

A summary of financial information on the associates and joint venture for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)

	2022									
	Current asset	Non-current asset	Financial asset	Current liability	Non-current liability	Financial liability	Revenue	Profit (loss)	Other comprehen-sive income (loss)	Total Comprehensive income (loss)
KakaoBank Corp.	-	-	39,516,079	-	-	33,800,969	1,605,801	263,091	(74,267)	188,823
Stage five Co., Ltd	₩ 20,502	12,338	-	198,668	2,998	-	85,672	(22,898)	237	(22,661)
D&C MEDIA CO.,LTD.	61,362	33,666	-	16,721	2,679	-	61,242	5,367	-	5,367
Neptune Co., Ltd.	48,712	384,133	-	20,110	23,504	-	29,356	(159,966)	1,413	(158,553)
Kakao Style Corp.	69,508	28,922	-	59,545	4,514	-	101,841	(50,043)	1,008	(49,035)
Grip Company.	164,656	7,156	-	17,047	5,139	-	13,132	(26,824)	44	(26,780)
	₩ 364,740	466,215	39,516,079	312,091	38,834	33,800,969	1,897,044	8,727	(71,565)	(62,839)

(in millions of Korean won)

	2021									
	Current asset	Non-current asset	Financial asset	Current liability	Non-current liability	Financial liability	Revenue	Profit (loss)	Other comprehen-sive income (loss)	Total Comprehensive income (loss)
KakaoBank Corp.	-	-	36,040,068	-	-	30,518,698	1,064,933	204,124	(35,543)	168,582
Dunamu Inc.	₩ 8,805,516	1,612,397	-	6,948,331	243,695	-	3,705,506	2,234,272	1,343	2,235,614
Stage five Co., Ltd	32,994	5,286	-	7,985	1,710	-	51,194	(9,111)	18	(9,093)
D&C MEDIA CO.,LTD.	63,274	22,991	-	16,656	640	-	67,422	15,111	-	15,111
Neptune Co., Ltd.	44,083	421,571	-	24,712	52,772	-	20,308	70,053	120	70,173
Kakao Style Corp.	100,834	27,717	-	41,764	4,776	-	65,235	(35,108)	(8)	(35,115)
Grip Company.	187,283	886	-	38,434	26,982	-	7,006	(35,605)	-	(35,605)
	₩ 9,233,984	2,090,848	36,040,068	7,077,882	330,575	30,518,698	4,981,604	2,443,736	(34,070)	2,409,667

The accumulated loss that was not recognized due to discontinuance of equity method of accounting is ₩ 7,427 million as of December 31, 2022 (2021: ₩ 10,966 million).

17. Property and Equipment

(1) Non-financial services business

Changes in property and equipment for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construction in progress	Total
Beginning balance	₩ 98,630	47,369	6,612	241,637	10,726	104,652	45,290	554,916
Acquisition	3,223	2,706	2,591	138,349	3,255	97,521	218,409	466,054
Changes in scope of consolidation	8,823	1,563	7,764	8,538	8	1,019	540	28,255
Disposals	(1,007)	(56)	(176)	(300)	(1,335)	(14,024)	(94)	(16,991)
Depreciation	-	(1,730)	(3,862)	(92,846)	(3,630)	(60,020)	-	(162,088)
Impairment	-	-	-	-	-	(17)	-	(17)
Transfer	257	-	(120)	3,978	(7)	86,184	(82,179)	8,112
Others[1]	(30)	(62)	-	62	9	8,038	(862)	7,156
Ending balance	₩ 109,896	49,790	12,810	299,418	9,026	223,352	181,104	885,397
December 31, 2022								
Acquisition cost	₩ 109,896	62,449	30,500	671,788	18,925	390,786	181,104	1,465,448
Government grants	-	-	-	(390)	(76)	(1,963)	-	(2,428)
Accumulated depreciation	-	(12,659)	(17,690)	(371,981)	(9,823)	(165,464)	-	(577,616)
Accumulated impairment	-	-	-	-	-	(6)	-	(6)
Net book value	₩ 109,896	49,790	12,810	299,418	9,026	223,352	181,104	885,397

[1] Others include currency translation effects.

17. Property and Equipment, Continued

(in millions of Korean won)

	2021							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construction in progress	Total
Beginning balance	₩ 69,318	39,046	1,583	189,711	12,054	90,630	28,326	430,668
Acquisition	11,610	2,740	1,227	120,826	2,135	45,198	32,901	216,637
Changes in scope of consolidation	12,319	7,196	1	2,542	529	3,920	-	26,507
Disposals	(1)	(178)	-	(326)	(601)	(1,938)	-	(3,044)
Depreciation	-	(1,415)	(1,301)	(73,199)	(3,728)	(39,369)	-	(119,012)
Transfer	5,393	-	5,102	2,108	312	5,959	(17,242)	1,632
Others[1]	(9)	(20)	-	(25)	25	252	1,305	1,528
Ending balance	₩ 98,630	47,369	6,612	241,637	10,726	104,652	45,290	554,916
December 31, 2021								
Acquisition cost	₩ 98,630	57,873	8,232	530,690	19,299	236,686	45,290	996,700
Government grants	-	-	-	(56)	-	(1,027)	-	(1,083)
Accumulated depreciation	-	(10,504)	(1,620)	(288,997)	(8,573)	(131,001)	-	(440,695)
Accumulated impairment	-	-	-	-	-	(6)	-	(6)
Net book value	₩ 98,630	47,369	6,612	241,637	10,726	104,652	45,290	554,916

[1] Others include currency translation effects.

17. Property and Equipment, Continued

(2) Financial services business

Changes in property and equipment for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022			
	Land	**Buildings**	**Furniture[1]**	**Total**
Beginning balance	₩ 240	515	11,028	11,782
Acquisition	-	-	7,544	7,544
Disposal	(240)	(513)	(76)	(828)
Depreciation	-	(2)	(3,459)	(3,461)
Ending balance	₩ -	-	15,037	15,037
December 31, 2022				
Acquisition cost	₩ -	-	20,912	20,912
Accumulated depreciation	-	-	(5,875)	(5,875)
Net book value	₩ -	-	15,038	15,038

[1] Assets under construction are included.

(in millions of Korean won)	2021			
	Land	**Buildings**	**Furniture[1]**	**Total**
Beginning balance	₩ 240	529	5,081	5,850
Acquisition	-	-	7,445	7,445
Depreciation	-	(14)	(1,499)	(1,513)
Ending balance	₩ 240	515	11,028	11,782
December 31, 2021				
Acquisition cost	₩ 240	539	15,204	15,983
Accumulated depreciation	-	(24)	(4,176)	(4,201)
Net book value	₩ 240	515	11,028	11,782

[1] Assets under construction are included.

(3) Some land and buildings of the Group's property and equipment are provided as collateral in relation to the loan agreement (Note 38).

18. Investment Properties

(1) Changes in investment properties for the years ended December 31, 2022, and 2021, are as follows:

(in millions of Korean won)		**2022**
		Buildings
Beginning balance	₩	101,296
Depreciation		(404)
Transfer		(80,015)
Ending balance	₩	20,878
December 31, 2022		
Acquisition cost	₩	22,112
Accumulated depreciation		(1,234)
Net book value	₩	20,878

(in millions of Korean won)		**2021**
		Buildings
Beginning balance	₩	-
Acquisition[1]		102,127
Depreciation		(830)
Ending balance	₩	101,296
December 31, 2021		
Acquisition cost	₩	102,127
Accumulated depreciation		(830)
Net book value	₩	101,296

[1]Among the leasehold assets acquired during the previous period, the space sublease as an operating lease was recognized as investment real estate.

(2) The Group provides some of the licensed assets held as lease users to third parties as operating leases, classifying the licensed assets as investment real estate, and amortizing the operating lease period by a fixed number of years.

(3) During the current term, rental income from operating leases generated from investment real estate is ₩ 398 million, and related operating expenses (including maintenance and repair costs) are ₩ 396 million. These revenues and expenses are included in revenue and operating expenses, respectively.

19. Intangible Assets

(1) Non-financial services business

Changes in intangible assets for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022						
	Goodwill	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets[2]	Total
Beginning balance	₩ 4,900,150	204	70,081	57,561	386,296	933,503	6,347,795
Acquisition	-	218	1,357	959	32,428	231,746	266,708
Transfer[1]	29,572	1,036	(24,291)	-	31,940	130,751	169,008
Changes in scope of consolidation	176,394	42	(44)	11,722	(427)	(121,105)	66,583
Disposal	-	(156)	(193)	(6)	(3,457)	(70,055)	(73,867)
Amortization	-	(278)	(9,364)	(15,658)	(32,053)	(134,360)	(191,713)
Impairment	(701,516)	(856)	(6)	(5,282)	(11,305)	(17,936)	(736,900)
Other	72,604	17	885	(6)	7,589	93,650	174,739
Ending balance	₩ 4,477,204	227	38,425	49,290	411,011	1,046,195	6,022,352
December 31, 2022							
Acquisition cost	₩ 6,203,923	18,434	79,578	95,622	487,380	1,518,406	8,403,343
Accumulated amortization	-	(17,982)	(41,071)	(40,369)	(68,854)	(378,761)	(547,037)
Government grants	-	-	(3)	-	-	(111)	(114)
Accumulated impairment	(1,726,718)	(224)	(80)	(5,964)	(7,515)	(93,339)	(1,833,840)
Net book value	₩ 4,477,204	227	38,425	49,290	411,011	1,046,195	6,022,352

[1] Long-term advance payments which qualify for recognizing assets are reclassified into intangible assets.
[2] Includes ₩ 85,337 million of cryptocurrency held by the Group as of December 31, 2022.

(in millions of Korean won)	2021						
	Goodwill	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets[2]	Total
Beginning balance	₩ 2,693,533	266	27,399	18,495	371,429	240,431	3,351,553
Acquisition	-	-	6,170	11,646	14,240	163,266	195,322
Transfer[1]	-	-	(19,041)	-	-	20,027	986
Changes in scope of consolidation	2,457,950	148	65,176	35,621	736	659,310	3,218,941
Disposal	-	-	(30)	(3)	(287)	(20,658)	(20,978)
Amortization	-	(210)	(7,661)	(8,198)	(1)	(114,059)	(130,129)
Impairment	(288,011)	-	(1,934)	-	185	(1,861)	(291,621)
Other	36,678	-	2	-	(6)	(12,953)	23,721
Ending balance	₩ 4,900,150	204	70,081	57,561	386,296	933,503	6,347,795
December 31, 2021							
Acquisition cost	₩ 5,951,227	22,382	79,605	85,861	386,436	1,290,505	7,816,016
Accumulated amortization	-	(19,940)	(7,872)	(27,618)	-	(266,286)	(321,716)
Government grants	-	-	(4)	-	-	(59)	(63)
Accumulated impairment	(1,051,077)	(2,238)	(1,648)	(682)	(140)	(90,657)	(1,146,442)
Net book value	₩ 4,900,150	204	70,081	57,561	386,296	933,503	6,347,795

[1] Long-term advance payments which qualify for recognizing assets are reclassified into intangible assets.

[2] Includes ₩ 63,060 million of cryptocurrency held by the Group as of December 31, 2021.

Management reviews sales performance based on region and type of sales, and manages goodwill at sales level.

19. Intangible Assets, Continued

(2) Financial services business

Changes in intangible assets for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)	2022				
	Development costs	Others	Goodwill	Membership	Total
Beginning balance	₩ 10,829	9,260	12,567	572	33,228
Acquisitions	7,028	2,837	-	1,581	11,446
Disposal	-	(1)	-	(511)	(512)
Amortization	(9,706)	(2,225)	-	(121)	(12,052)
Reclassification[1]	38,252	200	-	-	38,452
Ending balance	₩ 46,403	10,071	12,567	1,520	70,561
December 31, 2022					
Acquisition cost	₩ 63,196	15,385	12,567	1,727	92,875
Accumulated amortization	(16,793)	(5,314)	-	(206)	(22,314)
Net book value	₩ 46,403	10,071	12,567	1,520	70,561

[1] Reclassified the amounts classified prepayments in 2021 as intangible assets during 2022.

(in millions of Korean won)	2021				
	Development costs	Others	Goodwill	Membership	Total
Beginning balance	₩ 14,412	8,416	12,567	639	36,034
Acquisitions	-	2,429	-	-	2,429
Amortization	(3,583)	(1,585)	-	(67)	(5,235)
Ending balance	₩ 10,829	9,260	12,567	572	33,228
December 31, 2021					
Acquisition cost	₩ 17,916	12,482	12,567	693	43,658
Accumulated amortization	(7,087)	(3,222)	-	(121)	(10,430)
Net book value	₩ 10,829	9,260	12,567	572	33,228

19. Intangible Assets, Continued

(3) The following is a summary of goodwill allocation for cash generating units ("CGU"s) operated by management for the years ended December 31, 2022 and 2021:

(in millions of Korean won)	2022				
	Beginning balance	**Changes in scope of consolidation[1]**	**Impairment[2]**	**Other adjustments [3]**	**Ending balance**
Internet portal service and other service	₩ 1,081,856	-	-	-	1,081,856
Music service	302,079	-	(70,718)	-	231,361
Other mobile service	1,356,976	150,908	(602,457)	71,900	977,328
Game business	1,418,770	(24,574)	-	30,277	1,424,472
Commerce service	270,913	-	-	-	270,913
Financial services	12,567	-	-	-	12,567
Entertainment service	469,556	50,061	(28,342)	-	491,275
	₩ 4,912,717	176,394	(701,516)	102,177	4,489,771

[1] Included the amounts increased through the acquisition of equity shares in KM Park and EDAM Entertainment during 2022.

[2] Included the amount of impairment of TAPAS ENTERTAINMENT, INC. (formerly, Radish Media, Inc.) during 2022.

[3] Included foreign currency effects from acquisition of foreign companies.

19. Intangible Assets, Continued

(in millions of Korean won)	2021				
	Beginning balance	**Changes in scope of consolidation[1]**	**Impairment**	**Other adjustments [2]**	**Ending balance**
Internet portal service and other service	₩ 1,081,856	-	-	-	1,081,856
Music service	500,575	-	(198,496)	-	302,079
Other mobile service	336,128	1,011,743	(27,390)	36,496	1,356,976
Game business	114,835	1,327,901	(24,149)	182	1,418,770
Commerce service	277,901	(6,988)	-	-	270,913
Financial services	12,567	-	-	-	12,567
Entertainment service	382,238	125,293	(37,976)	-	469,556
	₩ 2,706,100	2,457,949	(288,011)	36,678	4,912,717

[1] Included the amounts increased by the acquisition of shares in 49 companies including AD X Co., Ltd. during 2021.

[2] Included foreign currency effects from acquisition of foreign companies.

19. Intangible Assets, Continued

(4) The Group annually tests impairment of its goodwill. The recoverable amounts of CGU or CGUs have been determined based on value-in-use calculations. These calculations use cash flow projections after tax based on financial budgets approved by management covering a five-year period.

The following table sets out major assumption, operating margin rate, revenue growth rate, perpetual growth rate and discount rate used in the value-in-use calculations for those CGUs that have significant goodwill allocated to them.

	2022			
	Internet portal service and other service[1]	**Music Service**	**Financial services**	**Other mobile service, game business, commerce service, other contents service, entertainment service and others**
Operating margin rate	13.2% ~ 24.0%	10.3% ~ 11.9%	(-)51.9% ~ 33.6%	(-)309.2% ~ 85.6%
Revenue growth rate	6.9% ~ 8.0%	1.9% ~ 7.3%	27.2%~68.4%	(-)80.9% ~ 246.6%
Perpetual growth rate	1.00%	1.00%	1.00%	0.0% ~ 1.0%
discount rate	10.50%	12.80%	15.60%	8.4% ~ 17.3%

[1] When estimating the recoverable amount, if a perpetual growth rate applied to CGU is lower than the management's estimate by 0.5%, the recoverable amount will be reduced by 3.4%. If the discount rate applied to the estimation is higher than the management's estimate by 0.5%, the recoverable amount will decrease by 5.2%.

	2021			
	Internet portal service and other service[1]	**Music Service**	**Financial services**	**Other mobile service, game business, commerce service, other contents service, entertainment service and others**
Operating margin rate	17.7% ~ 25.2%	11.4% ~ 12.3%	(-)77.4% ~ 29.6%	(-)1,192.3% ~ 4,462.4%
Revenue growth rate	5.3% ~ 12.3%	0.9% ~ 4.9%	5.9% ~ 25.0%	(-)85.58% ~ 3,441.6%
Perpetual growth rate	1.00%	1.00%	1.00%	0.0% ~ 1.0%
discount rate	11.74%	11.68%	16.95%	10.6% ~ 18.6%

[1] When estimating the recoverable amount, if a perpetual growth rate applied to CGU is lower than the management's estimate by 0.5%, the recoverable amount will be reduced by 3.0%. If the discount rate applied to the estimation is higher than the management's estimate by 0.5%, the recoverable amount will decrease by 4.4%.

These assumptions were used for each cash flow generation unit within the operating segment.

The discount rate is the discount rate that reflects the specific risk associated with the segment to which the CGUs (group) belongs.

19. Intangible Assets, Continued

As a result of impairment assessment for goodwill, the Group determined that the carrying amount of the music service division and other mobile services and entertainment service cash-generating units will not exceed the recoverable amount, and did not recognize impairment loss on goodwill.

The following is a summary of digital assets amount recognized in the consolidated statements of financial position for the years ended December 31, 2022 and 2021:

(5) Digital assets held by the Group as of December 31, 2022 are as follows:

(in unit, millions of Korean won)

			2022			
Digital assets	**Accounts**	**Acquisition Methods**	**Amount on hand**		**Cost of acquisition**	**Book value**
KLAY	Other intangible assets	Block rewards / Paid acquisition	972,344,459	₩	50,120	49,173
WEMIX	Other intangible assets	Block rewards / Paid acquisition	6,534,882		3,569	3,136
USDC	Other intangible assets	Paid acquisition	2,352,293		2,985	2,985
USDT	Other intangible assets	Paid acquisition	1,270,210		1,435	1,435
BORA	Other intangible assets	Paid acquisition	339,690,643		522	522
Ethereum	Other intangible assets	Paid acquisition	380		98	98
Bitcoin	Other intangible assets	Paid acquisition	38		1,204	839
Others	Other intangible assets	Paid acquisition	295,817,568		28,356	27,148
Others	Other intangible assets	Free acquisitions/ Staking Rewards[1]	135,172		-	-
	Total		1,618,145,646	₩	88,289	85,337

[1] The Group did not recognize the cost due to difficulty for evaluating the market price of a token that is not listed on a centralized exchange.

(6) Information regarding digital assets held by the Group as of December 31, 2022, which were not recognized in the consolidated financial statements is as follows.

(in unit)

		2022
Digital assets	**Reasons**	**Quantity on hand**
KLAY[1]	Uncirculated supply out of a total supply of 10 billion units	7,498,653,764
BORA	Uncirculated supply	212,000,000
	For marketing and investment purposes to build and activate the BORA ecosystem	115,992,664
	To compensate employees and advisors for BORA development	5,246,316
	Others	659,499
tBORA	Bora Portal Fees: Fees paid by token holders for using services and goods on the Bora Portal.	843,564
BID	Game tokens available in "Birdie Shot" and issued based on BORA Token	132,352
BSLT	Game tokens available in "Archiworld" and issued based on BORA Token	1,102,940
	Total	7,834,631,099

[1] A portion of the uncirculated amount of KLAY is scheduled to be retired during 2023.

20. Leases

(1) Non-financial services business

1) Amounts recognized in the consolidated statements of financial position

The consolidated statements of financial position show the following amounts relating to leases:

(in millions of Korean won)

		2022	2021
Right-of-use assets			
Properties	₩	1,599,597	1,297,868
Machinery		105,873	94,069
Vehicles		10,121	7,297
Total	₩	1,715,592	1,399,234

(in millions of Korean won)

		2022	2021
Lease liabilities			
Current	₩	244,391	169,531
Non-current		1,643,416	1,318,155
Total	₩	1,887,807	1,487,685

Additions to the right-of-use assets for the year ended December 31, 2022 is ₩ 316,358 million. (2021: ₩ 1,134,943 million). The amount does not include any right-of-use asset that have been derecognized due to sublease.

2) The consolidated statements of other comprehensive income show the following amounts relating to leases:

(in millions of Korean won)

		2022	2021
Depreciation of right-of-use assets[1]			
Properties	₩	162,504	79,669
Machinery		43,182	31,132
Vehicles		4,548	3,985
Total	₩	210,234	114,786
Interest expense relating to lease liabilities (included in finance cost)	₩	62,238	17,540
Expense relating to short-term leases (included in operating expenses)		4,458	4,686
Expense relating to leases of low-value assets that are not short-term leases (included in operating expenses)		1,575	1,572
Expense relating to variable lease payments not included in lease liabilities (included in operating expenses)		18,500	14,954
Income from subleases of right-of-use assets		6,584	1,251

[1] Depreciation in 2022 consists of depreciation in operating expense of ₩ 202,057 million (2021: ₩ 109,913 million) and product cost of ₩ 8,177 million (2021: ₩ 6,498 million).

