2018

ANNUAL REPORT

KDB Bank

CONTENTS

Formats

This report is published in both printed and PDF formats, giving our stakeholders the option to choose their preferred communication format.

Print

Interactive PDF

You can download this report on our website at www.kdb.co.kr

Since its founding in 1954, Korea Development Bank has been the backbone of the development of the economy and the financial industry in Korea. In an era of continuing challenge and rapid change, KDB is now transforming its traditional role as Korea’s leading policy finance institution to create an ecosystem for innovative industries, and support the 4th Industrial Revolution.

In this annual report, we share how we are building a broad platform for innovative, global, and sustainable growth.

Financial Highlights

Summary Statement of Financial Position

(Unit: KRW billion; Consolidated basis)

	2018	2017	Change	
			Amount	%
ASSETS	260,076.2	263,811.7	(3,735.5)	(1.4)
Cash & due from banks	8,730.0	8,235.5	494.5	6.0
Securities	77,412.0	75,713.8	1,698.2	2.2
Loans	142,936.0	143,224.1	(288.1)	(0.2)
Other assets	30,998.2	36,638.3	(5,640.1)	(15.4)
LIABILITIES	225,822.7	230,240.9	(4,418.2)	(1.9)
Deposits	33,949.2	34,300.1	(350.9)	(1.0)
Borrowings	26,379.5	28,692.7	(2,313.2)	(8.1)
Bonds	123,175.4	120,228.0	2,947.4	2.5
Other liabilities	42,318.6	47,020.1	(4,701.5)	(10.0)
EQUITY	34,253.4	33,570.8	682.6	2.0
Issued capital	18,108.1	17,938.1	170.0	0.9
Capital surplus	813.8	1,058.4	(244.6)	(23.1)
Retained earnings	10,518.9	9,827.1	691.8	7.0
Capital adjustments	316.4	324.6	(8.2)	(2.5)
Accumulated other comprehensive income	24.7	694.5	(669.8)	(96.4)
Non-controlling interest	4,471.5	3,728.1	743.4	19.9

Credit Ratings

Equivalent to the sovereign ratings of the Republic of Korea

* As of December 31, 2018

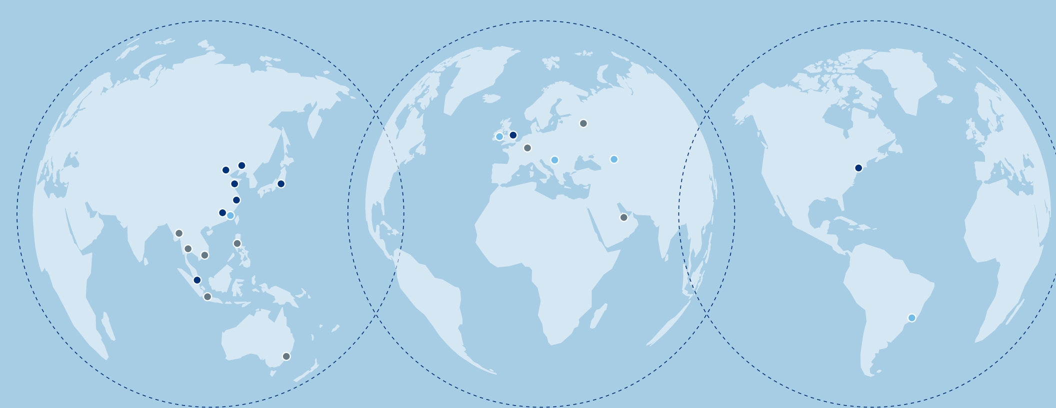
Aa2	AA	AA-
Moody's	S&P	Fitch

Summary Statement of Income

(Unit: KRW billion; Consolidated basis)

	2018	2017	Change	
			Amount	%
Net operating revenue	3,603.4	3,929.5	(326.1)	(8.3)
Net interest income	2,081.2	2,254.3	(173.1)	(7.7)
Non-interest income	1,522.2	1,675.2	(153.0)	(9.1)
Provision for credit losses	(372.3)	1,371.9	(1,744.2)	(127.1)
G&A expenses	1,709.6	1,790.3	(80.7)	(4.5)
Operating income	2,266.1	767.3	1,498.8	195.3
Non-operating income	(1,087.3)	778.4	(1,865.7)	(239.7)
Income tax expenses	472.8	982.3	(509.5)	(51.9)
Net profit	706.0	563.4	142.6	25.3

Global Network



9	5	9
Overseas Branches	Subsidiaries	Representative Offices

Since its founding in 1954, Korea Development Bank has been the backbone of the development of the economy and the financial industry in Korea. In an era of continuing challenge and rapid change, KDB is now transforming its traditional role as Korea's leading policy finance institution to create an ecosystem for innovative industries, and support the 4th Industrial Revolution.