The total cash outflow for leases for the year ended December 31, 2022 is ₩ 209,292 million (2021: ₩ 103,691 million).

20. Leases, Continued

3) Changes in lease liabilities

Changes in lease liabilities for the year ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

		2022	2021
Beginning balance	₩	1,487,685	352,206
Changes in scope of consolidation		(106,556)	7,173
Increase		665,778	1,247,103
Payments		(184,759)	(102,217)
Disposals		(31,554)	(34,440)
Amortization		62,238	17,540
Others		(5,025)	320
Ending balance	₩	1,887,807	1,487,685

4) Maturity analysis of lease receivables

The following table sets out a maturity analysis of lease receivables, showing the undiscounted lease payments to be received after the reporting date.

(in millions of Korean won)

		2022
Less than one year	₩	10,428
One to two years		10,702
Two to three years		10,983
Three to four years		11,061
Four to five years		10,949
More than five years		46,676
Total undiscounted lease receivables	₩	100,799
Unearned finance income		(15,253)
Net investment in the lease	₩	85,546

The following table sets out a maturity analysis of lease payments, showing the undiscounted lease payments to be received after the reporting date.

(in millions of Korean won)

		2022
Less than one year	₩	130
One to two years		45
Two to three years		47
Three to four years		48
Four to five years		16
Total	₩	286

20. Leases, Continued

(2) Financial services business

1) Amounts recognized in the consolidated statements of financial position

The consolidated statements of financial position show the following amounts relating to leases:
(in millions of Korean won)

		2022	2021
Right-of-use assets			
Properties	₩	1,282	10,390
Machinery		1,625	507
Vehicles		186	303
Total	₩	3,093	11,200

(*(in millions of Korean won)*

		2022	2021
Lease liabilities	₩	2,327	10,266

Additions to the right-of-use assets for the year ended December 31, 2022 is ₩ 8,107 million (2021: ₩ 8,996 million).

2) Amounts recognized in the consolidated statement of comprehensive income

The consolidated statement of other comprehensive income shows the following amounts relating to leases:

(in millions of Korean won)

		2022	2021
Depreciation of right-of-use assets			
Properties	₩	792	1,222
Machinery		513	118
Vehicles		173	287
Total	₩	1,478	1,627
Interest expense relating to lease liabilities (included in finance cost)	₩	101	200
Expense relating to short-term leases (included in operating expenses)		354	416
Expense relating to leases of low-value assets that are not short-term leases (included in operating expenses)		985	386

The total cash outflow for leases for the year ended December 31, 2022 is ₩ 4,355 million (2021: ₩ 2,276 million).

20. Leases, Continued

3) Changes in lease liabilities

Changes in lease liabilities for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

		2022	2021
Beginning balance	₩	10,266	3,304
Increase		6,395	8,289
Payments		(3,017)	(1,474)
Disposal		(1,449)	(52)
Amortization		101	199
Others		(9,969)	-
Ending balance	₩	2,327	10,266

21. Borrowings, Bonds and Lease Liabilities

Short-term borrowings and lease liabilities as of December 31, 2022 and 2021, are as follows:

(*in millions of Korean won*)

	Lender	Interest rate	Date of maturity		Amount 2022	Amount 2021
Current portion of long-term borrowings	THE KUMAMOTO DAI-ICHI SHINKIN BANK and others			₩	-	125
	Discount on issuance of bonds				-	-
	Net				-	125
Convertible bonds	Leo Partners Investment				-	1,400
	Discount on issuance of bonds				-	109
	Net				-	1,509
Exchangeable bonds [1,2]	12th foreign currency exchangeable bonds	0.00%	April 2023		28,768	344,981
	Discount on issuance of bonds				(57)	(2,801)
	Net			₩	28,710	342,180

21. Borrowings, Bonds and Lease Liabilities, Continued

(*in millions of Korean won*)

	Lender	Interest rate	Date of maturity	Amount 2022	Amount 2021
Loans for operation capital	NongHyup Bank	4.4%~6.5%	January 2023 ~ June 2023	₩ 8,340	470
Loans for operation capital	Shinhan Bank	4.4%~7.9%	March 2023 ~ November 2023	158,800	56,500
Loans for operation capital	Woori Bank	1.8%~6%	May 2023 ~ July 2023	30,019	33,596
Loans for operation capital	Kookmin Bank	5.5%~8.2%	April 2023 ~ November 2023	192,271	124,174
Loans for operation capital [3]	KB Securities and Korea Investment & Securities Co., Ltd. and others	1.00%~8.90%	January 2023 ~ June 2026	665,626	681,707
Redeemable convertible preferred shares[4]				13,118	18,567
	Total			₩ 1,096,884	1,258,828

[1] During the year ended December 31, 2021, 106,763 shares of 12th foreign currency exchangeable bonds were exchanged with the treasury shares of the Group.

[2] During the year ended December 31, 2022, early redemption rights were exercised to repay US$268,300,000 of the 12th Foreign Currency Exchangeable Bonds.

[3] Included the amount of long-term borrowings which will be repaid within one year.

[4] Included ₩ 1,009 million of convertible bonds issued by the subsidiary.

21. Borrowings, Bonds and Lease Liabilities, Continued

Long-term borrowings and long-term lease liabilities as of December 31, 2022 and 2021, are as follows:

(*In millions of Korean won*)

	Lender	Interest rate	Date of maturity		Amount 2022	Amount 2021
Exchangeable bonds	Anchor Equity Partners GP (Cayman), Ltd.	-	-	₩	-	1,126
Loans for operation capital	THE KUMAMOTO DAI-ICHI SHINKIN BANK and others	-	-		-	1,020
Loans for operation capital	Kookmin Bank	2.50%	June 2025		179,710	-
Loans for operation capital	Woori Bank	3.50%	June 2025		45,941	19
Loans for operation capital	Industrial Bank of Korea and others	1.00%~5.50%	July 2024~ April 2031		489,612	54,149
Long-term borrowings	U.S. Small Business Administration Disaster Assistance	-	-		-	178
Convertible bonds	Hana Bank and others	0.00%	March 2026		460,918	496,563
	Total			₩	1,176,181	553,054

21. Borrowings, Bonds and Lease Liabilities, Continued

Movements in the borrowings for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	1,811,882	598,220
Changes in scope of consolidation		19,282	21,489
Additions		1,974,150	1,703,066
Repayments		(1,561,148)	(463,263)
Conversion to ordinary shares		(41,699)	(86,437)
Amortization of present value discounts		6,101	6,418
Others[1]		64,497	32,388
Ending balance	₩	2,273,065	1,811,882

[1] As conversion rights and early redemption rights embedded in the redeemable convertible preferred shares issued by the subsidiary during the years ended December 31, 2022 and 2021 meet the terms of separation of embedded derivatives, and separately accounted for as derivative liabilities.

21. Borrowings, Bonds and Lease Liabilities, Continued

Details of exchangeable bonds issued by the Group are as follows:

		Details
Type		12th guaranteed private exchangeable bonds
Principal amount		USD 22.7 million
Interest rate	Coupon rate	0%
	Yield rate	0%
Date of maturity		April 28, 2023
Redemption at maturity		1) Redemption at maturity: Unless previously redeemed, repurchased and cancelled or exchanged, 100% of principal amount will be redeemed
		2) Early redemption : put or call option is exercised
Exchange details	Exchange ratio	100%
	Exchange price (in Korean won) [1]	~~₩~~ 95,359 (per share)
	Exchange into	Ordinary shares of Kakao Corp.(treasury shares)
	Exchange period	From January 1, 2021 to April 18, 2023 (both inclusive)
	Exchange price adjustments	Subject to adjustment in certain circumstances as described in the agreement
Investor's early redemption right (Put Option)		Until and unless previously redeemed, repurchased and cancelled, or exchanged, on October 28, 2022, each of the bondholders has the right, at the option of such holder, to require the Company to redeem all or a portion of principal amount. And the bondholders may claim early redemption if: - a change of control occurs with respect to Kakao corp., or - the shares officially cease to be listed or admitted for trading or are suspended for a period of at least 30 consecutive trading days.
Issuer's early redemption right (Call Option)		The Company may, at its option at any time on or after April 28, 2022, until the 30th six business day prior to the maturity date, redeem the bonds if the closing price of a share for each of 20 trading days in the period of 30 consecutive trading days ending on the trading day immediately prior to the date of our redemption notice, is at least 130% of the prevailing exchange price. And the Company may claim early redemption if: - at least 90% of the initial principal amount of the bonds have been redeemed, repurchased and cancelled, or exchanged, or - certain changes relating to taxation in Korea that the Company becomes obliged to gross up for any payments on the bonds

[1] During the year ended December 31, 2022, exchange price was adjusted due to cash dividends.

21. Borrowings, Bonds and Lease Liabilities, Continued

Details of convertible bonds issued by the Group are as follows:

		Detail
Type		1st non-guaranteed private convertible bonds [1]
Principal amount		₩ 500,000 million
Interest rate	Coupon rate	0%
	Yield rate	0%
Date of maturity		March 31, 2026
Conversion details	Conversion price (in Korean won)	₩ 52,100 (per share)
	Conversion period	From one year after the date of issuance to one month before the maturity date of repayment
	Conversion price adjustments	Adjusted in the event of issuance of stock-related bonds below the conversion price, capital increase with and without consideration, stock dividends and other occasions prescribed in the agreement

[1] Convertible bonds issued by Kakao Games Corp., a subsidiary of the Parent Company.

In addition to the above, as of December 31, 2022, there was one convertible bond issued by a subsidiary, XL Games, and the amount of ₩ 1,009 million was recorded in short-term borrowings.

The Group recognized the entire financial instrument as a liability because the reason for the loss of the due profit of convertible bonds falls under the conditional settlement clause.

Details of redeemable convertible preferred shares issued by subsidiaries as of December 31, 2022, are as follows:

	Issuers	
	METABORA Co., Ltd (Formerly,Friendsgames Co.,Ltd) [1]	**Life MMO Corp. [2]**
Date of issue	May 4, 2018	February 24, 2020
Value at issue *(in millions of Korean won)*	₩ 7,000	₩ 7,500
Dividend rate for preferred shares	1% of issue value	0%
Guaranteed yield upon redemption	8%	5%
Conversion period	From the day after issuance date to the day before 10 years from issuance date	From the day after issuance date to 5 years from issuance date
Conversion rate	a) 1 preferred share for 1 ordinary share b) anti-dilution (includes certain adjustments in IPO offering price)	a) 1 preferred share for 1 ordinary share b) anti-dilution (includes certain adjustments in IPO offering price)
Redemption period	Redeemable from one year after issuance date	Redeemable from one year after issuance date

21. Borrowings, Bonds and Lease Liabilities, Continued

	Issuers
	Life MMO Corp. [2]
Date of issue	March 17, 2020
Value at issue *(in millions of Korean won)*	₩ 1,645
Dividend rate for preferred shares	0%
Guaranteed yield upon redemption	5%
Conversion period	From the day after issuance date to 5 years from issuance date
Conversion rate	a) 1 preferred share for 1 ordinary share b) anti-dilution (includes certain adjustments in IPO offering price)
Redemption period	Redeemable from one year after issuance date

[1] As of December 31, 2022, conversion rights and early redemption rights in relation to the above redeemable convertible preferred shares meet the terms of separation of embedded derivatives and are considered as the one compound embedded derivatives, separate from the main contract, and derivative liabilities of ₩ 8,708 million are separately recognized.

[2] As of December 31, 2022, conversion rights and early redemption rights in relation to the above redeemable convertible preferred shares meet the terms of separation of embedded derivatives and are considered as the one compound embedded derivatives, separate from the main contract, and derivative liabilities of ₩ 3,266 million are separately recognized.

Other than the above redeemable convertible preferred shares, METABORA Co., Ltd have issued three redeemable convertible preferred shares as of December 31, 2022 and they are recognized as ₩ 3,691 million of short-term borrowings.

22. Net Defined Benefit Liabilities

- Non-financial services business

Net defined benefit liabilities recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Present value of funded defined benefit obligation	₩	302,208	248,131
Fair value of plan assets		(353,143)	(254,428)
Liability (asset) in the consolidated statements of financial position	₩	(50,934)	(6,297)

Changes in the defined benefit obligations for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	248,131	184,715
Increase due to change in scope of consolidation		871	2,763
Current service cost		71,578	57,141
Past service cost		1,421	15,502
Interest cost		7,502	4,556
Remeasurement:			
Actuarial loss from change in demographic assumptions		1,799	1,860
Actuarial loss (gain) from change in financial assumptions		(38,245)	(7,413)
Actuarial loss from experience adjustments		37,350	9,266
Benefits paid		(27,540)	(23,018)
Transfer from affiliated companies		268	2,372
Others		(927)	387
Ending balance	₩	302,208	248,131

Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	254,428	174,402
Increase due to change in scope of consolidation		(1,047)	(166)
Interest income		7,688	3,987
Contribution		120,729	95,639
Payments from plans		(25,138)	(17,312)
Transfer from affiliated companies		(158)	(261)
Remeasurement:			
Revenue from plan assets(excluding amounts included in interest income)		(2,434)	(1,500)
Others		(925)	(362)
Ending balance	₩	353,143	254,428

22. Net Defined Benefit Liabilities, Continued

- Non-financial services business, Continued

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Current service cost		₩ 71,578	57,141
Past service cost		1,421	15,502
Net interest cost		(186)	569
	Total	₩ 72,812	73,212

Total service cost from defined benefit plan amounting to ₩ 72,812 million and ₩ 73,212 million is included in operating expenses for the years ended December 31, 2022 and 2021, respectively. In addition, total service cost from defined contribution plan was ₩ 11,397 million and ₩ 4,851 million for the years ended December 31, 2022 and 2021, respectively.

Principal assumptions on actuarial valuation as of December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	3.5% ~ 6.51%	2.2% ~ 4.2%
Salary growth rate	3.56% ~ 7.2%	3.8% ~ 7.0%

The sensitivity analysis of the defined benefit obligations as of December 31, 2022 to changes in the weighted principal assumptions is:

		Effect on defined benefit obligations	
	Changes in principal assumption	changes in the amount of liabilities	changes in the amount of liabilities
Discount rate	1%	6.2% decrease	7.2% increase
Salary growth rate	1%	7.4% increase	6.2% decrease

The Group is exposed to the most significant risk through changes in bond yields, which was used as a discount rate. A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

22. Net Defined Benefit Liabilities, Continued

- Non-financial services business, Continued

Plan assets as of December 31, 2022 and 2021 consist of the following:

(in millions of Korean won)		2022	2021
Equity linked bond	₩	3,296	6,568
Time deposits		185,015	69,333
Financial instruments with fixed rate		159,464	125,525
Interest guarantee insurance		3,940	2,865
Others		1,427	50,137
Total	₩	353,143	254,428

Expected contributions to post-employment benefit plans for the year ended December 31, 2023 are ₩ 81,477 million.

The weighted average duration of the defined benefit obligation is 3.65 ~ 11.51 years.

The Group annually reviews the level of fund accumulated in the plan and operates a policy to compensate for any deficit in the fund.

- Financial services business

Net defined benefit liabilities recognized in the consolidated statements of financial position as of December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Present value of funded defined benefit obligation	₩	2,608	1,480
Fair value of plan assets		(2,898)	(1,142)
Liability in the consolidated statements of financial position	₩	(289)	338

Changes in the defined benefit obligations for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	1,480	432
Current service cost		1,199	603
Interest cost		50	12
Remeasurement:			
Actuarial loss (gain) from changes in demographic assumptions		35	-
Actuarial loss (gain) from change in financial assumptions		(736)	20
Actuarial loss (gain) from empirical adjustments		754	-
Benefits paid		(315)	(3)
Transfer from affiliated companies		141	415
Ending balance	₩	2,608	1,480

22. Net Defined Benefit Liabilities, Continued

- Financial services business, continued

Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		**2022**	**2021**
Beginning balance	₩	1,142	240
Interest income		33	5
Contribution		1,876	480
Payments from plans		(297)	-
Remeasurement:			
Revenue from plan assets(excluding amounts included in interest income)		2	1
Amount of payment and transfer due to transfer of affiliated companies		141	415
Ending balance	₩	2,898	1,142

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		**2022**	**2021**
Current service cost	₩	1,199	603
Net interest cost		17	7
Total	₩	1,216	610

Total service cost from defined benefit plan amounting to ₩ 1,216 million (2021: ₩ 610 million) is included in operating expenses for the year ended December 31, 2022. In addition, the retirement benefit recognized as an expense in relation to the defined contribution plan is ₩ 607 million (2021 : ₩ 678 million).

Principal assumptions on actuarial valuation as of December 31, 2022 and 2021 are as follows:

	2022	**2021**
Discount rate	6.03%~6.13%	3.66%~3.67%
Salary growth rate	4%	5%~6%

The sensitivity analysis of the defined benefit obligations as of December 31, 2021 to changes in the weighted principal assumptions is:

		Effect on defined benefit obligations	
	Changes in principal assumption	**Changes in the amount of liabilities**	**Changes in the amount of liabilities**
Discount rate	1%	6.0% decrease	6.0% increase
Salary growth rate	1%	7.0% increase	6.0% decrease

The Group is exposed to the most significant risk through changes in bond yields, which was used as a discount rate. A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated.

22. Net Defined Benefit Liabilities, Continued

- Financial services business, continued

The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

Plan assets as of December 31, 2022 and 2021 consist of the following:

(in millions of Korean won)		**2022**	**2021**
Interest guarantee insurance	₩	1,873	1,042
Time deposits		1,024	100
Total	₩	2,898	1,142

Expected contributions to post-employment benefit plans for the year ending December 31, 2022, is ₩ 2,375 million.

The weighted average duration of the defined benefit obligation is 5.56~6.19 years.

The Group annually reviews the level of fund accumulated in the plan and operates a policy to compensate for any deficit in the fund.

23. Other Long-term Employee Benefits Liabilities

- Non-financial services business

Changes in other long-term employee benefits liabilities for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	67,927	53,832
Increase due to change in scope of consolidation		(169)	(777)
Current service cost		19,951	15,139
Interest cost		1,570	947
Remeasurement of the benefit liabilities		640	7,960
Benefits paid		(2,957)	(2,003)
Transfer from affiliated companies		-	4
Others		(3,313)	(165)
Transfer		(10,480)	(7,010)
Ending balance	₩	73,168	67,927

The amounts recognized on the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Current service cost	₩	19,951	15,139
Interest cost		1,570	947
Remeasurement of the benefit liabilities		640	7,961
Total	₩	22,161	24,047

Principal assumptions on actuarial valuation in relation to other long-term employee benefits liabilities for the years ended December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	3.7%~6.0%	0.3%~3.9%
Salary growth rate	4.0%~7.0%	4.0%~6.4%

- Financial services business

Changes in other long-term employee benefits liabilities for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	1,042	264
Current service cost		725	584
Interest cost		24	6
Remeasurement of the benefit liabilities		1,068	188
Salary payment amount		(14)	-
Ending balance	₩	2,844	1,042

23. Other Long-term Employee Benefits Liabilities, Continued

- Financial services business, continued

The amounts recognized on the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Current service cost	₩	725	584
Interest cost		24	6
Remeasurement of the benefit liabilities		1,068	188
Total	₩	1,816	778

Principal assumptions on actuarial valuation in relation to other long-term employee benefits liabilities for the year ended December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	5.63%~5.67%	3.01%~3.04%
Salary growth rate	4.0%	5.0%~6.0%

24. Income Tax Expense and Deferred Tax

Income tax expense for the years ended December 31, 2022 and 2021 consists of:

(in millions of Korean won)		2022	2021
Current tax:			
Current tax on profit for the year	₩	(108,938)	168,693
Adjustments due to changes in estimates related to prior years		19,013	30,907
Current tax charged directly to equity		(4,201)	44,211
		(94,126)	243,811
Deferred tax:			
Changes in temporary differences		(566,994)	486,253
Increase (decrease) in temporary differences due to change in scope of consolidation		(3,902)	(61,496)
Deferred tax charged or credited directly to equity		866,928	(22,391)
		296,032	402,366
Income tax expense	₩	201,906	646,177

Reconciliation between actual income tax expense and amount computed by applying the statutory tax rate to profit before income tax for the years ended December 31, 2022 and 2021 follows:

(in millions of Korean won)		2022	2021
Profit (loss) before income tax	₩	1,268,900	2,286,661
Income tax expense computed at statutory tax rate		293,116	553,372
Adjustments:			
Non-taxable income		(141,914)	(260,332)
Non-deductible expenses		152,779	30,488
Changes in unrecognized deferred income tax asset		49,445	271,918
Adjustments due to changes in estimates related to prior years		19,013	30,907
Effects of the tax system for recirculation of corporate income		5,087	2,453
Tax credits, reduction, etc.		(175,621)	17,371
Income tax expense	₩	201,906	646,177

24. Income Tax Expense and Deferred Tax, Continued

Income tax effects related to components of other comprehensive income (expenses) for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022 Before tax	2022 Tax effect	2022 After tax
Other comprehensive income (expense):			
Gain on valuation of equity instruments at fair value through other comprehensive income	₩ (2,250,879)	529,078	(1,721,801)
Remeasurement of the net defined benefit liabilities	(3,389)	1,145	(2,244)
Share of other comprehensive income of associates	(51,081)	533	(50,549)
Foreign currency translation adjustments, net of tax	49,085	(4,285)	44,799
	₩(2,256,264)	526,470	(1,729,794)

(in millions of Korean won)	2021 Before tax	2021 Tax effect	2021 After tax
Other comprehensive income (expense):			
Gain on valuation of equity instruments at fair value through other comprehensive income	₩ 485,689	(117,537)	368,152
Remeasurement of the net defined benefit liabilities	(4,276)	(1,693)	(5,968)
Share of other comprehensive income of associates	45,405	(10,988)	34,417
Change of retained earnings in equity method	(824)	199	(624)
	₩ 525,995	(130,018)	395,977

The aggregate current and deferred tax relating to items that are reflected directly to equity for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022 Before tax	2022 Tax effect	2022 After tax
Other reserves:			
Gain on disposal of treasury shares	₩ 16,547	(4,201)	12,346
Other component of equity	-	20,164	-
Others	(1,380,573)	320,293	(1,060,280)
	₩ (1,364,026)	336,256	(1,047,934)

(in millions of Korean won)	2021 Before tax	2021 Tax effect	2021 After tax
Other reserves:			
Gain on disposal of treasury shares	₩ 18,974	(4,668)	14,306
Other component of equity	-	148,191	-
Others	(34,360)	8,316	(26,044)
	₩ (15,386)	151,839	(11,738)

24. Income Tax Expense and Deferred Tax, Continued

Deferred tax assets (liabilities) recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Deferred tax assets			
Deferred tax assets to be recovered after more than 12 months	₩	1,138,082	573,240
Deferred tax assets to be recovered within 12 months		174,506	45,467
		1,312,588	618,707
Deferred tax liabilities			
Deferred tax liabilities to be settled after more than 12 months		(1,415,645)	(1,288,487)
Deferred tax liabilities to be settled within 12 months		(9,550)	(9,821)
		(1,425,195)	(1,298,307)
Deferred tax liabilities, net	₩	(112,606)	(679,600)

The gross movement in the deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Beginning balance	₩	(679,600)	(193,348)
Changes in scope of consolidation		(3,902)	(61,496)
Deferred income tax charged to profit or loss		(296,032)	(402,367)
Deferred income tax charged to other comprehensive income		526,470	(130,018)
Deferred income tax charged to other equity		340,457	107,628
Ending balance	₩	(112,606)	(679,600)

24. Income Tax Expense and Deferred Tax, Continued

Changes in deferred income tax assets and liabilities for the years ended December 31, 2022 and 2021 without taking into consideration the offsetting of balances within the same tax jurisdiction are as follows:

(in millions of Korean won)

	2022					
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Deferred tax liabilities						
Accrued revenue	₩ (8,869)	2	1,761	-	-	(7,105)
Property and equipment	(82,977)	-	75,697	-	-	(7,280)
Intangible assets	(162,745)	(4,432)	(123,596)	-	-	(290,773)
Financial assets at fair value through profit or loss	(37,088)	-	(6,490)	-	-	(43,578)
Financial assets at fair value through other comprehensive income	(170,686)	(156)	(521,618)	529,078	-	(163,382)
Plan assets	(48,334)	(8)	(19,273)	-	-	(67,615)
Derivative instruments	(1,245)	-	(117)	-	-	(1,362)
Lease	(272,237)	(13,696)	(240,977)	-	-	(526,910)
Investments in subsidiaries and associates	(338,340)	(22)	16,681	533	-	(321,149)
Goodwill	(39,732)	-	28,995	-	-	(10,737)
Others	(175,787)	(639)	195,407	(4,285)	-	14,696
	(1,338,039)	(18,950)	(593,530)	525,325	-	(1,425,195)
Deferred tax assets						
Property and equipment	8,915	-	596	-	-	9,510
Advances from customers	8,510	-	(1,327)	-	-	7,183
Intangible assets	15,982	83	(715)	-	-	15,349
Allowance for doubtful accounts	3,707	19	4,539	-	-	8,265
Other payables	22,581	380	12,238	-	-	35,199
Provisions	14,953	263	2,784	-	-	18,000
Government grants	-	-	548	-	-	548
Defined benefit liabilities	45,503	438	10,628	-	-	56,569
Other long-term employee benefits liabilities	31,681	-	(6,083)	1,145	-	26,743
Financial assets at fair value through profit or loss	424	(8)	3,510	-	-	3,927

(in millions of Korean won)

	2022					
	Beginning balance	**Changes in scope of consolidation**	**Statement of profit or loss**	**Other comprehensive income**	**Other equity**	**Ending balance**
Financial assets at fair value through other comprehensive income	₩ 2,379	-	517	-	-	2,896
Derivative instruments	5,668	-	(1,050)	-	-	4,618
Lease	343,853	13,689	184,961	-	-	542,502
Share-based compensation	103,980	-	(84,839)	-	20,164	39,305
Others	50,303	186	171,193	-	320,293	541,975
	658,439	15,049	297,498	1,145	340,457	1,312,588
Deferred tax assets (liabilities), net	₩ (679,600)	(3,902)	(296,032)	526,470	340,457	(112,606)

(in millions of Korean won)

	2021					
	Beginning balance	**Changes in scope of consolidation**	**Statement of profit or loss**	**Other comprehensive income**	**Other equity**	**Ending balance**
Deferred tax liabilities						
Accrued revenue	₩ (1,708)	(323)	(6,839)	-	-	(8,869)
Property and equipment	(7,226)	(12)	(75,739)	-	-	(82,977)
Intangible assets	(115,572)	(97,949)	50,776	-	-	(162,745)
Financial assets at fair value through profit or loss	(26,027)	(7)	(11,054)	-	-	(37,088)
Financial assets at fair value through other comprehensive income	(53,602)	453	-	(117,536)	-	(170,685)
Plan assets	(31,327)	(2,662)	(14,345)	-	-	(48,334)
Derivative instruments	(257)	-	(988)	-	-	(1,245)
Lease	(69,423)	(6,099)	(196,715)	-	-	(272,237)
Investments in subsidiaries and associates	(82,497)	-	(245,054)	(10,789)	-	(338,340)
Others	(22,175)	-	(157,552)	-	3,647	(176,080)
	(409,813)	(106,599)	(657,510)	(128,325)	3,647	(1,298,600)
Deferred tax assets						
Property and equipment	2,259	310	6,346	-	-	8,915
Advances from customers	9,671	60	(1,221)	-	-	8,510
Intangible assets	5,475	5,268	5,239	-	-	15,982
Allowance for doubtful accounts	4,450	3,913	(4,656)	-	-	3,707

(in millions of Korean won)

	2021					
	Beginning balance	**Changes in scope of consolidation**	**Statement of profit or loss**	**Other comprehensive income**	**Other equity**	**Ending balance**
Other payables	₩ 16,951	14,785	(9,155)	-	-	22,581
Provisions	4,359	375	10,219	-	-	14,953
Government grants	24	-	(24)	-	-	-
Defined benefit liabilities	34,066	3,600	9,529	(1,692)	-	45,504
Other long-term employee benefits liabilities	27,408	819	3,745	-	-	31,973
Financial assets at fair value through profit or loss	1,233	55	(864)	-	-	424
Financial assets at fair value through other comprehensive income	1,705	155	519	-	-	2,379
Derivative instruments	2,082	2,078	1,508	-	-	5,668
Lease	71,688	5,908	266,257	-	-	343,853
Goodwill	8,727	-	(48,459)	-	-	(39,732)
Others	-	-	-	-	103,980	103,980
	26,369	7,776	16,159	-	-	50,303
	216,467	45,102	255,142	(1,692)	103,980	619,000
Deferred tax assets (liabilities), net	₩ (193,346)	(61,497)	(402,367)	(130,018)	107,627	(679,600)

The Group did not recognize deferred income tax asset of ₩ 592,040 million as of December 31, 2022, related to the investments in subsidiaries and associates considering the possibility of realization(scheduled not to be disposed of, etc.). As of December 31, 2022, the deferred tax assets of unrecognized deductible temporary differences arising from subsidiaries' net loss carryforwards and others amount to ₩ 63,608 million.

25. Provisions

- Non-financial services business

Changes in provisions for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022					
	Beginning balance	Changes in scope of consolidation	Increase	Decrease	Foreign currency exchange rate differences	Ending balance
Current						
Provision for mileage	₩ 1,022	7,581	2,528	(366)	-	10,764
Provision for restoration	449	6	1,126	(376)	(1)	1,204
Provision for returns	2,251	366	3,229	(3,534)	-	2,311
Other provisions	7,521	(624)	6,683	(7,285)	-	6,295
	11,243	7,329	13,565	(11,561)	(1)	20,574
Non-current						
Provision for mileage	-	-	226	-	-	226
Provision for restoration	51,934	(1,308)	19,407	(3,114)	63	66,982
Other provisions	-	2,944	-	-	-	2,944
	51,934	1,637	19,633	(3,114)	63	70,152
	₩ 63,177	8,966	33,197	(14,675)	61	90,726

(in millions of Korean won)	2021					
	Beginning balance	Changes in scope of consolidation	Increase	Decrease	Foreign currency exchange rate differences	Ending balance
Current						
Provision for mileage	₩ 552	(107)	1,065	(488)	-	1,022
Provision for restoration	58	24	342	25	-	449
Provision for returns	1,165	1,162	1,264	(1,340)	-	2,251
Other provisions	4,083	795	19,787	(17,144)	-	7,521
	5,858	1,874	22,458	(18,947)	-	11,243
Non-current						
Provision for restoration	19,594	(60)	33,961	(1,355)	(206)	51,934
	₩ 25,452	1,814	56,419	(20,302)	(206)	63,177

- Financial services business

(in millions of Korean won)	2022				
	Beginning balance	Increase	Interest expense	Reversal	Ending balance
Provision for restoration	₩ 1,151	131	17	(175)	1,124

(in millions of Korean won)	2021				
	Beginning balance	Increase	Interest expense	Reversal	Ending balance
Provision for restoration	₩ 229	915	7	-	1,151

26. Derivative Financial Instruments

The carrying amounts of derivative financial assets, liabilities and commitments as of December 31, 2022 and 2021, are as follows:

(a) Derivative financial assets

(in millions of Korean won)		2022	2021
Call option (Grip Company)	₩	3,156	-
Call option (Super Comics)		351	135
Call option (A)		1,481	-
Currency forward		1,574	-
Others		-	217
	₩	6,562	352

(b) Derivative financial liabilities

(in millions of Korean won)		2022	2021
Redemption right and conversion right (Metabora Co., Ltd.) [1]	₩	8,708	6,732
Early redemption right and conversion right (Life MMO Corp.)[2]		3,265	5,177
Convertible bond's early redemption right (XLGAMES Inc.)[3]		68	3
Put option (A)		1,071	-
Put option (Wyatt Co., Ltd.)		24,503	-
	₩	37,616	11,912

[1] Redemption right and conversion right granted to redeemable convertible preferred shares issued by Metabora Co., Ltd (Note 21).

[2] Redemption right and conversion right granted to redeemable convertible preferred shares issued by Life MMO Corp.(Note 21).

[3] Redemption right and conversion right granted to convertible bonds issued by XLGAMES Inc. (Note 21).

27. Share Capital and Share Premium

As of December 31, 2022, the Parent Company's total number of issued and outstanding ordinary shares are 445,923,698 shares and 445,423,689 shares, respectively.

The Parent Company may grant stock options to its employees and directors of the Parent Company and its affiliates who contribute or have capabilities to contribute to the establishment, management, overseas business and technical innovation of the Group, with the resolution of special shareholders meeting or board of directors up to 15% of total number of issued stocks. As of December 31, 2022, the number of outstanding stock options among granted is 7,583,620 shares (Note 28).

The Parent Company is authorized to issue convertible bonds and bonds with warrants into registered ordinary shares for up to the total par value of ₩ 500 billion to investors other than current shareholders, with the resolution of the board of directors. As of December 31, 2022, there is no convertible bonds issued.

The Parent Company may issue various classes of shares which are different in respect of their particulars as to the dividend, voting rights, conversion and redemption rights up to 50% of the total number of shares issued. The Parent Company has only issued ordinary shares and no other classes having the above conditions as of December 31, 2022.

Changes in share capital and additional paid-in capital during the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won, except number of shares)	Description	Number of ordinary shares (in shares)	Share capital	Additional paid-in capital	Total
At January 1, 2021	Beginning balance	443,009,990	₩ 44,301	5,609,516	5,653,817
At January 8, 2021	Exercise of conversion right	294,645	29	6,967	6,996
At January 22, 2021	Exercise of conversion right	210,460	21	4,976	4,997
At January 22, 2021	Exercise of stock options	333,240	33	7,788	7,821
At February 5, 2021	Exercise of conversion right	42,090	4	995	999
At February 23, 2021	Exercise of stock options	132,675	13	3,156	3,169
At March 3, 2021	Exercise of conversion right	210,460	21	4,976	4,997
At March 23, 2021	Exercise of stock options	75,745	8	1,944	1,951
At May 4, 2021	Exercise of stock options	47,870	5	1,144	1,149
At May 25, 2021	Exercise of stock options	72,410	7	1,786	1,794
At June 23, 2021	Exercise of stock options	530,645	53	14,749	14,802
At July 26, 2021	Exercise of stock options	246,910	25	6,290	6,314
At August 24, 2021	Exercise of stock options	285,040	29	7,625	7,654
At September 23, 2021	Exercise of stock options	369,140	37	16,793	16,830
At October 26, 2021	Exercise of stock options	336,926	34	11,744	11,778
At November 23, 2021	Exercise of stock options	86,631	9	2,794	2,803
At December 23, 2021	Exercise of stock options	121,113	12	2,922	2,934
At December 31, 2021	Ending balance	446,405,990	₩ 44,641	5,706,165	5,750,805
At January 1, 2022	Beginning balance	446,405,990	₩ 44,641	5,706,165	5,750,805
At January 24, 2022	Exercise of stock options	56,061	6	1,622	1,627
At February 22, 2022	Exercise of stock options	160,845	16	4,366	4,382
At March 23, 2022	Exercise of stock options	147,510	15	4,392	4,406
At April 25, 2022	Exercise of stock options	1,057,477	106	26,210	26,315
At May 3, 2022[1]	Retirement of treasury stock	(3,239,741)	(324)	-	(324)
At May 24, 2022	Exercise of stock options	734,355	73	29,751	29,825
At June 23, 2022	Exercise of stock options	125,794	13	5,603	5,616
At July 25, 2022	Exercise of stock options	201,335	20	8,409	8,430
At August 24, 2022	Exercise of stock options	161,556	16	5,983	5,999

(in millions of Korean won, except number of shares)	Description	Number of ordinary shares (in shares)	Share capital	Additional paid-in capital	Total
At September 21, 2022	Exercise of stock options	10,479	₩ 1	515	516
At October 24, 2022	Exercise of stock options	14,327	1	539	541
At November 22, 2022	Exercise of stock options	74,399	7	2,958	2,965
At December 22, 2022	Exercise of stock options	13,302	1	579	580
At December 31, 2022	Ending balance	445,923,689	₩ 44,592	5,797,092	5,841,684

[1] During 2022, retired 3,239,741 treasury shares held by the Parent Company and recognized the difference between the acquisition price and the par value as loss from capital reduction.

The Parent Company retired its treasury shares of 500,000 shares after the stock split) by appropriating retained earnings. Therefore, the total par value of capital stocks issued differs from the total par value of capital stocks outstanding.

(In millions of Korean won, except for number of shares and par value)

Capital stocks outstanding				
Stocks issued (in shares)	Par value (in Korean won)	Total par value	Share capital	Difference
445,423,689	₩ 100	44,542	44,592	50

In 2022, 174,722 shares of treasury shares of the Parent Company were paid to employees (Note 28), and 3,239,741 shares of treasury shares were retired. As a result, treasury stock decreased from 12,139,090 shares to 8,724,627 shares as of December 31, 2021.

28. Share-Based Compensation

Details of the Parent Company's stock options as of December 31, 2022, are as follows:

(a) Share-based payment transactions with cash alternatives

- Grant method: Issuance of new ordinary shares, treasury shares or payment of cash.
  The Company will determine in its discretion grant method at the time of exercise and accounted as equity-settled stock option based on the assumption that it will be granted based on the issuance of new stock or grant of treasury shares in the future.
- Vesting period:
  18th, 21st, 22nd, 24th, 41st tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
  19th, 25th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 150% of exercise price. If the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.
  27th, 31st, 32nd tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to seven years from grant date exceeds 150% of exercise price. If the average price of the shares calculated at the end of each month within two years to seven years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.
  28th, 30th, 35th, 36th, 37th, 38th, 42nd, 43rd, 44th, 45th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

28. Share-Based Compensation, Continued

(b) Equity-settled stock option

- Type of shares issued through exercise of stock option: registered ordinary shares
- Grant method: Issuance of new ordinary shares, treasury shares.
- Vesting period:
  33rd, 48th tranches : The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
  34th, 46th, 47th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

(c) Cash-settled stock option

- Vesting period:
  5th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.

  7th, 9th,10th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

(d) Grant of treasury shares

- 2nd tranches – Grant date: October 1, 2021
  The requisite service period is two years, limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years. The requisite service period of remaining 40% of granted quantity is four years.
- 3rd tranches – Grant date: November 3, 2021
  30% of shares are granted on the initial grant date. 30% of shares are granted at one year after the initial grant date. 40% of shares are granted at two years after the initial grant date. However, if the requisite service period (one year after each grant date) is not met, cash equivalent to the amount paid must be returned.

28. Share-Based Compensation, Continued

Details of the Parent Company's equity-settled stock options outstanding as of December 31, 2022, are as follows

				Number of shares (in shares)						
Tranche	Grant date[3]		Exercise price (in Korean won)	Outstanding as of January 1, 2022	Granted	Forfeited	Exercised	Adjusting quantities for treasury stock retirements[1]	Outstanding as of December 31, 2022[2]	Exercisable as of December 31, 2022
18th	March 2, 2017	₩	17,194	114,080	-	-	28,505	656	84,919	84,919
19th	March 2, 2017		17,194	640,000	-	-	299,819	2,643	337,538	337,538
21st	May 2, 2017		17,849	123,100	-	-	44,978	663	77,459	77,459
22nd	September 28, 2017		26,491	22,010	-	-	4,830	143	17,037	17,037
24th	August 31, 2018		24,856	436,300	-	-	146,865	2,400	287,035	287,035
25th	August 31, 2018		24,856	247,930	-	-	172,190	1,263	74,477	74,477
26th	October 31, 2018		20,262	600,000	-	-	600,000	-	-	-
27th	May 16, 2019		25,061	259,350	-	-	195,933	1,417	62,000	62,000
28th	May 16, 2019		25,061	1,271,875	-	-	279,796	8,658	983,421	417,519
29th	February 25, 2020		35,809	340,000	-	-	338,333	1,667	-	-
30th	May 06, 2020		34,862	3,252,500	-	87,965	387,932	23,587	2,753,016	583,147
31st	May 06, 2020		34,862	840,000	-	-	173,329	6,100	660,571	660,571
32nd	September 24, 2020		75,786	50,000	-	-	-	363	49,637	-
33rd	May 4, 2021		114,871	441,100	-	41,298	-	4,099	395,703	-
34th	September 1, 2021		151,376	200,000	-	100,000	-	726	99,274	-
35th	March 22, 2019		28,123	312,664	-	4,170	73,511	1,782	233,201	62,968
36th	July 2, 2019		28,123	12,191	-	-	4,554	91	7,546	631
37th	October 17, 2019		28,123	19,734	-	778	2,964	125	15,867	5,917
38th	November 15, 2019		28,123	15,233	-	-	2,100	104	13,029	4,635
41st	September 3, 2018		58,379	2,724	-	-	200	20	2,504	2,504
42nd	May 9, 2019		62,455	7,094	-	-	1,601	51	5,442	1,503
43rd	November 15, 2019		64,367	19,755	-	1,217	-	146	18,392	10,276
44th	June 23, 2020		75,207	60,694	-	1,259	-	477	58,958	17,710
45th	March 5, 2021		224,258	10,305	-	-	-	79	10,226	-
46th	November 3, 2021		125,085	592,015	-	105,681	-	4,298	482,036	-
47th	December 15, 2021		124,320	365,341	-	42,837	-	2,574	319,930	-
48th	March 29, 2022		101,958	-	575,300	35,199	-	5,699	534,402	-
				10,255,995	575,300	420,404	2,757,440	69,831	7,583,620	2,707,846

28. Share-Based Compensation, Continued

[1] During 2022, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

[2] Outstanding shares include the number of spun-off movers (170,980 shares of Melon Company / 1,980 shares of Kakao Entertainment Corp.).

[3] It is prepared based on the initial grant date for the 35 th~45th, tranches, which were succeeded from the merger with Kakao Commerce Co., Ltd.