In this annual report, we share how we are building a broad platform for innovative, global, and sustainable growth.

Message from the Chairman & CEO

Dear Clients and Readers,

2019 is a momentous year for the Korea Development Bank (KDB) as it celebrates the 65^{th} anniversary of its founding. I would like to express my deep appreciation to our clients, readers and stakeholders for the trust and unwavering support over the years that enabled us to come this far.

Last year was a meaningful time for KDB as we continued to fulfill our policy financing mandate while serving as a financial control tower for Korea's innovation-driven growth, leading to a total funds provision of KRW 67 trillion. At the same time, KDB strengthened its financial soundness by marking yet another profitable year.

In order to promote growth drivers for the future of the Korean economy, we launched the Innovation & Growth Banking Center in charge of financially supporting the country's innovative growth efforts and preparing for the 4^{th} Industrial Revolution. We also bolstered the operations of our market-driven venture investment platform, the KDB NextRound, taking the lead in building a financial ecosystem for innovative ventures and start-ups.

Approximately 68% of the total funds supplied in 2018 were concentrated on Small and Medium Enterprises (SMEs) to reinforce our support for these corporate segments. As for companies under our restructuring portfolio, we applied principle-based normalization procedures appropriate for each, and were able to overcome some of the most critical restructuring challenges weighing down the economy. Most importantly, however, 2018 proved to be a turning point to really focus our competencies in driving the innovative growth of Korea.

The business environment we face in 2019 calls for even greater endeavors. The ongoing trade conflicts among major economies and increasing protectionism across the world are threatening the competitiveness of the country's traditional mainstay industries and amplifying uncertainties.

Against this backdrop, KDB will work toward the economy's new leap by supporting innovative companies that show creativity and technological potential while uncovering new growth engines, thus creating an environment that would enable a smooth generational shift to take place among existing companies.

With this in mind, we have set following goals for 2019 to tackle the tasks assigned to us and to create a brighter future for KDB and Korea.

First, we will lead a future-oriented finance.

In response to the escalating competition in today's fast changing financial ecosystem, KDB will expand its financial services that customize to clients' diversifying needs by leveraging the strength in corporate and investment banking. We will introduce new financial techniques, develop new products, and adopt network-based financing to further enhance our business capacity while strengthening competencies in the capital markets.

In order to secure growth engines for the future and renew vitality of the economy, we will also reinforce our function as a platform that supports Korea's innovative ventures. This will include capturing firms with new business models through the credit appraisal system tailored to innovation-driven companies engaged in new industries, expanding KDB NextRound and special on-lending, all aimed at solidifying the foundation to discover start-ups in their early developing stages. We hope that these new attempts will lay a rich foundation for the country's innovative growth.

Second, we will concentrate on improving the fundamentals of the economy by supporting SMEs and strengthening the competitiveness of major industries.

To better serve the needs of companies in different growth phases, we plan to extend the existing financial products with tailored services. We will cultivate the grounds for innovative companies that show great potential to grow, and at the same time, continue to support SMEs with greater magnitude.

Through various programs, mainly the KDB Global Challengers 200 and KDB-Tech program, we plan to provide extensive financial packages, ranging from consulting services to comprehensive financial solutions, to carefully selected MEs and pre-MEs with outstanding technology and growth potential to help them become globally competitive companies. In addition, we will encourage constructive partnership among the country's large companies, MEs and small-scale ventures by bolstering vehicles such as the Mutual Growth Fund.

Third, we will lead the advancement of Korea's financial industry and increase our social role in policy finance.

KDB will strengthen its local network in Asia to solidify business foundation and build up competitiveness in the region with a particular focus on growing ASEAN countries. By invigorating the current business matrix between the headquarters and our global bases, we will uncover and broaden our participation in project financing, cross-border financing, and other high-return opportunities. Not only will we stand by and support the Korean SMEs' expansion into overseas markets but firmly establish our reputation as a truly global KDB competing on the global stage.

In order to promote corporate responsibilities, we seek to expand special financial products for job creation and enterprises with strong social values. Moreover, we will facilitate socially responsible investments including climate projects as an implementing entity of the Green Climate Fund and issuance of sustainability bonds. Finally, we will make preparations for any inter-Korean economic cooperation, thereby providing the national economy a great opportunity for advancement.