In addition to the aforementioned stock options, the Group granted equity-settled stock options in relation to the shares of its subsidiaries such as Kakao Entertainment Corp., Kakao Games Corp., Kakao Mobility Corp., Kidsnote Inc., METABORA Co., Ltd., XLGAMES Inc., Life MMO Corp., Sena Technology Inc., Kakaopay Corp., Kakao Enterprise Corp., Starship entertainment co.,ltd, KAKAO BRAIN Corp., Daon Creative inc., Kakao VX Corp., Groud X Corp., TAPAS ENTERTAINMENT, INC(formerly, Radish Media, Inc.), Kross Pictures, KM parking and space Corp. (formerly, Myvalet) , and Legendaries Corp.(Formerly, BATTLE ENTERTAINMENT CORP.), Lionheart Studio Corp., EDAM Entertainment Corp, Kakao Piccoma Corp., Voithru Inc, SamyangCNC Co.,Ltd, Kakaopay Securities Corp. KW Books, Inc.,

28. Share-Based Compensation, Continued

Compensation costs of the Parent Company's equity-settled stock options are calculated by applying a fair value approach using Black-Scholes model, Binomial model and LSMC (Least Square Monte-Carlo) model. The related assumptions are as follows:

Tranche	Fair value of option at grant date[2] (in Korean won)	Stock price at grant date (in Korean won)	Expected volatility	Expected dividends	Expected maturity	Risk free Interest rate
18th	₩ 3,039	17,060	11.00%	-	2~3 years	2.14%
19th	1,752	17,060	11.00%	0.17%	2~3 years	2.14%
21st	3,859	18,520	11.00%	0.16%	2~3 years	2.13%
22nd	6,246	27,900	11.00%	0.11%	2~3 years	2.30%
24th	5,493	25,000	14.00%	0.12%	2~3 years	2.25%
25th	1,066	25,000	14.00%	0.12%	2~3 years	2.25%
26th	2,831	18,320	13.00%	0.16%	2~3 years	2.18%
27th	2,165	26,700	12.00%	0.10%	2~4 years	1.80%
28th	6,044	26,700	12.00%	0.10%	2~4 years	1.80%
29th	13,658	37,100	31.00%	0.07%	2~4 years	1.40%
30th	16,809	39,900	33.00%	0.06%	2~4 years	1.40%
31st	8,463	39,900	33.00%	0.06%	2~4 years	1.40%
32nd	10,077	70,400	36.00%	0.04%	2~4 years	1.28%
33rd	50,632	115,500	38.00%	0.03%	2~3 years	1.99%
34th	62,742	150,400	35.00%	0.02%	2~4 years	1.86%
35th [1]	6,115	27,917	15.00%	-	2~4 years	1.91%
36th [1]	5,748	27,921	15.00%	-	2~4 years	1.57%
37th [1]	5,732	27,921	15.00%	-	2~4 years	1.55%
38th [1]	5,902	27,921	15.00%	-	2~4 years	1.72%
41st [1]	12,919	56,945	16.00%	-	2~3 years	2.24%
42nd [1]	22,200	62,018	30.00%	-	2~4 years	1.82%
43rd [1]	26,661	63,912	37.00%	-	2~4 years	1.72%
44th [1]	16,779	74,669	18.00%	-	2~4 years	1.24%
45th [1]	55,388	222,634	19.00%	-	2~4 years	1.70%
46th	54,511	124,500	38.00%	0.02%	2~4 years	2.41%
47th	49,180	118,500	37.00%	0.03%	2~4 years	2.14%
48th	49,207	105,500	38.00%	0.03%	2~4 years	2.94%

[1] For the 35th~45th, tranches, which were succeeded from the merger with Kakao Commerce Corp., the fair value and the weighted average share price are adjusted by the ratio agreed upon at the time of the merger.
[2] During 2022, The fair value was adjusted for the retirement of treasury stock.

28. Share-Based Compensation, Continued

Details of the Parent Company's cash-settled stock options outstanding as of December 31, 2022, are as follows:

(In Korean won, except number of shares)			Number of shares (in shares)						
Tranche	**Grant date**	**Exercise price**	**Outstanding as of January 1, 2022**	**Granted**	**Cancelled**	**Exercised**	**Adjusting quantities for treasury stock retirements[1]**	**Outstanding as of December 31, 2022**	**Exercisable as of December 31, 2022**
5th	August 31, 2018	₩ 24,856	15,000	-	-	5,000	73	9,927	9,927
7th	May 16, 2019	25,061	10,500	-	-	4,467	76	5,957	-
9th	September 1, 2021	151,376	25,000	-	-	-	182	24,818	-
10th	October 13, 2022	57,840	-	110,000	-	-	-	110,000	-
			50,500	110,000	-	9,467	331	150,702	9,927

[1]During 2022, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

In addition to the aforementioned stock options, the Group granted cash-settled stock options in relation to the shares of its subsidiaries such as Kakao Entertainment Corp., Kakaopay Corp.

The fair value of the Group's cash-settled stock options has been measured using a binomial model and LSMC (Least Square Monte-Carlo) option pricing model.The inputs used in the measurement of the fair values of the cash-settled share-based payment arrangement are as follows

Tranche	**Fair value of option at measurement date (in Korean won)**	**Stock price at measurement date (in Korean won)**	**Expected volatility**	**Expected dividends**	**Expected maturity**	**Risk free Interest rate**
5th	₩ 29,526	53,100	42.00%	0.10%	2~3 years	3.73%
7th	29,465	53,100	42.00%	0.10%	2~4 years	3.76%
9th	4,769	53,100	42.00%	0.10%	2~4 years	3.76%
10th	17,521	53,100	42.00%	0.10%	2~4 years	3.75%

Details of the Parent Company's stock options of granted treasury shares outstanding as of December 31, 2022, are as follows:

(In Korean won, except number of shares)			Number of shares (in shares)				
Tranche	**Grant date**	**Closing price at grant date**	**Outstanding as of January 1, 2022**	**Cancelled**	**Exercised**	**Adjusting quantities for treasury stock retirements[1]**	**Outstanding as of December 31, 2022**
2nd	October 1, 2021	₩ 116,500	357,030	4,256	133,033	1,967	217,774
3rd	November 3, 2021	124,500	101,528	2,222	-	805	98,501
			458,558	6,478	133,033	2,772	316,275

[1]During 2022, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

28. Share-Based Compensation, Continued

Share-based compensation recognized as expenses for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	**2022**	**2021**

Equity-settled stock option[1]	₩	126,897	94,657
Cash-settled stock option[2]		(860)	23,230
Grant of treasury shares		32,527	30,133
	₩	158,565	148,020

[1] Amounts for 2022 include ₩ 74,860 million (2021: ₩ 44,138 million) of share-based compensation recognized as expenses for the shares of subsidiaries.
[2] Amounts for 2022 include ₩ (-)139 million (2021: ₩ 15,583 million) of share-based compensation recognized as expenses for the shares of subsidiaries.

29. Other Components of Equity

Other components of equity as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		**2022**	**2021**
Treasury shares	₩	(1,034)	(1,034)
Loss from capital reduction		(80,996)	-
Stock options		128,491	83,534
Other capital adjustments		(5,430)	(5,430)
	₩	41,031	77,070

As of December 31, 2022, the Group holds 8,724,627 treasury shares for the purpose of stabilizing stock prices and enhancing shareholder value, and the amount is accounted for as capital adjustment.

30. Accumulated Other Comprehensive Income (Loss)

Accumulated other comprehensive income (loss) as of December 31, 2022 and 2021, consists of:

(in millions of Korean won)		2022	2021
Translation adjustments, net of tax	₩	66,035	36,333
Shares of other comprehensive income (loss) of associates, net of tax		(20,171)	12,688
Equity instruments at fair value through accumulated other comprehensive income, net of tax		(1,278,872)	338,075
Remeasurement of defined benefit obligation, net of tax		(16,657)	(15,271)
	₩	(1,249,666)	371,825

Changes in accumulated other comprehensive income for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		January 1, 2022	Increase (Decrease)	Reclassification to retained earnings	December 31, 2022
Translation adjustments, net of tax	₩	36,333	29,702	-	66,035
Shares of other comprehensive income (loss) of associates, net of tax		12,688	(32,859)	-	(20,171)
Equity instruments at fair value through accumulated other comprehensive income, net of tax		338,075	(1,615,956)	(991)	(1,278,872)
Remeasurement of defined benefit obligation, net of tax		(15,271)	(1,381)	(5)	(16,657)
	₩	371,825	(1,620,495)	(996)	(1,249,666)

Other comprehensive income in the table above represents amount net of tax.

(in millions of Korean won)		January 1, 2021	Increase (Decrease)	Reclassification to retained earnings	December 31, 2021
Translation adjustments, net of tax	₩	9,653	26,680	-	36,333
Shares of other comprehensive income (loss) of associates, net of tax		(2,861)	15,548	-	12,688
Equity instruments at fair value through accumulated other comprehensive income, net of tax		89,979	262,743	(14,647)	338,075
Remeasurement of defined benefit obligation, net of tax		(11,320)	(3,950)	(1)	(15,271)
Revaluation surplus		1,126	(1,126)	-	-
	₩	86,577	299,895	(14,648)	371,825

Other comprehensive income in the table above represents amount net of tax.

31. Retained Earnings

Retained earnings as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Legal reserve[1]	₩	17,983	15,653
Other reserve		200	200
Change of retained earnings in equity method		-	(624)
Retained earnings before appropriation		3,013,181	1,674,216
	₩	3,031,364	1,689,445

[1] The Commercial Code of the Republic of Korea requires the Parent Company to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit.

32. Operating Expenses

Operating expenses for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Salaries	₩	1,214,807	1,022,901
Retirement benefit expense		86,032	79,471
Compensation cost of share-based payments		158,565	148,020
Welfare		219,742	159,984
Travel and transportation expense		18,394	11,715
Taxes and dues		21,732	15,169
Rental expense		25,576	11,804
Commission		684,427	564,759
Sales-related expenses		2,170,934	2,149,058
Cost of goods sold		483,433	328,216
Advertising expense		410,098	382,276
Depreciation		365,798	227,880
Amortization		203,766	135,363
Bad debt expenses		10,795	3,557
Expenses for events		7,097	3,023
Others		148,495	79,433
	₩	6,229,692	5,322,629

33. Other Non-Operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Other non-operating income			
Gain on disposal of property and equipment	₩	8,091	3,379
Gain on disposal of intangible assets		90,938	16,276
Gain on disposal of equity method investments[1]		1,701,991	1,624,823
Gain on disposal of joint venture investment		30	-
Gain on disposal of investments in subsidiaries		163,539	47,674
Gain on foreign currency transactions		6,989	5,299
Gain on foreign currency translation		1,784	513
Miscellaneous income		37,916	25,996
Rent income		174	71
Reversal of allowance for doubtful accounts (non-operating income)		803	394
Reversal of impairment loss on intangible assets		2	2,231
Reversal of provision for restoration		430	55
Gain on disposal of assets held for sale		-	1,515
Government grant income		292	135
Gain on bargain purchases		-	5,068
Gain on change in lease		247	-
Gain on debt forgiveness		302	-
	₩	2,013,527	1,733,429
Other non-operating expenses			
Loss on disposal of property and equipment	₩	27,525	680
Loss on disposal of intangible assets		43,445	7,391
Loss on abandonment of property and equipment		3,078	491
Impairment losses on property and equipment		871	-
Impairment losses on intangible assets		735,708	294,353
Impairment losses on other assets		-	3,221
Impairment losses on equity method investments		173,740	370
Loss on disposal of equity method investments		24,322	5,386
Loss on disposal of investments in subsidiaries		6,531	4,954
Donations		24,822	15,217
Service fees		13,306	43,612
Loss on foreign currency transactions		9,536	5,724
Loss on foreign currency translation		1,441	468
Miscellaneous losses		45,443	17,424
Loss on change in lease		2	-
Other bad debt expenses		1,675	2,483
Increase of other provision		-	2,944
Others		15	2,529
	₩	1,111,461	407,247

33. Other Non-Operating Income and Expenses, Continued

[1] During 2022, the Group lost significant influence on Dunamu Inc. and reclassified its shares as financial assets measured by fair value through other comprehensive income, including about ₩ 1,532.6 billion in difference between the existing carrying amount and the fair value at the time of reclassification.

34. Finance Income and Costs

Finance income and costs for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)		2022	2021
Finance income			
Interest income	₩	122,729	36,889
Dividend income		56,214	38,578
Gain on valuation of derivatives		4,697	5,180
Gain on derivative transactions		47	33
Gain on valuation of financial assets at fair value through profit or loss		68,503	44,302
Gain on valuation of financial liabilities at fair value through profit or loss		2,676	-
Gain on disposal of financial assets at fair value through profit or loss		5,863	12,916
Gain on disposal of financial assets at fair value through other comprehensive income		14,150	-
Gain on foreign currency transactions		9,378	3,524
Gain on foreign currency translation		48,256	36,388
Fund finance costs		10,237	-
Other finance income		20	9
	₩	342,770	177,819
Finance costs			
Interest expense	₩	109,871	39,390
Loss on valuation of derivative financial instruments		27,491	56,102
Loss on foreign currency transactions		152	199
Loss on foreign currency translation		70,439	3,808
Loss on valuation of financial assets at fair value through profit or loss		11,294	35,333
Loss on valuation of financial liabilities at fair value through profit or loss		33,057	22,054
Loss on disposal of financial assets at fair value through profit or loss		-	3,581
Loss on disposal of financial liabilities at fair value through profit or loss		10,108	80
Loss on disposal of financial assets at fair value through other comprehensive income		211,173	-
Loss on repayment of borrowings		3,741	-
Loss on transaction of derivative financial instruments		1,167	2,000
Fund finance costs		3,820	151,769
Other finance costs		5,349	1,002
	₩	487,663	315,318

35. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to equity holders of the Parent Company by the weighted average number of ordinary shares outstanding, excluding the treasury shares during the year.

Basic earnings per share for the years ended December 31, 2022 and 2021 is calculated as follows:

(in millions of Korean won, except number of shares per share data)		2022		2021
Profit (loss) attributable to equity holders of the Parent Company	₩	1,357,996		1,387,314
Weighted average number of ordinary shares outstanding (in shares)		435,564,814		432,145,902
Basic earnings (loss) per share (in Korean won)	₩	3,118		3,210

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. The Group has stock options, exchangeable bonds and convertible bonds as dilutive potential ordinary shares. For the share options, a calculation is done to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of the Group's shares) based on the monetary value of the subscription rights attached to outstanding share options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the share options are exercised. The convertible bond and exchangeable bond are assumed to have been converted into ordinary shares, and the net profit is adjusted to eliminate the interest expense less the tax effect.

Diluted earnings per share for the years ended December 31, 2022 and 2021, is calculated as follows:

(in millions of Korean won, except number of shares and per share data)	2022	2021
Profit (loss) attributable to equity holders of the Parent Company	₩ 1,357,996	₩ 1,387,314
Interest cost for convertible bonds (net of tax)	1,377	1,500
Adjustment of net profit considering subsidiaries' potential ordinary shares	(2,181)	-
	1,357,192	1,388,814
Weighted average number of ordinary shares outstanding (in shares)	435,564,814	432,145,902
Adjustment for:		
Stock options	4,171,404	7,329,442
Exchangeable bonds	2,895,724	3,573,436
Weighted average number of diluted potential ordinary shares (in shares)	7,067,128	10,902,878
Weighted average number of ordinary shares (in shares) for diluted earnings per share	442,631,942	443,048,780
Diluted earnings (loss) per share (in Korean won)	₩ 3,066	₩ 3,135

36. Dividends

Dividends paid by the Parent Company for the years ended December 31, 2022 and 2021, are ₩ 22,990 million (₩ 53 per share after the stock split) and ₩ 12,902 million (₩ 30 per share after the stock split), respectively.

The dividend to the shareholders of the Parent Company in respect of the year ended December 31, 2022, of ₩ 60 per share, amounting to total dividends of ₩ 26,202 million, is to be proposed at the annual general shareholders' meeting on March 28, 2023. The Group's consolidated financial statements as of December 31, 2022, do not reflect this dividend payable.

37. Cash Generated from Operations

Details of cash generated from operations for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022	2021
Profit (loss) before income tax	₩ 1,268,900	2,286,661
Adjustments :		
Bad debt expense	10,795	3,557
Depreciation	377,665	237,767
Amortization	203,766	135,363
Impairment losses on property and equipment	871	-
Impairment losses on intangible assets	735,706	291,621
Gain on disposal of property and equipment	19,191	(2,699)
Loss on abandonment of property and equipment	3,078	491
Gain (loss) on disposal of intangible assets	(47,493)	(8,885)
Retirement benefit expense	74,029	73,822
Compensation cost of share-based payments	158,742	148,020
Interest income	(134,950)	(40,226)
Interest expense	111,327	42,624
Dividend income	(56,215)	(41,102)
Share of net loss (profit) of associates	57,629	(510,093)
Loss on disposal of equity method investments	24,322	5,386
Gain on disposal of equity method investments	(1,702,021)	(1,624,823)
Gain on disposal of investments in subsidiaries	(163,539)	(47,674)
Loss on disposal of investments in subsidiaries	6,531	4,954
Impairment losses on equity method investments	173,740	370
Gain on disposal of financial assets at fair value through profit or loss	(5,863)	(12,916)
Loss on disposal of financial assets at fair value through profit or loss	10,108	80
Gain on valuation of financial assets at fair value through profit or loss	(69,817)	(45,746)
Loss on valuation of financial assets at fair value through profit or loss	33,095	24,399
Gain on valuation of financial liabilities at fair value through profit or loss	(2,676)	-
Loss on valuation of financial liabilities at fair value through profit or loss	-	3,581
Loss on disposal of financial assets at fair value through profit or loss	211,173	-
Gain on disposal of financial assets at fair value through other comprehensive income	(14,150)	-
Loss on disposal of financial assets at fair value through other comprehensive income	3,741	-
Impairment losses on other assets	-	3,721
Gain on valuation of derivative financial instruments	(4,697)	(5,180)
Loss on valuation of derivative financial instruments	27,491	56,102
Gains on transaction of derivative financial instruments	(47)	(33)
Loss on transaction of derivative financial instruments	152	199
Other bad debt expenses	872	2,089
Other long-term employee benefits	23,977	24,825
Gain on foreign exchange translations	(53,324)	(36,907)
Loss on foreign exchange translations	13,760	35,805
Loss on valuation of inventory	(356)	94
Loss on inventory shrinkage	429	2,974
Others	99,451	688,582
Changes in operating assets and liabilities		
Trade receivables	(69,034)	(19,847)

(in millions of Korean won)	2022	2021
Inventories	(73,437)	(11,020)
Other current financial assets	(94,915)	(45,112)
Other current assets	(81,391)	(129,064)
Other non-current financial assets	5,906	(165)
Other non-current assets	11,892	(339,415)
Trade payables and other payables	64,245	457,572
Other current liabilities	(38,837)	56,430
Other current financial liabilities and deposits received	(20,324)	33,559
Other non-current liabilities	9,494	3,502
Other non-current financial liabilities	(14,250)	(260)
Net defined benefit liabilities	(121,094)	(98,712)
Other long-term employee benefit liabilities	(2,957)	(2,000)
Other financial assets (financial services business)	181,466	(339,056)
Other assets (financial services business)	(193)	(899)
Deposits received (financial services business)	(204,853)	220,462
Net defined benefit liabilities (financial services business)	(1,881)	(483)
Other financial liabilities (financial services business)	(11,199)	4,702
Other liabilities (financial services business)	(6,568)	1,416
Others	7,766	(630)
Cash generated from operations	₩ 935,230	1,487,783

Significant transactions not affecting cash flows for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)	2022	2021
Provision for restoration to specific property and equipment account	₩ 4,253	50
Write-offs of trade receivables	1,107	241
Change of other payables related to acquisition of property and equipment	20,742	7,863
Change of non-trade receivables related to disposal of property and equipment	(524)	716
Change of other payables related to acquisition of intangible assets	212	381
Transfer from advanced payments and long-term advanced payments to property and equipment	7,413	1,355
Transfer from advanced payments and long-term advanced payments to intangible assets	169,319	755
Conversion of convertible bonds	36,410	18,000
Conversion of exchangeable bonds	-	9,792
Conversion of redeemable convertible preferred shares	5,290	58,645
Transfer to current portion of long-term borrowings	53,057	346,816
Change of non-trade payables related to payment of lease liabilities	22,739	19,738
Transfer from financial assets at fair value through other comprehensive income to investments in associates [1]	524,083	-

[1] During 2022, reclassified the shares of Dunamu Inc. as financial assets at fair value through other comprehensive income due to losing significant influence.

37. Cash Generated from Operations, Continued

Changes in net liabilities arising from financial activities for the years ended December 31, 2022, are as follows:

(in millions of Korean won)	Liabilities from financing activities			
	Short-term borrowings	Long-term borrowings	Lease liabilities	Total
At January 1, 2022	₩ (1,258,828)	(553,054)	(1,497,952)	(3,309,834)
Acquisition - lease	-	-	(672,172)	(672,172)
Disposal - lease	-	-	33,003	33,003
Cash flows	296,089	(709,091)	187,776	(225,227)
Exchange differences	(68,727)	2,556	14,994	(51,176)
Changes in consolidation scope	(12,882)	(6,400)	106,556	87,275
Transfer from/to current portion	(53,057)	53,057	-	-
Unwind of discount	(4,391)	(861)	(62,339)	(67,592)
Conversion of convertible bond	5,290	36,410	-	41,699
Others	(379)	1,204	-	825
At December 31, 2022	₩ (1,096,884)	(1,176,180)	(1,890,134)	(4,163,199)

38. Commitments and Contingencies

The Group has provided the following guarantees as of December 31, 2022 and 2021:

(*in millions of Korean won)*

Beneficiary	Guarantor	Amount		Guaranteed item
		2022	2021	
Employees[1]	Shinhan Bank	₩ 5,552	4,872	Employee loans
Customers[2]	Korea Investment Savings Bank, etc.	52,000	54,004	Guarantee for sales instalment
Kakao Games Europe B.V.	KEB Hana Bank, etc.	729,648	-	Guarantee for loan payments
		₩ 787,200	58,876	

[1] The Group provided its employees payment guarantee with banks for the employees' bank loans related to their welfare and the Group's deposits of ₩ 6,107 million are pledged as collateral.

[2] Debt guarantee provided for the customer's instalment amount for financial institutions among the purchase amount. In relation to such debt guarantee financial instruments of ₩ 15,490 million of the Group are provided as collateral.

In addition to the above, the Group has opened a letter of credit of CNY 5,000,000 to guarantee the borrowing of IX CHINA CO., LTD.

38. Commitments and Contingencies, continued

The Group has been provided the following guarantees by others as of December 31, 2022 and 2021:

(in millions of Korean won)

Guarantor	Details	Amount		Beneficiary
		2022	2021	
Seoul Guarantee Insurance and others	Performance guarantee and others	₩ 177,759	152,686	Korea Financial Telecommunications & Clearings Institute, Korea Investment & Securities Corporation, etc.
Korea Credit Guarantee Fund	Guarantee for borrowings and others	11,225	131	Industrial Bank of Korea, etc.
Shinbo Corp.	Guarantee for payment of construction	918	-	Kakao Space Corp.
		₩ 189,902	152,817	

As of December 31, 2022, the Group is involved in 38 lawsuits amounting to ₩ 111,335 million as a defendant or co-defendant. The Group recognizes related liabilities when it is probable that there will be an outflow of resources embodying economic benefits in order to fulfil obligations pursuant to law. The Group does not expect that these cases would have a material impact on its consolidated financial statements.

The Group's agreements with financial institutions and commitments as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

Financial Institution	Agreements	2022	
		Maximum limit	Amount executed
Kookmin Bank	Facility loans	₩ 4,000	1,000
Kookmin Bank	Short-term borrowings	15,000	15,000
Kookmin Bank	Loans for operation capital	80,000	15,800
Kookmin Bank	Limit loan agreement	22,000	-
Kookmin Bank	Limit loans for operation capital	10,000	-
Korea Development Bank	Limit loan agreement	40,000	-
VOLKSBANK	Loans for operation capital	1,351	1,182
Industrial Bank of Korea	KOSME Loan Agreement	100	-
Industrial Bank of Korea	Long-term borrowings	500	500
NongHyup Bank	General Business Loans	2,000	2,000
NongHyup Bank	Limit loans for operation capital	4,000	-
Korea Development Bank	Loans for operation capital	3,000	2,600
Shinhan Bank	Loans for operation capital	36,000	8,300
Shinhan Bank	General loans	2,400	2,400
Shinhan Bank	Limit loan agreement	29,000	-
Shinhan Bank	Limit loans for operation capital	200,100	-
Shinhan Bank	Long-term borrowings	560	560
Woori Bank	KOSME Loan Agreement	19	19
KEB Hana Bank[1]	Loans for operation capital	11,000	11,000
KEB Hana Bank	Receivables secured loans	40	-
KEB Hana Bank	Loans for daily transactions	3,000	-

Korea Securities Finance Corp	Retail Banking loans	50,000	-
Korea Securities Finance Corp	Loans for acquisition	80,000	-
Korea Securities Finance Corp	Loans for daily transactions	30,000	-
Hanmi Bank	Short-term borrowings	6,337	5,449
Kprea SMEs and Startups Agency	Long-term borrowings	1,300	1,300
Ryan Mobility 1st Co.	Limit loan agreement	50,000	50,000
NongHyup Bank	Limit loan agreement	6,000	6,000

[1] ₩ 4,000 million of time deposit and ₩ 2,000 million of MMT(Korea Securities Finance Corp) is held as collateral with respect to the agreement.

(in millions of Korean won)

		2021	
Financial Institution	**Agreements**	**Maximum limit**	**Amount executed**
Shinhan Bank	Limit loans for operation capital	₩ 200,100	-
Shinhan Bank	Borrowing agreement	1,000	1,000
Woori Bank Shenzhen	Loans for operation capital	3,563	3,563
VOLKSBANK	Loans for operation capital	1,342	1,342
Kookmin Bank	Facility loans	4,000	4,000
Woori Bank	KOSME Loan Agreement	53	53
Shinhan Bank	Loans for operation capital	1,000	1,000
Industrial Bank of Korea	Loans for operation capital	170	160
KEB Hana Bank	Loans for operation capital	650	259
Kookmin Bank	Loans for operation capital	104,674	104,674
NongHyup Bank	Loans for operation capital	470	470
Shinhan Bank	Loans for operation capital	35,000	35,000
Woori Bank	Loans for operation capital	30,000	30,000
Citi Bank	Loans for operation capital	20,000	20,000
Shinhan Bank	Loans for operation capital	20,000	20,000
Korea Investment & Securities Co., Ltd.	Loans for operation capital	290,000	290,000
KB Securities	Loans for operation capital	320,000	320,000
Shinhan Investment Corp.	Loans for operation capital	50,000	50,000
Korea Development Bank	Limit loan	40,000	-
Shinhan Bank	Limit loan	25,000	-
Kookmin Bank	Limit loan	22,000	-
Korea Securities Finance Corp	Loans for daily transactions	30,000	-
Korea Securities Finance Corp	Loans for acquisition	80,000	-
KEB Hana Bank[1]	Overdraft loans	3,000	-
Korea Securities Finance Corp	Distribution finance loans	10,000	-
THE KUMAMOTO DAI-ICHI SHINKIN BANK	Loans for operation capital	1,145	1,145
Kookmin Bank	Short-term borrowings	15,500	15,500
Kookmin Bank	Limit loans for operation capital	10,000	-
Shinhan Bank	Long-term borrowings	624	624
Industrial Bank of Korea	Long-term borrowings	500	500
Industrial Bank of Korea	Short-term borrowings	1,200	1,020

[1] ₩ 4,000 million of time deposit is held as collateral with respect to the agreement.

38. Commitments and Contingencies, Continued

In accordance with the shareholder agreements in in relation to Kakaopay Corp., a subsidiary, if there are difficulties in management and operation of Kakaopay Corp. due to changes in governance structure, the non-controlling interest investors of the subsidiary may request the Group to purchase those shares at fair value for a period of time described in the agreements. The management of the Group believes that the Group can control prerequisites for investors to claim the purchase and therefore, as of December 31, 2022, the Group believes that the possibility for non-controlling interest investors to exercise the put option is remote.

In accordance with the agreements with non-controlling interests of some subsidiaries including Kakao Entertainment Corp., the Group is required to obtain a consent from investors, when the Group intends to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer or other methods to third party other than stipulated manners in the agreements such as exercise of tag-along right.

In connection with the 12th Foreign Currency Exchangeable Bonds, the Company deposited the shares to be exchanged with the Korea Securities Depository. As of December 31, 2022, 3,452,122 shares were deposited, but due to the additional deposit of 2,017 shares due to the adjustment of the exchange value based on dividends during the year and the recovery of 3,184,692 shares due to the early redemption of exchangeable bonds, a total of 269,447 shares were deposited as of December 31, 2022.

During 2022, a fire at SK C&C's Pangyo data center, where the Group is a tenant, temporarily disrupted the services provided by the Group. The Group considers that it is possible that additional economic benefits may be accrued as compensation for losses to customers, but the amount cannot be reliably estimated as of December 31, 2022.

During the year ended December 31, 2022, the Company entered into a loan agreement with a subsidiary, KAKAO Enterprise Corp.

38. Commitments and Contingencies, Continued

Financial instruments restricted as of December 31, 2022 and 2021:

(in millions of Korean won)

	2022	2021	Purpose of restriction
Cash and cash equivalents	₩ 395	-	Restrictions on withdrawals related to customer complaints
	8,000	8,000	Withdrawal restriction in relation to firm banking[1]
	1,880	1,350	Pledged as collateral for Shinhan Card and etc. [2]
	1,407	401	Payment guarantee for office lease
	3,200	3,200	Pledged as collateral for a franchise contract
	500	500	Pledged as collateral for loan services
Short-term financial instruments	-	100	Pledged for payment guarantee for Daehan Bank
	-	-	Investment related pledged deposit and etc
	2	2	Withdrawal restriction for Korea Investment Savings Bank
	11,000	-	Providing collateral for stock option loans
	50,000	-	Providing collateral for a shareholder association loan
	-	40	Deposit for checking account
	297	-	Payment guarantee for employee's loan
Long-term financial instruments	6,107	5,359	Payment guarantee for employee's loan
	15	-	Deposits
	4,000	4,000	Provision of collateral for KEB Hana Bank overdraft
Deposits and financial assets at fair value through profit or loss	33,103	121,232	Separate investment deposit (ordinary deposit) [3]
	2,000	-	Market derivative instrument transaction deposit
	2	2	Deposits for opening checking accounts and others
	2,510	3,714	Deposit for security transactions for Korea Exchange Market
	395,127	494,405	Separate investment deposit (financial asset) [3]
	₩ 519,545	642,305	

[1] The withdrawal is restricted in relation to the firm banking contract with DGB Daegu Bank and Industrial Bank of Korea.

[2] Pledged as collateral in relation to covering expected loss incurred to credit card companies about business cooperation agreements with Shinhan Card and other credit card companies for 'Automated Payment via Kakao Pay'.

[3] Deposited separately at Korea Securities Finance Corp. to meet the customer's requests such as return of investment deposit under Section 4 of Article 74 of Financial Investment Services and Capital Markets Act. It cannot be transferred or provided as collateral and cannot be offset or seized by anyone.

38. Commitments and Contingencies, Continued

The following assets are pledged as collateral in relation to guarantees for contract fulfilment and borrowings as of December 31, 2022:

(in millions of Korean won)

Asset		Book value	Collateralized amount	Type of Guarantee	Secured party
Land, buildings and others	₩	27,171	21,675	Collateral for facility loans	Kookmin Bank, KEB Hana Bank

The Group entered into an agreement to pay incentives to shareholders of non-controlling interests of Kakaopay Securities Corp., a subsidiary, for earnings generated from fiscal year 2018 to 2021. These earnings are calculated in accordance with the agreement and incentives are paid in dividends and bonus through discussion between shareholders. The Group pays incentives unless the entity subject to payment recognizes net loss and to extent it is permitted under laws or regulations (including unenforceable guidelines and administrative guidance of government organization).

There is a possibility of an outflow of resources with economic benefits in relation to the payment of performance remuneration for past performance and executives of subsidiaries. However, as of December 31, 2021, the Group has not recognized any related liabilities as it is not highly probable that it is related to the obligation to pay.

As of December 31, 2022, other commitments of the Group are as follows:

(1) The Group pledged shares held by some shareholders who have participated in the Group's paid-in capital increase as collateral.

(2) In accordance with the agreements between shareholders of some subsidiaries and associates including STARSHIP ENTERTAINMENT CORP., the Group is required to obtain written consent from interested parties and investors when the Group intends to dispose of all or part of investments in subsidiaries or associates by transfer, sale, providing collateral, or other means before certain period or conditions are met.

(3) In accordance with the agreements between shareholders of STARSHIP ENTERTAINMENT CORP., a subsidiary, if the listing of STARSHIP ENTERTAINMENT CORP. is not completed within five years from the date of the capital increase of STARSHIP ENTERTAINMENT CORP. in December 2019, the investors who participated in the capital increase can request the Group to purchase shares of STARSHIP ENTERTAINMENT CORP. In relation to this, the Group recognized the amount to purchase the additional shares as liabilities.

(4) The Group entered into an agreement between shareholders granting a put option in relation to equity investment in Kakao Entertainment Co., Ltd., a subsidiary, and the Group accounts for the amount as financial liabilities.

38. Commitments and Contingencies, Continued

(5) As of December 31, 2022, the Group is obligated to purchase certain shares held by the counterparty in connection with the purchase of shares of Daon Creative inc, Soundist Entertainment Co., Ltd., RS MEDIA Co., Ltd., Feelyeon Management, PAGE LAB Inc., and Legendaries Corp (formerly, Battle Entertainment) at an agreed price or a specific price at a certain time when the counterparty expresses its intention to sell, and the Group has recorded the amount as a financial liability.

(6) With respect to Kakao VX, a subsidiary, the investors of Kakao VX can request to sell their shares under the provisions of subscription agreement relating to redeemable convertible preferred shares. The investors may request to sell their shares during a specified period under limited circumstances where the Group fails to perform important obligations stated in the contract due to wilful misconduct or gross negligence. The Group expects that the likelihood of the circumstances that allow investors' request to sell their shares is remote.

(7) Some shareholders of a subsidiary may request the Group to purchase all or part of their shares in the subsidiary when certain conditions are satisfied according to the agreement. The management of the Group believes that there is currently no possibility of a purchase request.

(8) KAKAO Entertainment Corp, a subsidiary, has entered into a funding agreement with Helios-KDBC Video Digital Contents No. 1 New Technology Business Investment Fund.

(9) As of December 31, 2021, Kakao Games Corp., a subsidiary, has entered into the shareholders agreement with a stakeholders (existing shareholders) in relation to Lionheart Studio, Inc. Conditions such as pre-emptive purchase rights, drag-along rights, tag-along rights for equity shares, pre-emptive purchaser rights for assets, and rights to appoint directors are stipulated in the contract.

(10) Kakao Games Corp, a subsidiary, has the right to subscribe for new shares, preferential purchase rights, and co-sale rights to the shares of XL Games, Ocean Drive Studio Co., Ltd, and Second Dive Corp. through shareholders' agreements, and in the case of Ocean Drive Studio Co., Ltd, the right to acquire additional shares and the obligation to purchase the shares of the major shareholders.

(11) Kakao Games Corp, a subsidiary, has covenants regarding preferential purchase rights, co-sale rights, seller's purchase rights, and warrants in the shareholders' agreement entered into during the acquisition of Sena Technologies Inc..

(12) Kakao Enterprise Corp., a subsidiary of the Group, entered into a contract with Company A in 2021, and acquired a call option which allows Company A to acquire all of Company B's stocks (78.29% of Company B's total issued stock) held by Company A from the 24th month to the 36th month after Company A's acquisition of the stocks of Company B. If the Group does not exercise the call option, Company A grants a put option to sell all of Company B's stock held by Company A from the 36th month to the 48th month after the acquisition of Company B's stock.

38. Commitments and Contingencies, Continued

(13) Kakao Enterprises Corp., a subsidiary of the Group, acquired shares of e.Form Works and classified them as investments in associates. The share acquisition contract includes a provision in which Kakao Enterprises Corp. will receive 20% of the shares of e.Form Works from Ion Communications Co., Ltd., the major shareholder of e.Form Works, depending on whether e.Form Works achieves the KPI.

(14) As of December 31, 2022, Kakao G Corp. acquired a stake in TEE.Ware and classified it as an investment in an associate. The acquisition agreement includes a provision that some of the existing shareholders of the associate may sell all of their shares to the Group when certain conditions are met.

(15) Kakao Mobility Corp., a subsidiary, has a separate decision-making body under the Board of Directors (the Committee), which is composed of the Parent Company and the non-controlling shareholder investors. As of December 31, 2022, pursuant to the shareholders' agreement, the non-controlling shareholder investors agreed to delay the exercise of its right to appoint a majority of the Committee. Accordingly, as of the date of these consolidated financial statements, the Parent Company constitutes the majority of the Committee.

(16) Kakao Investment Co., Ltd., a subsidiary, entered into a shareholder agreement granting put options in relation to the equity investment of Wyatt Co., Ltd., a related company.

39. Business Combinations

In 2022, the Group acquired the shares of 17 companies including Nextlevelstudio Inc., which became its subsidiaries. Details of the percentage of ownership acquired, the consideration paid and goodwill recognized thereto are as follow:

(in millions of Korean won) Company	Percentage of ownership acquired (%)	Consideration	Goodwill
Nextlevelstudio Inc	61.2%	₩ 3,500	1,752
Today's Pickup Corp. [2]	100.0%	17,000	17,083
MZPlaying Inc. [2]	100.0%	5,100	4,560
RS Solutions Corp.	100.0%	12,000	11,676
Sandwichtime Corp. [3]	100.0%	150	437
EDAM Entertainment Corp.	52.5%	54,705	45,064
OOTB CO.,LTD.	100.0%	3,500	4,084
Whynotme Production Corp. [4]	100.0%	3,000	6,229
KM PARK.CO.,Ltd	100.0%	65,000	58,981
WithONE's Inc	100.0%	2,000	2,476
Beagle Co., Ltd	100.0%	11,250	10,130
Neozensoft CO.,LTD. [5]	100.0%	15,533	8,722
SAKURA Exchange BitCoin, Inc. [6]	-	11,269	3,391
LINEWALKS Inc.	100.0%	24,470	21,002
Korea freight forwarders association Corp.	49.0%	1,147	2,180
Voithru Inc. and other [1]	72.0%	21,099	16,817
Total		₩ 250,722	214,583

[1] Presented as a provisional amount since the amount of consideration allocation related to the business combination has not been finalized at this time.

[2] Merged with Kakao Mobility Corp., a subsidiary, in 2022.

[3] Merged with Nextlevelstudio Inc., a subsidiary, in 2022.

[4] Merged with SamyangCNC Co.,Ltd, a subsidiary, in 2022.

[5] Merged with Kakao healthcare Corp., a subsidiary, in 2022.

[6] During the year ended December 31, 2022, included as a subsidiary through the acquisition of control and then sold and excluded as a subsidiary due to loss of control.

39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows:

(in millions of Korean won)		**Nextlevelstudio Inc**	**Today's Pickup Corp.**	**MZPlaying Inc**	**RS Solutions Corp.**
Consideration transferred					
Cash and cash equivalents	₩	3,500	17,000	5,100	12,000
Total		3,500	17,000	5,100	12,000
Assets acquired and liabilities assumed					
Cash and cash equivalents		2,394	104	448	440
Trade receivables		-	203	214	158
Property and equipment		544	48	5	28
Right-of-use assets		360	178	-	-
Intangible assets		3	10	42	-
Other assets		164	180	-	285
Trade payables		-	(48)	(132)	(108)
Borrowings		(178)	(500)	-	(150)
Other financial liabilities		(24)	-	-	-
Lease liabilities		(222)	(168)	-	-
Net defined benefit liabilities		-	(36)	(12)	(167)
Other liabilities		(186)	(52)	(25)	(162)
Net identifiable assets acquired	₩	2,854	(82)	540	324
Non-controlling interests		(1,106)	-	-	-
Goodwill	₩	1,752	17,083	4,560	11,676

39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows, continued:

(in millions of Korean won)	Sandwichtime Corp.	EDAM Entertainment Corp.	OOTB CO.,LTD.	Whynotme Production Corp.
Consideration transferred				
Cash and cash equivalents	₩ 150	13,105	3,500	3,000
Shares and others	-	41,600	-	-
Total	150	54,705	3,500	3,000
Assets acquired and liabilities assumed				
Cash and cash equivalents	70	8,680	299	265
Trade receivables	-	2,110	459	15
Inventories	-	172	-	-
Property and equipment	12	9,118	162	283
Right-of-use assets	-	270	91	198
Intangible assets	1	13,929	96	-
Deferred tax assets	-	-	165	-
Other assets	70	10,131	396	597
Trade and other payables	(63)	-	(1)	-
Borrowings	(205)	(2,400)	(1,200)	(1,000)
Other financial liabilities	(171)	(3,861)	(47)	(266)
Lease liabilities	-	(272)	(94)	(199)
Net defined benefit liabilities	-	(160)	(33)	(104)
Deferred tax liabilities	-	(3,422)	-	-
Other liabilities	-	(15,587)	(878)	(3,017)
Net identifiable assets acquired	(287)	18,707	(584)	(3,229)
Non-controlling interests	-	(9,066)	-	-
Goodwill	₩ 437	45,064	4,084	6,229

39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows, continued:

(in millions of Korean won)	KM PARK.CO.,Ltd	WithONE's Inc	Beagle Co., Ltd	Neozensoft CO.,LTD.
Consideration transferred				
Cash and cash equivalents	₩ 65,000	2,000	11,250	15,533
Total	65,000	2,000	11,250	15,533
Assets acquired and liabilities assumed				
Cash and cash equivalents	1,526	294	886	383
Trade receivables	2,339	-	18	799
Inventories	37	-	-	-
Property and equipment	18,109	-	20	82
Right-of-use assets	53,538	-	-	-
Intangible assets	1,152	1	1,957	8,293
Other assets	10,516	10	7	299
Trade and other payables	(3,381)	-	(36)	(266)
Borrowings	(14,000)	(400)	-	(234)
Lease liabilities	(55,378)	-	-	-
Net defined benefit liabilities	(1,724)	(60)	(1,114)	-
Deferred tax liabilities	-	-	(430)	(1,824)
Other liabilities	(6,715)	(321)	(189)	(722)
Net identifiable assets acquired	6,019	(476)	1,120	6,811
Goodwill	₩ 58,981	2,476	10,130	8,722

39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows, continued:

(in millions of Korean won)	SAKURA Exchange BitCoin, Inc.	LINEWALKS Inc.	Korea freight forwarders association Corp.	Voithru Inc. and other [1]
Consideration transferred				
Cash and cash equivalents	₩ 11,269	24,470	1,147	21,099
Total	11,269	24,470	1,147	21,099
Assets acquired and liabilities assumed				
Cash and cash equivalents	8,050	1,737	185	3,565
Trade receivables	-	55	-	606
Property and equipment	-	112	7	484
Right-of-use assets	-	-	-	2,266
Intangible assets	476	3,217	32	-
Other assets	390	164	4	1,051
Trade and other payables	(242)	-	-	(437)
Borrowings	-	-	(2,130)	(1,245)
Other financial liabilities	(1)	(85)	-	(72)
Lease liabilities	-	-	-	(2,167)
Net defined benefit liabilities	-	(425)	(18)	(315)
Deferred tax liabilities	-	(692)	-	-
Other liabilities	(395)	(615)	(188)	(297)
Net identifiable assets acquired	8,278	3,469	(2,108)	3,439
Non-controlling interests	(400)	-	1,075	843
Goodwill	₩ 3,391	21,002	2,180	16,817

[1] Presented as the amount in the consolidated financial statements including subsidiaries held at the time of business combination.