As Korea's leading policy finance institution, KDB has been at the forefront of the Korean economy over the last 65 years, successfully performing a role that is distinctive from other financial institutions. In 2019, every one of our staff in KDB will make committed efforts to fulfill our roles in policy finance, thus opening the door to the next 30 years of KDB.

On behalf of all of us at KDB, I would like to thank you for the confidence you have placed in us and ask for your continued trust and support.

Lee, Dong Gull

Chairman & CEO
Korea Development Bank

Board of Directors & Senior Management

KDB strives to create values for the benefit of its stakeholders through a responsible and transparent management system which is made possible by its advanced governance.

BOARD OF DIRECTORS

Lee, Dong Gull
Chairman & CEO

Sung, Joo Yung
Vice Chairman & COO

Seo, Cheol Hwan
Auditor

1. **Lee, Dong Gull**
   Chairman & CEO
2. **Yang, Chae Yeol**
   Independent Director
3. **Choi, Bhang Gil**
   Independent Director
4. **Lee, Yune**
   Independent Director
5. **Seo, Cheol Hwan**
   Auditor
6. **Kim, Jung Sik**
   Independent Director
7. **Sung, Joo Yung**
   Vice Chairman & COO
8. **Kim, Nam Jun**
   Independent Director

SENIOR MANAGEMENT : DIVISION HEADS

Chang, Byoung Don
Innovation & Growth Banking Division

Oh, Jin Kyo
SME Banking Division

Choi, Dae Hyon
Corporate Banking Division

Cho, Seung Hyun
International Business Division

Lim, Maeng Ho
Capital Market Division

Bae, Young Un
Credit Review Division

Yang, Ki Ho
Risk Management Division

Kim, Keon Yeol
Strategy & Planning Division

Baek, In Gyun
Business Administration Division

2018 Business Highlights

INNOVATIVE GROWTH

GLOBAL GROWTH

SUSTAINABLE GROWTH

Strengthened a Platform for

Innovative Growth

KDB NextRound

KDB further strengthened its market-oriented investment platform, KDB NextRound, and thus contributed to creating an ecosystem for SMEs and start-ups. Since its launch in August 2016, a total of 215 rounds of KDB NextRound were held and 738 innovative companies have undertaken investor relations (IR) activities with an aim of harnessing growth opportunities.

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KDB Research & Business Development (R&BD) Financial Support Program

KDB contributed to facilitating the R&BD ecosystem for SMEs and start-ups through the KDB R&BD Financial Support Program which establishes a virtuous cycle in the development, transfer, and commercialization of their technologies. The program is run in partnership with the Korean government, government-funded research institutes, and the academic sector. As of the end of 2018, funds totaling KRW 22.9 billion (KRW 89.8 billion including associated investments) have been provided to 13 companies.

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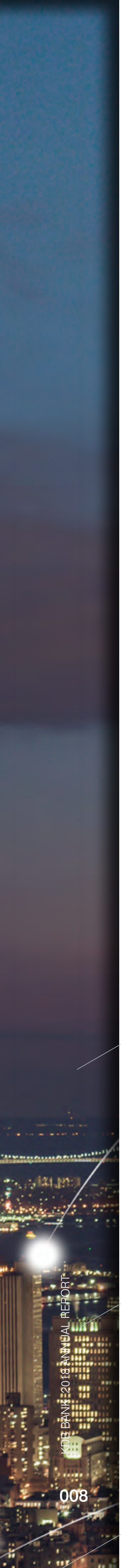
Growth Support Fund

KDB continued to increase funding to support the scale-up of innovative companies. In particular, we established the 'Growth Support Fund' in 2018 to focus investments into companies in the growth or exit stages of their development. Having established 18 funds totaling KRW 2.9 trillion in 2018, we plan to step the size up to KRW 8 trillion over the next 2 years.

P. 23



Strengthened fundamentals for growth acceleration

Built solid foundations for sustainable policy finance In 2018, KDB took the lead in building an innovative start-up ecosystem. We increased our support for SMEs and MEs, thereby improving the fundamentals of the Korean economy. Even with our expanded roles in policy finance, we continued to maintain an annual surplus and stable financial status.

We made diverse efforts in maintaining our capital adequacy and profitability. We strived to keep our BIS capital adequacy ratio at a stable level and strengthened profitability by focusing on asset soundness. KDB will continue to focus on further enhancing its financial soundness and ensuring a stable revenue base, which in turn will enable it to seamlessly perform the policy finance roles demanded at a time of constant change.