(1) Operating revenue and net profit of subsidiaries after the acquisition date reflected in the consolidated statement of income were ₩ 79,989 million and ₩ 673,104 million, respectively.

(2) If the subsidiaries had been consolidated from the beginning of the current period, the Group's operating revenue and net loss would have been ₩ 142,309 million and ₩ 9,962 million, respectively.

40. Related Parties Transactions

The list of related parties as of December 31, 2022 and 2021, is as follows:

	2022
Relationship	**Related parties[1]**
Associates	Addcredit Corp., DAUM Venture Fund, CNT TECH CO., LTD., Creativecomms Corp., CNT Tech 1st Start-up Investment Fund, CNT Tech 2nd Start-up Investment Fund, CNT Tech 3rd Start-up Investment Fund, CNT Tech 5th Start-up Investment, CNT Tech 7th Start-up Investment Fund, Hacktokon Investment Fund No.1, AI Angel CNT Tech Personal Investment Fund, CNT Tech 11th Start-up Investment Fund, CNT Tech 15th Start-up Investment Fund, CNT Tech Vine Supporters Investment Fund, Tide Square Co., Ltd., CC Partners, Allstay Co,ltd., Square Lab Inc., KakaoBank Corp., Korea Credit Data, KCD Marketing, Korea F&B Partners (formerly, Foodzim), Korea Business Connect (formerly, PERSONA), ImU, Korea Payment Networks Limited(formerly, Fiservkorea), Kakao-Shinhan 1st TNYT Fund, Kakao Style Corp., UTC Kakao SK Telecom ESG Fund, CLAIR, Inc., G&G ENTERPRISE CO.,LTD., Socialbean Co., Ltd, SSANGN, WILDCAT, Caring Corp., Caring Community Care, Humanscape, nexthealth, Humanscape US Inc., herit healthcare, Impian Asia, Grip Company, HitchMED Co., Ltd., Jeju-vision Venture Investment Association No.1., Enolink Holdings, Inc., Kakao Growth Hacking Fund, KIF-Kakao Wooribank Technology Financing Fund, D&C MEDIA CO.,LTD., D&C WEBTOON BIZ, THE ANT, Studio Boom, SOUL CREATIVE CO.,LTD, mycelebs, inc, GLAMAI INC., DAIWAON. C. I. INC, HAEDAM ENT CO.,LTD, Haksan Publinshing Co., Ltd., AniLand Co., Ltd., Studio Griffin Corp., SEOUL MEDIA.INC., LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC. 12, Super Comics. , Trace Culture Business Limited, HongKong TXKP Limited, Chengdu Podoteng Technology Co., Ltd., 325E&C co,ltd., UNION K-Culture Contents Investment Fund, Highup Entertainment, Helios KDBC Video Digital Contents No. 1, Metaverse Entertainment, Atwater Capital Partners I, L.P., MORE VISION CO., LTD., Entertainment JohAlarm Cultural Industry Company Ltd., GRAYGO Corp., Maison de Baha Co., Ltd., Clove Corp., Catchers Cultural Industry Company Ltd., Girl Rivers Cultural Industry Company Ltd., Wyatt co., Ltd, MANNACEA , Farmit, Farmit II, TANGRAM FACTORY AMERICA, INC., Deleo Korea Co., Ltd., YANADU. 3, Fixel Hub co,ltd., Foxsoft co.ltd, Daeyoung Chaevi CO., Ltd, Adlock Advertainment, Stage five Co., Ltd., DEVOTION FOODS Inc., JASON GROUP Co., Ltd. , MUSTIT. CO., Ltd., Nubility, KLleon Inc., CLEON CO.,LTD, Bluepoint Discovery Venture Fund No.2, DIGISONIC CO., LTD., InnoSignal CO., LTD., CHEQUER GLOBAL, Inc., TNK Factory, Atwater Whip SPV, LP, Japle Co., Ltd. , ATU e-sports Growth PE Fund I, LUXROBO CO., LTD., e.Form Works, LOVO INC., LOVO Korea., Skelter Labs, Inc., TOROOC Inc. , Galux, RECON Labs., Ocean Drive Studio Co., Ltd., Second Dive, Neptune Co., Ltd., HNC Games, Nimble Neuron, MAGNET, NEXPORTS Corporation, PRETTYBUSY, Mammo6 Co.,Ltd., PLAYHARD, treeplla Inc. , Ad X plus Co., Ltd, NFLY Studio, Ncrokey, CodeDog, Reality Magic, Together Kakao Games win-win fund, Loadstars , Teins Valley, GC Social Marketing Inc., Romance Crew, K Cube NEO Fund, DGT mobility. , S&Tsolution Co.,Ltd. , Anycall Mobility Corp , altimobility Corp., Autonomous A2Z, EASYGO CO., LTD., DOZEN CO.,LTD, The M Company, TheCheat Corp., TEEware and Others (69 companies)
Joint venture	DAUMKAKAO PHILIPPINES CORP., PHI DIGITAL HEALTHCARE Inc.
Other related parties	Stage Asset Co., Ltd., K Cube Holdings Co., Ltd., New learn English Inc., Onyx K., PLUS 2 PERCENT, NPLUTO, GOLF&FRIEND CO.,LTD., KCUBE IMPACT Co.,Ltd, Future Contents Foundation (formerly, GAMERS FOUNDATION), H3 Corp., Brian Impact Foundation, Kakao Impact Foundation, Trace Culture Business Limited, Colorverse Inc(formerly,

	Puppy Red), SUNYOUNG STORY. CO., LTD, Kakao Creative Foundation, Kakaobank Corporation Employee Welfare Fund

[1] Include associates and other related parties of Kakao Corp. and the entities that are not the related party in accordance with K-IFRS No.1024 but belong to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

	2021
Relationship	**Related parties[1]**
Associates	Addcredit Corp., DAUM Venture Fund., Dunamu Inc., Futurewiz, IGIS Networks, Dunamu Investment Management Co., Ltd., Dunamu&Partners, LAMBDA256, DXM CO.,LTD, Auto manix Corp., Viber (formerly, Korea Virtual Asset Management), Le Corp., KCA 4 Front Fund, IGIS No. 303 Real Estate Investment, Codebox, CNT TECH CO.,LTD., TELESTAR CO.,LTD., Creativecomms Corp., CNT Tech 1st Start-up Investment Fund, CNT Tech 2nd Start-up Investment Fund, CNT Tech 3rd Start-up Investment Fund, CNT Tech 5th Start-up Investment, IBK Changgong 1st Jump-up Investment Fund, CNT Tech 7th Start-up Investment Fund, Hacktokon Investment Fund No.1, AI Angel CNT Tech Personal Investment Fund, CNT Tech 11th Start-up Investment Fund, Korea Tire CNT Tech 1st Mobility Startup Investment Fund, Tide Square Co., Ltd., CC Partners, Allstay Co.,LTD., Square Lab Inc., KakaoBank Corp., Korea Credit Data, KCD Marketing, KCD Partners, Data Driven Mid-range interest rate loan Innovation Preparation Corporation, Foodzim, Kakao-Shinhan 1st TNYT Fund, Kakao Style Corp., UTC Kakao-SK Telecom ESG Fund, CLAIR Inc., G&G Enterprise Co., Ltd., Social Bean, Caring, Humanscape, Grip Company, Kakao Growth Hacking Fund, D&C MEDIA Co., Ltd., D&C Webtoon Biz, The Comics Co,.Ltd., mycelebs, inc, DAIWAON. C. I. INC, Haksan Publinshing Co.Ltd., Seoul Media Comics, LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC., SUPERCOMIX STUDIO Corp., HongKong TXKP Limited, 325E&C Co., Ltd., UNION K-Culture Contents Investment Fund, EDAM Entertainment Corp, Highup Entertainment, Helios KDBC Video Digital Contents No. 1, Metaverse Entertainment, Atwater Capital Partners I, L.P., Wyatt co., Ltd (formerly, Hasys co.,ltd), MANNACEA, MANNATOWN, Farmit, Farmit II, Deleo Korea Co., Ltd., YANADU., Fixel Hub Co.,Ltd., FOR YOUR KIDS CO.,LTD., LINEWALKS Inc., Daeyoung Chaevi CO., Ltd., Adrock Advertainment Corp., Stage Five Corp., DEVOTION FOODS Inc., JASON GROUP Co.,Ltd., MUSTIT. CO., Ltd., Nubility, CLEON CO.,LTD., Bluepoint Discovery Venture Investment Fund No.2, DIGISONIC CO., LTD., InnoSignal CO., LTD., CHEQUER GLOBAL, INC., TNK Factory, Japle Co., Ltd., KIDSPAY CO. Ltd., ATUE Sports Growth Investment Fund No.2, LUXROBO CO., LTD., e.Form Works, LOVO Inc., Skelter Labs, Inc., TOROOC Inc., Galux, RECON Labs., Ocean Drive Studio Co., Ltd., Second Dive, Neptune Co., Ltd., Reality Magic, Brokk Sindri, RPG Gate, Loadstars, Teins Valley, GC SOCIAL MEDIA MARKETING, INC., Romance Crew, K Cube Neo Fund, DGT mobility., S&Tsolution Co.,Ltd., Anycall Mobility Corp., Autonomous A2Z, KIF-Kakao Wooribank Technology Financing Fund 3, PEOPLEFUND COMPANY, EASYGO CO., LTD., DOZEN CO.,LTD, The M Company and Other 60
Joint venture	DAUMKAKAO PHILIPPINES CORP., AsanKakao Medical Data Co., Ltd., PHI DIGITAL HEALTHCARE Inc.

Other related parties	Stage Asset Co., Ltd., K Cube Holdings Co., Ltd., New learn English Inc., Onyx K., PLUS 2 PERCENT, NPLUTO, GOLF&FRIEND CO.,LTD., LKMS Limited, LKMS Re, KCUBE IMPACT Co.,Ltd, GAMERS FOUNDATION, H3 Corp., Brian Impact Foundation, Kakao Impact Foundation, Trace Culture Business Limited, SIWOO COMAPANY, Puppy Red, Ashoka Korea

[1] Include associates and other related parties of Kakao Corp. and the entities that are not the related party in accordance with K-IFRS No.1024 but belong to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

40. Related Parties Transactions, Continued

Transactions with the related parties for the years ended December 31, 2022 and 2021 and the receivables from and payables to the related parties as of December 31, 2022 and 2021, are as follows:

Transactions

(in millions of Korean won)	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Associates						
YANADU.	₩ 476	-	-	19	2	10
Fixel Hub co,ltd.	-	-	-	30	-	-
CLAIR, Inc.	98	-	-	-	-	46
CNT TECH CO., LTD.	721	-	-	12	1	1
Deleo Korea Co., Ltd.	-	-	-	15	-	-
DGT mobility.	-	-	-	112	37	-
D&C MEDIA CO.,LTD.	-	-	-	5,693	-	-
DAIWAON. C. I. INC	247	-	-	2,299	-	32
DOZEN CO.,LTD	621	-	-	3,594	-	-
325E&C co,ltd.	-	-	-	1,062	10	1
G&G ENTERPRISE CO.,LTD.	180	-	-	-	-	76
Haksan Publinshing Co., Ltd.	16	-	-	3,106	-	-
Wyatt co., Ltd	3,456	-	-	6	-	-
JASON GROUP Co., Ltd.	7,321	-	-	1,144	-	-
KakaoBank Corp.	22,617	2,984	-	11,616	72	182
Leferi	296	-	-	133	-	-
MANNACEA	1	-	-	-	-	-
mycelebs, inc	-	-	-	1,296	-	-
Stage five Co., Ltd.	1,965	-	-	-	-	-
Socialbean Co., Ltd	1,118	-	-	5	-	57
Super Comics.	74	43	-	1,384	-	112
SEOUL MEDIA.INC.	254	-	-	3,406	-	-
S&Tsolution Co.,Ltd.	-	-	-	3	-	-
Tangram Factory, inc.	-	-	-	-	-	-
Tide Square Co., Ltd.	458	-	110	-	130	12
Shoe Lab	1	-	-	-	-	-
Cleaning Lab	346	-	-	3	-	-
CULTUREHERO	155	-	-	-	-	46
HUMART COMPANY(TROST)	19	-	-	-	-	-
Korea Credit Data	903	-	-	-	-	-
Highup Entertainment	405	-	-	2,638	-	4,669
MUSTIT. CO., Ltd.	1,641	-	-	-	-	8
Allstay Co,ltd.	31	-	-	-	-	-
Daeyoung Chaevi CO., Ltd	3	-	-	-	11	-
Square Lab Inc.	66	-	-	-	-	-
LUXROBO CO., LTD.	-	-	-	-	-	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	12	-	-	-	-	-
Japle Co., Ltd.	1	-	-	12	-	-
Kakao Style Corp.	7,329	-	-	6	1,913	-
HongKong TXKP Limited	-	31	7	-	-	1

(in millions of Korean won)	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Force Teller	₩ -	-	-	3	-	-
TNK Factory	1,783	-	-	461	154	-
Carrot Market	195	-	-	14	11	3
Atwater Capital Partners I, L.P.	-	-	-	77	-	-
Dreaming Darakbang	7	-	-	-	-	-
e.Form Works	1	-	-	1	-	-
Code Squad	-	-	-	-	-	345
Time&Co	49	-	-	-	-	-
Humanscape	-	-	-	-	-	-
Caring Corp.	8	-	-	-	-	-
KCD Marketing	2	-	-	101	-	-
Korea F&B Partners (formerly, Foodzim)	6	-	-	-	-	-
THE ANT	74	-	-	4,132	-	-
Grip Company	852	89	230	12	-	-
Teins Valley	-	-	-	17	-	1
GC Social Marketing Inc.	-	-	-	-	155	-
MORE VISION CO., LTD.	-	-	-	948	-	-
D&C WEBTOON BIZ	67	-	-	15,559	2	-
SSANGN	-	-	-	-	-	-
21st market	-	-	-	-	-	-
NEW WAVE COMMERCE	2	-	-	-	-	-
MOYO	2	-	-	-	-	-
Artificial Society Inc.	-	-	-	-	-	-
PERSONA	90	-	-	1	-	-
Neptune Co., Ltd.	89	-	-	283	-	-
Nimble Neuron	736	-	-	571	23	-
MAGNET	-	-	-	234	-	-
Ocean Drive Studio Co., Ltd.	-	348	-	-	-	-
CastingN	-	-	-	-	-	90
K Cube NEO Fund	259	-	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	1,212	-	-	-	-	-
Kakao-Shinhan 1st TNYT Fund	386	-	-	-	-	-
Kakao Growth Hacking Fund	1,942	-	-	-	-	-
TheCheat Corp.	-	-	-	49	-	-
GRAYGO Corp.	74	-	14	-	-	-
Nautilus	1	-	-	-	-	-
Nubility	-	-	-	-	-	-
DEVOTION FOODS Inc.	-	-	-	-	-	2
CLEON CO.,LTD	-	-	-	-	-	-
Loonshot Company Inc.	1	-	-	-	-	-
ImU	1	-	-	-	-	-
Clove Corp.	-	-	-	-	-	-
Reality Magic	-	-	-	43	10	-
TEEware	2,116	-	3	215	-	-
Adlock Advertainment	-	-	-	-	-	-
Bosalpim	-	-	-	-	-	-
Korea Payment Networks Limited	37	-	-	2	-	-
altimobility Corp.	22	-	-	-	-	-
Chengdu Podoteng Technology Co., Ltd.	4,145	-	-	-	-	-
FOR YOUR KIDS CO.,LTD. [2]	111	-	-	-	-	264

(in millions of Korean won)	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Dunamu Inc.	₩ 103	-	-	40	-	-
EDAM Entertainment Corp [3]	244	-	21	5,016	1,701	1,576
PEOPLEFUND COMPANY [1]	1,100	-	-	-	-	-
Dr. Kitchen [2]	5	-	-	-	-	-
Dining Code [2]	-	-	-	3	-	-
kasa [2]	-	-	-	-	-	-
KIDSPAY co, ltd. [2]	-	-	-	-	-	-
Futurewiz [2]	94	-	-	-	-	-
Le Corp. [2]	-	-	-	-	-	-
Dunamu Investment Management Co., LTD [2]	-	-	-	-	-	-
	66,647	3,495	385	65,376	4,232	7,534
Joint venture						
Asankakao Medical Data Co., Ltd. [2]	196	-	-	-	-	-
Other related parties						
Kakao Impact Foundation	211	-	-	-	-	12,035
K Cube Holdings Co., Ltd.	46	9	-	-	-	-
Brian Impact Foundation	412	13	-	-	-	-
Colorverse Inc.	3	-	-	-	-	-
GAMERS FOUNDATION	-	-	2	-	-	-
Kakao Creative Foundation	9	-	-	-	-	-
	877	22	2	-	-	12,035
	₩ 67,524	3,517	387	65,376	4,232	19,569

[1] Reclassified to financial assets at fair value through other comprehensive income from an associate and the transaction amount up to the date of reclassification is presented.

[2] Excluded from the Group's associate due to disposal and the transaction amount up to the date of disposal is presented.

[3] It was included to a subsidiary of the Group during 2021, and the transaction amount before the inclusion is presented.

(in millions of Korean won)	2021					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Associates						
Adlock Advertainment	₩ -	-	-	-	-	-
AD(x) Inc. [1]	334	-	-	20	-	-
Atwater Whip SPV, LP [4]	-	-	5,927	-	-	691
YANADOO Co., Ltd.	233	-	-	19	-	-
4ukids	1,758	-	-	-	-	481
Pixel Hub	-	-	-	30	-	-
CLAIR, Inc.	1	-	-	-	-	139
C&T Tech	735	-	-	12	-	1
Deleo Korea Co.,Ltd.	-	-	-	8	-	-
D&C MEDIA CO.,LTD	13	-	-	7,882	-	1
Dunamu Inc. [2]	744	-	4,255	240	-	-
Doctorbrain SPC Ltd	120	-	710	-	-	-
DAIWAON. C. I. INC	83	-	-	1,363	-	17
DOZEN CO.,LTD	319	-	-	1,383	-	-

(in millions of Korean won)	2021					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
EDAM Entertainment Corp	₩ 23	-	52	12,841	1,319	-
325 E&C	-	-	-	779	-	183
G&G Enterprise Co Ltd	130	-	-	-	-	90
Haksan Publinshing Co.Ltd	28	-	6	3,607	-	22
Wyatt co., Ltd (formerly, Hasys co.,ltd)	4,477	-	-	-	-	-
JASON GROUP Co.,Ltd. [2]	5,024	-	131	883	-	-
KakaoBank Corp.	10,172	37	-	8,849	109	68
K Cube NEO Fund	314	-	-	-	-	-
Kakao Growth Hacking Fund	1,438	-	-	-	-	-
KIF-KakaoWooribank Technology Financing Fund	1,319	-	-	-	-	-
Leferi	128	-	-	68	-	-
LIONHEART STUDIO Corp. [1]	-	-	-	168,372	-	429
MANNACEA	71	-	-	151	-	-
Mycelebs	-	-	-	1,391	-	-
NBT Inc [4]	3	-	-	196	-	-
PEOPLEFUND COMPANY	683	-	-	-	-	-
Stagefive Co. Ltd	906	-	-	6	-	-
Social bean	617	-	-	-	-	6
Super Comics studio	9	-	26	1,328	5	171
Sixshop [3]	12	-	-	36	-	-
Seoul Media Comics	16	-	40	2,140	-	31
Tangramfactory	1	-	-	-	-	-
TIDESQUARE	41	-	-	106	44	102
Way2Bit Co., Ltd.	245	-	-	-	-	-
Shoe Lab	-	-	-	-	-	-
Dr.Kitchen	10	-	-	-	-	-
Life Lab	164	-	-	-	-	-
Culture Hero	34	-	-	-	-	8
Futurewiz	1,533	-	-	-	-	-
Humart Company Co.,Ltd	10	-	-	-	-	-
Korea Credit Data	2,408	-	-	-	-	-
Nowbusking [4]	1	-	-	12	-	-
Kakao-Shinhan 1st TNYT Fund	386	-	-	-	-	-
Highup Entertainment	328	23	-	1,144	-	1,669
MUSTIT. CO., Ltd.	148	-	-	-	-	-
Allstay	24	-	-	-	-	-
Daeyoung Chaevi CO., Ltd	1	-	-	-	-	-
Square Lab	7	-	-	-	-	-
LUXROBO CO., LTD. 3	1	-	-	-	-	-
Neptune Co., Ltd.	80	-	-	232	-	-
Nimble Neuron	470	-	-	261	377	-
Magnet	-	-	-	201	-	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	237	-	13	3	1,133	3
Japle Co., Ltd.	1	-	-	2	-	1
Kakao Style Corp.	1,012	-	-	126	-	-
GC SOCIAL MEDIA MARKETING, INC.	-	-	-	-	1,459	-
HongKong TXKP Limited	-	37	-	-	-	-
Autonomous A2Z	100	-	-	-	-	-
DAUM Venture Fund [2]	-	-	2,609	-	-	-
Automanics	-	-	-	-	-	-

(in millions of Korean won)	2021					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Force Teller	₩ 2	-	-	1	-	-
The M Company	-	-	-	-	-	8
Skelter Labs, Inc.	-	-	-	-	-	-
TNK Factory	1	-	-	-	-	-
Carrot Market	-	-	-	-	3	-
WhaTap Labs	-	-	-	4	-	-
PLANETS CO. LTD.	16	-	-	-	-	-
FM Ad	-	-	-	10	-	-
DXM Corp.	72	-	-	-	-	-
TAPAS MEDIA, INC.	3,148	42	-	2	-	-
Radish Media. Inc	1	-	-	-	-	-
D&C Webtoon Biz	98	-	-	17,655	1	55
Kross Pictures	171	-	-	24	-	-
	40,461	139	13,769	231,387	4,450	4,176
Joint venture						
Asankakao Medical Data Co., Ltd.	403	-	-	-	-	-
Other related parties						
Kakao Impact Foundation	224	-	-	-	-	9,226
K Cube Holdings	46	11	-	-	-	-
Brian Impact Foundation	44	2	-	-	-	-
Gamers Foundation	-	-	2	-	-	-
LKMS Limited	30	-	-	-	-	-
Tapas Media Korea Inc.	-	-	-	251	-	-
	343	13	2	251	-	9,226
	₩ 41,206	152	13,771	231,638	4,450	13,402

[1] It was included to a subsidiary of the Group during 2021, and the transaction amount before the inclusion is presented.

[2] Received dividends of ₩ 4,255 million from Dunamu Inc. and ₩ 131 million from JASON GROUP Co.,Ltd. in 2021, and the dividends amount is included in the above table.

[3] The Group disposed of 38,073 shares of Sixshop and reclassified the remaining equity shares to financial assets at fair value through other comprehensive income from an associate.

[4] The Group disposed all shares in 2021, and the transaction amount up to the date of disposal is presented.

40. Related Parties Transactions, Continued

Transactions with the related parties for the years ended December 31, 2022 and 2021 and the receivables from and payables to the related parties as of December 31, 2022 and 2021, are as follows:

Receivables and Payables

(in millions of Korean won)

	2022				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables	Non-trade payables	Other payables
Associates					
YANADU.	₩ -	-	15	24	-
CLAIR, Inc.	-	-	-	2	-
CNT TECH CO., LTD.	8	-	88	291	-
Deleo Korea Co., Ltd.	-	-	-	2	-
DGT mobility.	-	-	-	164	-
D&C MEDIA CO.,LTD.	-	-	2,014	211	-
Doctor Brain Culture Industry Special Purpose Company Ltd.	61	-	-	-	-
DREAMSIDE Culture Industry Special Purpose Company Ltd.	-	-	400	-	-
DAIWAON. C. I. INC	19	-	723	149	30
DOZEN CO.,LTD	61	-	-	842	-
325E&C co,ltd.	-	-	2,588	-	22
G&G ENTERPRISE CO.,LTD.	-	-	-	22	-
Haksan Publinshing Co., Ltd.	-	-	2,607	192	2
Wyatt co., Ltd	109	-	100	1,223	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	3	-	-	-	-
JASON GROUP Co., Ltd.	-	-	-	100	-
KakaoBank Corp.	1,570	-	155,663	1,245	7,424
mycelebs, inc	-	-	325	90	-
Stage five Co., Ltd.	627	-	-	-	372
Socialbean Co., Ltd	7	-	-	406	1
Super Comics.	-	1,000	569	200	-
SEOUL MEDIA.INC.	-	-	982	259	-
Tide Square Co., Ltd.	11	-	24	1,841	-
HUMART COMPANY(TROST)	-	-	-	6	-
CULTUREHERO	-	-	-	20	-
Cleaning Lab	-	-	-	130	-
Leferi	-	-	-	47	-
Neptune Co., Ltd.	-	-	-	44	-
Highup Entertainment	-	-	2,431	-	24
Kakao Growth Hacking Fund	477	-	-	-	-
Nimble Neuron	-	-	2,787	307	-
MUSTIT. CO., Ltd.	3	-	-	-	-
Daeyoung Chaevi CO., Ltd	-	-	-	23	-
Square Lab Inc.	-	-	-	6	2
HongKong TXKP Limited	-	380	-	-	-
Autonomous A2Z	-	-	1	-	-
Kakao Style Corp.	86	-	31	3,430	-
Force Teller	-	-	-	-	-
TNK Factory	2	-	-	11	-
Carrot Market	29	-	34	-	-
Time&Co	-	-	-	46	-
THE ANT	-	-	149	204	100
Metaverse Entertainment	-	-	113	-	-

Grip Company	₩	32	-	4,865	1,420	773
MORE VISION CO., LTD.		-	-	457	-	-
Entertainment JohAlarm Cultural Industry Company Ltd.		-	-	2,010	-	-
D&C WEBTOON BIZ		4	-	2,437	1,679	-
Fixel Hub co,ltd.		-	-	17	-	-
PERSONA		-	-	-	-	-
threepoint		3	50	50	-	-
Ocean Drive Studio Co., Ltd.		-	10,000	10,348	-	-
Reality Magic		-	-	427	11	-
MAGNET		-	-	-	29	-
Second Dive		-	-	2,800	-	-
NEW WAVE COMMERCE		-	-	-	1	-
K Cube NEO Fund		259	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund		1,212	-	-	-	-
Teins Valley		-	-	-	2	-
TheCheat Corp.		-	-	-	11	-
GRAYGO Corp.		14	-	-	16	200
Catchers Cultural Industry Company Ltd.		-	-	280	-	-
Nautilus		-	-	-	10	-
Kakao-Shinhan 1st TNYT Fund		96	-	-	-	-
GC Social Marketing Inc.		-	-	-	16	-
Ad X plus Co., Ltd		345	-	-	-	-
e.Form Works		-	-	-	-	1
TEEware		-	-	-	211	-
Tangram Factory, inc.		-	-	-	-	-
Girl Rivers Cultural Industry Company Ltd.		-	-	530	-	-
Korea Payment Networks Limited		-	-	-	1	-
Chengdu Podoteng Technology Co., Ltd.		2,078	-	-	-	4,764
		7,117	11,430	195,866	14,945	13,714
Other related parties						
Kakao Impact Foundation		15	-	239	-	42
K Cube Holdings Co., Ltd.		-	-	393	-	2,071
Brian Impact Foundation		19	-	1,266	-	249
Colorverse Inc.		-	-	-	-	-
GAMERS FOUNDATION		-	-	-	-	-
		34	-	1,898	-	2,362
	₩	7,151	11,430	197,764	14,945	16,076

(in millions of Korean won)

	2021				
	Receivables			**Payables**	
	Trade receivables	**Loans**	**Other receivables**	**Non-trade payables**	**Other payables**
Associates					
YANADOO Co., Ltd.	₩ 7	-	-	13	-
4ukids	1,289	-	39	1	-
CLAIR, Inc.	-	-	-	9	-
C&T Tech	44	-	-	350	-
Deleo Korea Co.,Ltd.	-	-	-	1	-
DGT Mobility Corp.	-	-	-	92	-
D&C MEDIA CO.,LTD	-	-	2,212	898	-
Dunamu Inc.	-	-	-	22	-
Doctorbrain SPC Ltd	-	-	400	-	-
Dreamside SPC Ltd.	-	-	400	-	-
DAIWAON. C. I. INC	-	-	701	344	-
DOZEN CO.,LTD	39	-	400	292	-

EDAM Entertainment Corp	₩	-	-	2,567	2,557	127
325 E&C		-	-	3,756	-	22
G&G Enterprise Co Ltd		-	-	-	18	-
Haksan Publinshing Co.Ltd		-	-	2,003	708	-
Wyatt co., Ltd (formerly, Hasys co.,ltd)		389	-	129	1,571	14
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.		165	-	1,392	-	-
JASON GROUP Co.,Ltd.		-	-	-	84	-
KakaoBank Corp.		1,085	-	31,655	1,218	8,543
MANNACEA		-	-	-	13	-
Mycelebs		-	-	541	165	-
Stagefive Co. Ltd		215	-	22	-	42
Social bean		3	-	-	91	-
Super Comics studio		-	-	321	163	-
Seoul Media Comics		-	-	865	569	-
Three Point Inc.		3	50	-	-	-
TIDESQUARE		-	-	-	602	-
Dr.Kitchen		-	-	-	54	-
Futurewiz		169	-	-	-	-
Humart Company Co.,Ltd		1	-	-	3	2
Second Dive Corp		-	-	2,800	-	-
Culture hero		-	-	-	17	-
Life Lab		-	-	-	86	-
Leferi		-	-	-	5	-
Neptune Co., Ltd.		-	-	-	27	26
Highup Entertainment		-	-	807	-	9
K Cube Neo Fund		314	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund		1,319	-	-	-	-
Kakao Growth Hackng Fund		489	-	-	-	-
Nimble Neuron		149	-	2,771	-	-
Magnet		-	-	-	23	22
MUSTIT. CO., Ltd.		3	-	-	-	-
Daeyoung Chaevi CO., Ltd 2,3		-	-	-	9	-
Square Lab		-	-	-	24	-
Reality Magic		-	-	1,150	-	-
HongKong TXKP Limited		-	1,067	-	-	-
Autonomous A2Z		-	-	-	-	-
LUXROBO CO., LTD.		-	-	-	1	-
Kakao Style Corp.		48	-	-	1,258	-
Force Teller		-	-	-	2	-
TNK Factory		2	-	-	-	-
Carrot Market		-	-	22	-	-
Automanics		-	-	-	-	3
Japle Co., Ltd.		-	-	-	9	-
		5,734	1,117	54,953	11,299	8,810
Joint venture						
Asankakao Medical Data Co., Ltd.		33	-	-	-	-
Other related parties		-	-	-	-	-
Gamers Foundation		-	-	-	-	-
Kakao Impact Foundation		12	-	-	-	6
K Cube Holdings		-	-	478	-	2,571
Brian Impact Foundation		-	-	119	-	17
LKMS Limited		-	-	68	-	-
		45	-	665	-	2,594
	₩	5,779	1,117	55,618	11,299	11,404

40. Related Parties Transactions, Continued

Loans arising from related parties for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

	2022								
		Loan transactions					Finance lease transactions [1]		
	Contributions (Collections)	Beginning balance	Changes in scope of consolidation	Loans	Repayment	Ending balance	Loans [1]	Amortization	Collection
Associates									
threepoint	₩ -	50	-	-	-	50	-	-	-
Ocean Drive Studio Co., Ltd.	-	-	-	10,000	-	10,000	-	-	-
HongKong TXKP Limited	-	1,067	-	-	(687)	380	-	-	-
Super Comics.	-	-	-	1,000	-	1,000	-	-	-
Kakao Growth Hacking Fund [2]	3,200	-	-	-	-	-	-	-	-
KakaoBank Corp.	-	-	-	-	-	-	93,082	2,982	6,774
Grip Company	-	-	-	-	-	-	4,817	89	413
TEEware	-	-	-	-	-	-	80	1	7
Helios KDBC Video Digital Contents No. 1 [2]	2,202	-	-	-	-	-	-	-	-
Neptune Co., Ltd. [3,5]	110,346	-	-	-	-	-	-	-	-
UTC Kakao SK Telecom ESG Fund [2]	4,000	-	-	-	-	-	-	-	-
Loadstars [2]	67	-	-	-	-	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund [4]	(2,550)	-	-	-	-	-	-	-	-
GC Social Marketing Inc. [2]	2,561	-	-	-	-	-	-	-	-
Atwater Capital Partners I,L.P.[2]	470	-	-	-	-	-	-	-	-
	120,296	1,117	-	11,000	(687)	11,430	97,979	3,073	7,194
Other related parties									
Brian Impact Foundation	-	-	-	-	-	-	1,266	13	137
K Cube Holdings Co., Ltd.	-	-	-	-	-	-	393	9	85
	-	-	-	-	-	-	1,659	23	222
	₩ 120,296	1,117	-	11,000	(687)	11,430	99,638	3,096	7,416

40. Related Parties Transactions, Continued

[1] The amount represents the ending balance of lease receivables to be received by maturity under the sub-lease agreement with the related party in 2022.

[2] The Group additionally acquired through capital increase with consideration during 2022.

[3] Converted to 1,135,202 common shares as exercising conversion right during 2022.

[4] The Group recovered some of the principal of investment through the first distribution during 2022.

[5] During 2022, acquired 6,913,540 new shares as consideration through the merger and acquisition of Ad(x) Inc.

40. Related Parties Transactions, Continued

(in millions of Korean won)

	2021								
		Loan transactions					Finance lease transactions		
	Contributions (Collections)	Beginning balance	Changes in scope of consolidation	Loans	Exclusion from related parties	Ending balance	Loans [1]	Amortization	Collection
Associates									
Three Point Inc.	₩ -	50	-	-	-	50	-	-	-
HongKong TXKP Limited	-	-	1,066	-	-	1,066	-	-	-
TAPAS MEDIA, INC.	-	-	-	10,170	(10,170)	-	-	-	-
13MILE.CO.LTD	-	450	-	-	(450)	-	-	-	-
KakaoBank Corp.	-	-	-	-	-	-	1,994	36	1,945
Radish Media, Inc. [2]	16,459	-	-	-	-	-	-	-	-
Kakao-Shinhan 1st TNYT Fund	3,582	-	-	-	-	-	-	-	-
Kakao Growth Hacking Fund [2]	9,600	-	-	-	-	-	-	-	-
DAUM Venture Fund [3]	(6,047)	-	-	-	-	-	-	-	-
UNION K-Culture Contents Investment Fund [2]	2,500	-	-	-	-	-	-	-	-
Stagefive Co. Ltd [2]	2,000	-	-	-	-	-	-	-	-
Ocean Drive Studio Co., Ltd. [2]	9,498	-	-	-	-	-	-	-	-
DOZEN CO.,LTD [2]	52	-	-	-	-	-	-	-	-
Force Teller [2]	4,000	-	-	-	-	-	-	-	-
	41,645	500	1,066	10,170	(10,620)	1,116	1,994	36	1,945
Other related parties									
Brian Impact Foundation	-	-	-	-	-	-	119	2	12
K Cube Holdings Co., Ltd.	-	-	-	-	-	-	478	11	85
	-	-	-	-	-	-	597	13	97
	₩ 41,645	500	1,066	10,170	(10,620)	1,116	2,591	49	2,042

[1] The amount represents the initial balance of lease receivables to be received by maturity under the sub-lease agreement with the related party.

[2] The Group additionally acquired through capital increase with consideration in 2021.

[3] The Group recovered some of the principal of investment through the fifth and sixth distributions in 2021.

40. Related Parties Transactions, Continued

Key management compensation

The compensation paid or payable to key management for the years ended December 31, 2022 and 2021 consists of:

(in millions of Korean won)		2022	2021
Salaries	₩	2,340	4,702
Retirement benefit expense		87	132
Other long-term employee benefits		12	31
Share-based payments		2,472	9
	₩	4,910	4,874

41. Information for Non-controlling Interests

(1) Changes in accumulated non-controlling interests

The profit or loss allocated to non-controlling interests and accumulated non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)	2022						
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Investment by non-controlling interests and disposal of shares	Others	Accumulated non-controlling interests at the end of the year
Kakao Games Corp.	58.60	₩ 1,150,543	(70,678)	-	57,145	(140,222)	996,788
Kakaopay Corp.	53.10	957,911	11,867	-	19,810	45,629	1,035,218
Kakao Entertainment Corp.	26.40	599,167	(156,901)	-	4,655	47,937	494,858
Kakao Mobility Corp.	42.70	355,986	(11,711)	-	2,501	148,430	495,207

41. Information for Non-controlling Interests, Continued

(1) Changes in accumulated non-controlling interests, continued

(in millions of Korean won)

	2021						
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Investment by non-controlling interests and disposal of shares	Others	Accumulated non-controlling interests at the end of the year
Kakao Games Corp.	56.40	₩ 561,783	299,322	-	350,145	(60,707)	1,150,543
Kakaopay Corp.	52.70	103,251	(32,647)	-	936,234	(48,927)	957,911
Kakao Entertainment Corp.	26.30	153,606	(5,771)	-	478,282	(26,950)	599,167
Kakao Mobility Corp.	42.50	58,589	8,756	-	325,451	(36,810)	355,986
Kakao M Corp. [1]	-	182,640	881	-	(185,487)	1,966	-

[1] Merged by Kakao Entertainment Corp. and extinguished in 2021.

(2) Summarized financial information on subsidiaries

Set out below is summarized financial information for each subsidiary that has non-controlling interests that are material to the Group. The amounts disclosed for each subsidiary are before inter-company eliminations.

41. Information for Non-controlling Interests, Continued

Summarized consolidated statements of financial position

(in millions of Korean won)	2022			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Current assets	₩ 1,057,387	2,259,816	607,662	621,334
Non-current assets	2,816,555	315,950	2,846,622	925,206
Assets of financial services business	-	755,764	-	-
Current liabilities	267,339	873,830	1,489,036	276,811
Non-current liabilities	1,591,709	98,849	346,214	126,702
Liabilities of financial services business	-	450,625	-	-
Equity	₩ 2,014,893	1,908,225	1,619,034	1,143,028

(in millions of Korean won)	2021			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Current assets	₩ 1,151,685	2,292,025	570,021	700,073
Non-current assets	3,152,502	187,031	3,141,638	387,897
Assets of financial services business	-	953,653	-	-
Current liabilities	842,725	844,443	1,396,666	132,321
Non-current liabilities	1,040,972	118,148	164,658	122,217
Liabilities of financial services business	-	674,481	-	-
Equity	₩ 2,420,491	1,795,638	2,150,335	833,432

Summarized consolidated statements of comprehensive income

(in millions of Korean won)	2022			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Revenue	₩ 1,147,693	521,671	1,864,791	483,692
Profit (loss) for the year	(196,108)	26,795	(629,795)	(27,695)
Other comprehensive income (loss)	(209,030)	2,580	61,314	(1,036)
Total comprehensive income (loss)	₩ (405,138)	29,375	(568,480)	(28,731)

(in millions of Korean won)	2021			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Revenue	₩ 1,012,481	458,647	1,246,879	320,308
Profit (loss) for the year	520,158	(33,863)	29,798	27,078
Other comprehensive income (loss)	218,103	221	38,924	(916)
Total comprehensive income (loss)	₩ 738,261	(33,642)	68,722	26,162

41. Information for Non-controlling Interests, Continued

Summarized consolidated statements of cash flows

(in millions of Korean won)	2022			
	Kakao Games Corp.	**Kakaopay Corp.**	**Kakao Entertainment Corp.**	**Kakao Mobility Corp.**
Cash flows from operating activities	₩ 133,825	(56,866)	(44,597)	96,998
Cash flows from investing activities	(963,585)	383,359	(138,474)	(298,344)
Cash flows from financing activities	644,073	(3,482)	151,884	(31,054)
Net increase (decrease) in cash and cash equivalents	(185,687)	323,011	(31,187)	(232,400)
Cash and cash equivalents at beginning of year	808,676	1,140,415	239,614	622,992
Effects of exchange rate changes on cash and cash equivalents	3,781	83	2,832	-
Cash and cash equivalents at end of year	₩ 626,770	1,463,509	211,258	390,592

(in millions of Korean won)	2021			
	Kakao Games Corp.	**Kakaopay Corp.**	**Kakao Entertainment Corp.**	**Kakao Mobility Corp.**
Cash flows from operating activities	₩ 234,268	156,659	60,640	38,715
Cash flows from investing activities	(798,638)	(996,778)	(760,709)	(67,368)
Cash flows from financing activities	826,136	1,595,553	917,174	587,111
Net increase (decrease) in cash and cash equivalents	261,766	755,434	217,105	558,458
Cash and cash equivalents at beginning of year	567,230	384,962	22,079	64,483
Effects of exchange rate changes on cash and cash equivalents	(320)	20	429	-
Cash and cash equivalents at end of year	₩ 828,676	1,140,415	239,614	622,941

41. Information for Non-controlling Interests, Continued

(3) Transactions with non-controlling interests

Effects of transactions with non-controlling interests on the equity attributable to owners of the Parent Company for the years ended December 31, 2022 and 2021, are as follows:

(in millions of Korean won)		2022	2021
Capital increase of a subsidiary [1,2]	₩	21,204	1,608,987
Others[3]		(44,343)	12,736
Net effect on equity	₩	(23,138)	1,621,722

[1] During 2022, Kakao Games Corp., a subsidiary, decided to increase capital through allotment to a third party. Total amount of the capital increase is ₩ 196,634 million. As a result, the Group's interests in Kakao Games Corp. decreased from 43.6% to 41.4%. Due to the above transaction, the non-controlling interest increased by ₩ 155,648 million as of the date of capital increase and the share capital attributed to the owners of the Group increased by ₩ 40,986 million.

[2] During 2021, Kakaopay Corp., a subsidiary, decided to participate in the unequal capital increase of Kakao Pay Securities Co. As a result, the Group's interests in Kakao Entertainment Corp. increased from 63.3% to 67.4%. Due to the above transaction, the non-controlling interest increased by ₩ 19,849 million as of the date of capital increase and the share capital attributed to the owners of the Group decreased by ₩ 19,849 million.

[3] During 2022, Kakao Games Corp., a subsidiary, acquired an additional interest in Lionheart Studio, a subsidiary of Kakao Games Corp. As a result of the above transaction, non-controlling interest decreased by ₩ 98,506 million and equity attributable to owners of the Group decreased by ₩ 63,542 million.

42. Events After the Reporting Period

Pursuant to the resolution of the board of directors' meeting held on January 19, 2023 and February 9, 2023, the Group disposed of 1,981 and 1,242 shares of treasury stock, respectively, for the purpose of employee bonuses on January 26, 2023 and February 22, 2023.

Pursuant to the resolution of the board of directors' meeting held on March 6 ,2023. The Group has decided to tender its common shares of SM Entertainment Co., Ltd. ("SM") at a price of ₩ 150,000 per share. The number of shares to be purchased is 8,333,641 (approximately 35.0% of SM's outstanding shares). As of March 7, 2023, the date of submission of the tender offer notification, the Group held 1,167,400 shares of SM common stock (holding ratio of 4.9%). After the tender offer, the Group will hold 9,501,041 shares of SM common stock (holding ratio of 39.9%) (assuming full purchase of the tender offer). The tender offer period is from March 7, 2023 to March 26, 2023 (settlement date March 28, 2023).

Kakao Entertainment Corp., a subsidiary of the Parent Company, decided to issue a third-party allotment capital increase, through the resolution of the board of directors' meeting held on January 11, 2023. The capital increase will be carried out in two tranches and 4,523,354 common shares will be issued at a price of ₩ 255,116 per share, with an expected payment of ₩ 1.15 trillion. On February 24, 2023, the first payment of ₩ 898 billion corresponding to 3,518,166 common shares was made.

43. Restatement of Consolidated Financial Statements

The Group has identified misstatements and retrospective adjustments in the consolidated financial statements as of and for the year ended December 31, 2022 that require revisions to revenue, operating expenses and other current liabilities, and the Group has restated the consolidated financial statements to reflect these corrections and retrospective adjustments as the impact on the consolidated financial statements is material. The "Previously Reported Amounts" below are the amounts previously reported in the audited consolidated financial statements as approved on March 20, 2023, when those consolidated financial statements were initially issued.

(1) Nature of retrospective adjustments (a) to the consolidated financial statements

The Group had been recognizing commission revenues and expenses related to the taxi franchise business on a gross basis. However, during the course of the examination by the Financial Supervisory Service, the Group became aware of the unclear interpretation of K-IFRS 1115 regarding the recognition of such revenues, which made it difficult to determine whether the gross or net presentation clearly complies with the accounting standards. Therefore, the Group management decided to respect the judgment of the Financial Supervisory Service, which is the authoritative interpreter of K-IFRS, and changed the accounting treatment of commission revenues and expenses related to the taxi franchise business from the gross method to the net method in order to avoid unnecessary misunderstanding or confusion by the users of accounting information. As a result, revenue and operating expenses decreased by the same amount and net assets remained unchanged.

43. Restatement of Consolidated Financial Statements, Continued

(2) Nature of restatements to the consolidated financial statements

(b)	①Impacted financial statement items	Deferred tax assets, other current liabilities, deferred tax liabilities, (financial) other long-term employee benefit obligations, capital surplus, retained earnings, non-controlling equity, operating expenses (salaries), income tax expense, equity attributable to the equity holders of the Parent Company, non-controlling interest
	②Reason for the change	The Group had not recognized other employee liabilities for accrued but unused long service leave.
	③Restatements	(Consolidated statements of financial position) ①As of December 31, 2022 Understatement of deferred tax assets 160million-won Understatement of other current liabilities 37,389million-won Overstatement of deferred tax liabilities 7,636million-won Understatement of (financial)other long-term employee benefit liabilities 502million-won Understatement of capital surplus 469million-won Overstatement of retained earnings 27,967million-won Overstatement of non-controlling equity 2,598million-won ②As of December 31, 2021 Understatement of deferred tax assets 5,000million-won Understatement of other current liabilities 26,909million-won Overstatement of deferred tax liabilities 292million-won Understatement of (financial)other long-term employee benefit liabilities 22million-won Understatement of capital surplus 402million-won Overstatement of retained earnings 20,154million-won Overstatement of non-controlling equity 1,887million-won (Consolidated comprehensive income) ①Year 2022(current period) Understatement of operating expense 10,960million-won Overstatement of corporate tax expense 2,504million-won Overstatement of equity holders of the Parent Company 7,813million-won Overstatement of non-controlling interest 644million-won ②Year 2021(previous period) Understatement of operating expense 7,033million-won Overstatement of corporate tax expense 1,363million-won Overstatement of equity holders of the Parent Company 4,838million-won Overstatement of non-controlling interest 831million-won
	④Accounting standards	K-IFRS 1019 paragraphs 153, 155, 156

43. Restatement of Consolidated Financial Statements, Continued

(2) Nature of restatements to the consolidated financial statements, continued

(c)	①Impacted financial statement items	(Current) derivative financial liabilities, retained earnings, finance costs (losses on valuation of derivatives), equity attributable to the equity holders of the Parent Company
	②Reason for the change	The Group had granted a put option to a third party shareholder of a subsidiary, but had not recognized the derivative for the put option.
	③Restatements	(Consolidated statements of financial position) ①As of December 31, 2022 Understatement of (current)derivative financial liabilities 24,503million-won Overstatement of retained earnings 24,503million-won (Consolidated comprehensive income) ①Year 2022(current period) Understatement of finance cost(Derivative valuation losses) 24,503million-won Overstatement of equity holders of the Parent Company 24,503million-won
	④Accounting standards	K-IFRS 1109 paragraphs 3.1.1, 5.1.1
(d)	①Impacted financial statement items	Deferred tax liabilities, accumulated other comprehensive income (loss), retained earnings, income tax expense, remeasurement of net defined benefit obligations, gains and losses on equity instruments at fair value through other comprehensive income (loss), share of other comprehensive income(loss) of associates, foreign currency translation adjustments, equity attributable to the equity holders of the Parent Company
	②Reason for the change	The Group used a tax rate different from the rate prescribed in the current tax law in calculating the deferred tax liability.
	③Restatements	(Consolidated statements of financial position) ①As of December 31, 2022 Overstatement of deferred tax liabilities 38,418million-won Understatement of retained earnings 37,376million-won Understatement of other accumulated comprehensive income 1.042million-won (Consolidated comprehensive income) ①Year 2022(current period) Overstatement of corporate tax expense 37,376million-won Understatement of other comprehensive income 1,042million-won Understatement of equity holders of the Parent Company 38,148million-won
	④Accounting standards	K-IFRS 1012 paragraphs 47, 51

43. Restatement of Consolidated Financial Statements, Continued

(3) Consolidated financial statements (restated)

(3)-1 Consolidated Statements of Financial Position

① As of December 31, 2022

(in millions of Korean won)	Notes		Previously Reported Amounts	Changes in amounts(b)	Changes in amounts(c)	Changes in amounts(d)	Restated Amounts
Assets							
Current assets		₩	7,755,733	-	-	-	7,755,733
Non-current assets			14,450,931	160	-	-	14,451,091
Deferred income tax assets	24		493,820	160	-	-	493,980
Assets of financial services business			756,828		-	-	756,828
Total assets		₩	22,963,492	160	-	-	22,963,652
Liabilities							
Current Liabilities		₩	5,148,327	37,389	24,503	-	5,210,219
Derivative financial liabilities	5,7,26		9,573	-	24,503	-	34,075
Other current liabilities	14		1,764,354	37,389	-	-	1,801,743
Non-current liabilities			3,843,929	(7,636)	-	(38,418)	3,797,874
Deferred income tax liabilities	24		652,641	(7,636)	-	(38,418)	606,586
Liabilities of financial services business			439,373	502	-	-	439,876
Other long-term employee benefit liabilities	23		2,342	502	-	-	2,845
Total liabilities		₩	9,431,629	30,255	24,503	(38,418)	9,447,969
Equity							
Equity attributable to owners of the Parent Company		₩	9,997,276	(27,497)	(24,503)	38,418	9,983,694
Share capital	1,27		44,592	-	-	-	44,592
Share premium	27		8,115,902	469	-	-	8,116,372
Other components of equity	29		41,031	-	-	-	41,031
Accumulated other comprehensive income(loss)	30		(1,250,708)	-	-	1,042	(1,249,666)
Retained earnings	31		3,046,458	(27,967)	(24,503)	37,376	3,031,365
Non-controlling interests	41		3,534,587	(2,598)	-	-	3,531,989
Total equity		₩	13,531,862	(30,095)	(24,503)	38,418	13,515,683
Total liabilities and equity			22,963,492	160	-	-	22,963,652

43. Restatement of Consolidated Financial Statements, Continued

(3)-1 Consolidated Statements of Financial Position, continued

② As of December 31, 2021

(in millions of Korean won)	Notes		Previously Reported Amounts	Changes in amounts(b)	Restated Amounts
Assets					
Current assets		₩	8,102,194	-	8,102,194
Non-current assets			13,711,985	5,000	13,716,986
Deferred income tax assets	24		71,920	5,000	76,920
Assets of financial services business			965,379	-	965,379
Total assets		₩	22,779,559	5,000	22,784,559
Liabilities					
Current Liabilities		₩	5,630,274	26,909	5,657,183
Other current liabilities	14		1,720,987	26,909	1,747,896
Non-current liabilities			2,885,094	(292)	2,884,802
Deferred income tax liabilities	24		756,812	(292)	756,520
Liabilities of financial services business			674,218	22	674,240
Other long-term employee benefit liabilities	23		1,020	22	1,042
Total liabilities		₩	9,189,586	26,639	9,216,225
Equity					
Equity attributable to owners of the Parent Company		₩	9,984,380	(19,752)	9,964,628
Share capital			44,641	-	44,641
Share premium	27		7,781,245	402	7,781,648
Other components of equity	29		77,070	-	77,070
Accumulated other comprehensive income(loss)	30		371,825	-	371,825
Retained earnings	31		1,709,599	(20,154)	1,689,445
Non-controlling interests	41		3,605,593	(1,887)	3,603,706
Total equity			13,589,972	(21,639)	13,568,334
Total liabilities and equity		₩	22,779,559	5,000	22,784,559

43. Restatement of Consolidated Financial Statements, Continued

(3)-2 Consolidated Statements of Comprehensive Income (restated)

① 2022

(in millions of Korean won)

	Notes		Previously Reported Amounts	Changes in amounts(a)	Changes in amounts(b)	Changes in amounts(c)	Changes in amounts(d)	Restated Amounts
Revenue	6,11	₩	7,106,837	(307,789)	-	-	-	6,799,048
Operating expenses	32		6,526,521	(307,789)	10,960	-	-	6,229,692
Operating profit			580,316	-	(10,960)	-	-	569,356
Other non-operating income	33		2,013,527	-	-	-	-	2,013,527
Other non-operating expenses	33		1,111,461	-	-	-	-	1,111,461
Finance income	34		342,770	-	-	-	-	342,770
Finance costs	34		463,160	-	-	24,503	-	487,663
Share of income of associates and joint venture	16		100,294	-	-	-	-	100,294
Share of loss of associates and joint venture	16		157,923	-	-	-	-	157,923
Profit before income tax	6		1,304,363	-	(10,960)	(24,503)	-	1,268,900
Income tax expense	24		241,786	-	(2,504)	-	(37,376)	201,906
Profit for the year	6	₩	1,062,578	-	(8,457)	(24,503)	37,376	1,066,994
Equity holders of the Parent Company			1,352,936	-	(7,813)	(24,503)	37,376	1,357,996
Non-controlling interest			(290,358)	-	(644)	-	-	(291,002)
Other comprehensive income			(1,730,837)	-	-	-	1,042	(1,729,794)
Total comprehensive income(loss) for the year		₩	(668,259)	-	(8,457)	(24,503)	38,418	(662,800)
Equity holders of the Parent Company			(268,602)	-	(7,813)	(24,503)	38,418	(262,499)
Non-controlling interest			(399,657)	-	(644)	-	-	(400,301)
Earnings per share to the equity holders of the Parent Company								
Basic earnings per share (In Korean won)	35	₩	3,106	-	(18)	(56)	86	3,118
Diluted earnings per share (In Korean won)	35		3,055	-	(18)	(55)	84	3,066

43. Restatement of Consolidated Financial Statements, Continued

(3)-2 Consolidated Statements of Comprehensive Income (restated), continued

② 2021

(in millions of Korean won)	Notes		Previously Reported Amounts	Changes in amounts(a)	Changes in amounts(b)	Restated Amounts
Revenue	6,11	₩	6,136,669	(226,156)	-	5,910,513
Operating expenses	32		5,541,752	(226,156)	7,033	5,322,629
Operating profit			594,917	-	(7,033)	587,884
Other non-operating income	33		1,733,429	-	-	1,733,429
Other non-operating expenses	33		407,247	-	-	407,247
Finance income	34		177,819	-	-	177,819
Finance costs	34		315,317	-	-	315,317
Share of income of associates and joint venture	16		596,401	-	-	596,401
Share of loss of associates and joint venture	16		86,308	-	-	86,308
Profit before income tax	6		2,293,694	-	(7,033)	2,286,661
Income tax expense	24		647,540	-	(1,363)	646,177
Profit for the year	6	₩	1,646,153	-	(5,669)	1,640,484
Equity holders of the Parent Company			1,392,152	-	(4,838)	1,387,314
Non-controlling interest			254,001	-	(831)	253,170
Other comprehensive income			431,801	-	-	431,801
Total comprehensive income(loss) for the year		₩	2,077,954	-	(5,669)	2,072,285
Equity holders of the Parent Company			1,691,423	-	(4,838)	1,686,584
Non-controlling interest			386,532	-	(831)	385,701
Earnings per share to the equity holders of the Parent Company						
Basic earnings per share	35	₩	3,221	-	(11)	3,210
Diluted earnings per share	35		3,146	-	(11)	3,135

43. Restatement of Consolidated Financial Statements, Continued

(3)-3 Consolidated Statements of Changes in Equity (restated)

(in millions of Korean won)	Previously Reported Amounts				Changes in amounts(b)		
	Share premium	Accumulated other comprehensive income (loss)	Retained earnings	Non-controlling interest	Share premium	Retained earnings	Non-controlling interest
Balance at January 1, 2021 ₩	5,833,100	86,577	316,325	1,128,809	96	(15,316)	(750)
Comprehensive income	-	285,247	1,406,176	386,532	-	(4,838)	(831)
Profit for the year	-	-	1,392,152	254,001	-	(4,838)	(831)
Other comprehensive income	-	285,247	14,023	132,531	-	-	-
Transactions with equity holders	1,948,145	-	(12,902)	2,090,252	307	-	(307)
Change in ownership interest over subsidiaries	1,621,416	-	-	1,925,932	307	-	(307)
Balance at December 31, 2021 ₩	7,781,245	371,825	1,709,599	3,605,593	402	(20,154)	(1,887)
Balance at January 1, 2022 ₩	7,781,245	371,825	1,709,599	3,605,593	402	(20,154)	(1,887)
Comprehensive income	-	(1,622,533)	1,353,931	(399,657)	-	(7,813)	(644)
Profit for the year	-	-	1,352,936	(290,358)	-	(7,813)	(644)
Other comprehensive income	-	(1,622,533)	996	(109,299)	-	-	-
Transactions with equity holders	334,657	-	(17,072)	328,651	67	-	(67)
Change in ownership interest over subsidiaries	(23,205)	-	-	101,796	67	-	(67)
Balance at December 31, 2022 ₩	8,115,902	(1,250,708)	3,046,458	3,534,587	469	(27,967)	(2,598)

43. Restatement of Consolidated Financial Statements, Continued

(3)-3 Consolidated Statements of Changes in Equity (restated), continued

(in millions of Korean won)	Changes in amounts(c)	Changes in amounts(d)		Restated Amounts			
	Retained earnings	Accumulated other comprehensive income (loss)	Retained earnings	Share premium	Accumulated other comprehensive income (loss)	Retained earnings	Non-controlling interest
Balance at January 1, 2021 ₩	-	-	-	5,833,196	86,577	301,009	1,128,059
Comprehensive income	-	-	-	-	285,247	1,401,337	385,701
Profit for the year	-	-	-	-	-	1,387,314	253,170
Other comprehensive income	-	-	-	-	285,247	14,023	132,531
Transactions with equity holders	-	-	-	1,948,452	-	(12,902)	2,089,946
Change in ownership interest over subsidiaries	-	-	-	1,621,722	-	-	1,925,625
Balance at December 31, 2021 ₩	-	-	-	7,781,648	371,825	1,689,445	3,603,706
Balance at January 1, 2022 ₩	-	-	-	7,781,648	371,825	1,689,445	3,603,706
Comprehensive income	(24,503)	1,042	37,376	-	(1,621,491)	1,358,992	(400,301)
Loss for the year	(24,503)	-	37,376	-	-	1,357,996	(291,002)
Other comprehensive income	-	1,042	-	-	(1,621,491)	996	(109,299)
Transactions with equity holders	-	-	-	334,724	-	(17,072)	328,584
Change in ownership interest over subsidiaries	-	-	-	(23,138)	-	-	101,729
Balance at December 31, 2022 ₩	(24,503)	1,042	37,376	8,116,372	(1,249,666)	3,031,365	3,531,989

(3)-4 Consolidated statement of cash flow

The retrospective adjustments and correction of misstatements in the consolidated financial statements described above have no direct impact on the consolidated statements of cash flows. Certain disclosures related to consolidated statements of cash flows in Note 37 have been updated accordingly.

REGISTERED AND HEAD OFFICE OF THE COMPANY

Kakao Corp.
242, Cheomdan-ro
Jeju-si, Jeju-do
Korea

TRUSTEE AND REGISTRAR

Citicorp International Limited
40/F Champion Tower
Three Garden Road
Central
Hong Kong

PRINCIPAL AGENT

Citibank, N.A., London Branch
Citigroup Centre
Canada Square
London E14 5LB
United Kingdom

LEGAL ADVISERS

To the Company as to U.S. and English law

Paul Hastings LLP
33rd Floor, West Tower
Mirae Asset Center 1
26 Eulji-Ro 5-Gil, Jung-Gu
Seoul 04539
Korea

To the Company as to Korean law

Shin & Kim LLC
23F, D-Tower (D2)
17 Jongno 3-gil, Jongno-gu
Seoul 03155
Korea

To the Manager as to U.S. and English law

Linklaters LLP
22/F East Tower
Mirae Asset Center 1
26 Eulji-ro 5-gil, Jung-gu
Seoul 04539
Korea

To the Manager as to Korean law

Kim & Chang
Seyang Building
39 Sajik-ro 8-gil, Jongno-gu,
Seoul 03170
Korea

To the Trustee as to English law

Linklaters
11/F Alexandra House
Chater Road
Central
Hong Kong

INDEPENDENT ACCOUNTANTS OF THE COMPANY

KPMG Samjong Account Corp.
Gangnam Finance Center, 27F
152, Teheran-ro, Gangnam-gu
Seoul 06236
Korea

Samil PricewaterhouseCoopers
100 Hangang-daero
Yongsan-gu
Seoul 04386
Korea

SINGAPORE LISTING AGENT

Shook Lin & Bok LLP
1 Robinson Road
#18-00 AIA Tower
Singapore 048542

kakao