260,076.2

Assets
(KRW billion)

18,108.1

Issued capital
(KRW billion)

14.80

Capital adequacy ratio
(%)

706.0

Net Profit
(KRW billion)

Aa2, AA, AA-

Credit ratings
by Moody's, S&P, and Fitch, respectively

* As of December 31, 2018

Supported the growth of innovative industries

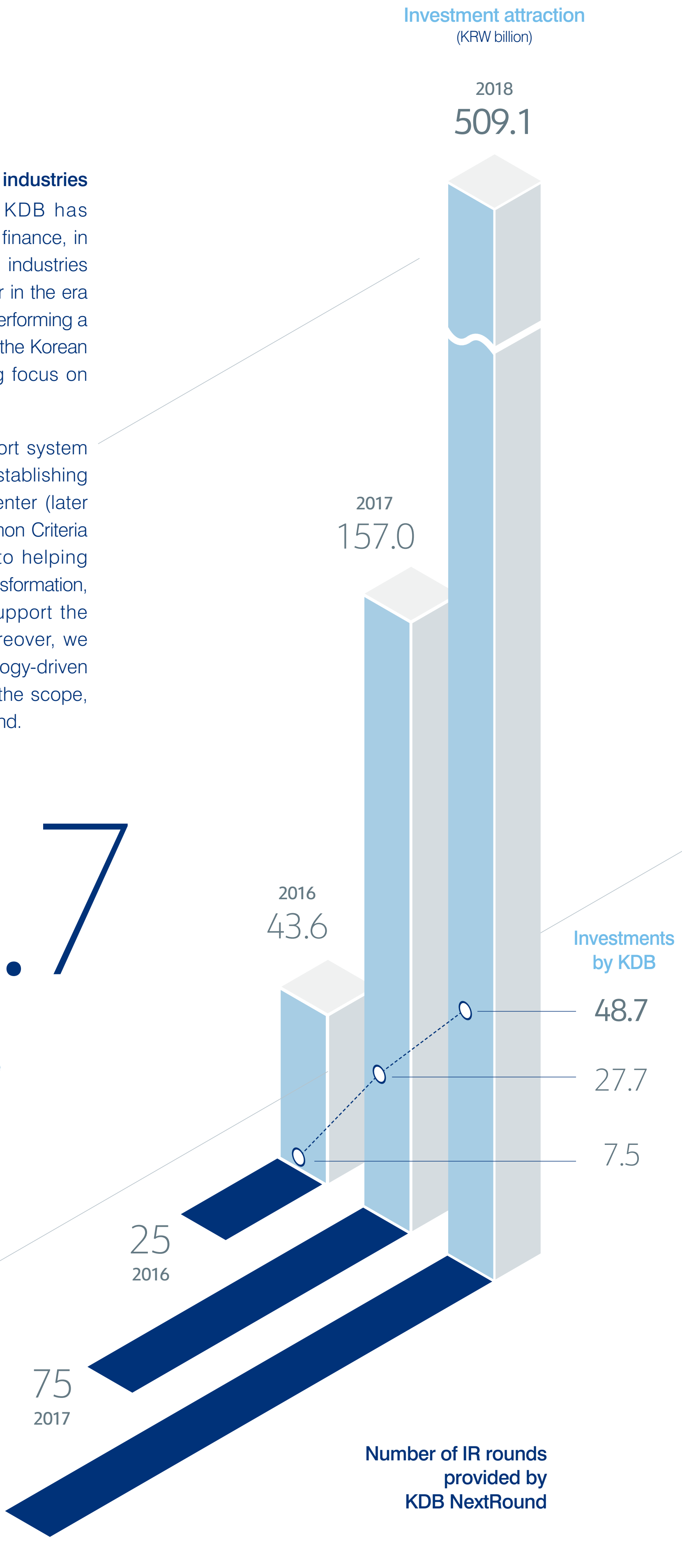
Since its establishment in 1954, KDB has successfully fulfilled its roles in policy finance, in step with the development of national industries and the Korean economy. As we usher in the era of the 4th Industrial Revolution, KDB is performing a pioneering role in the transformation of the Korean economy towards an ever-increasing focus on digital innovation.

In 2018, KDB built an efficient support system for the 4th Industrial Revolution by establishing the Innovation & Growth Banking Center (later upgraded to a Division) and the Common Criteria for Innovative Growth. In addition to helping traditional industries with their digital transformation, we provided KRW 12.3 trillion to support the new, future-oriented industries. Moreover, we strengthened our support for technology-driven innovative companies by expanding the scope, frequency, and targets of KDB NextRound.

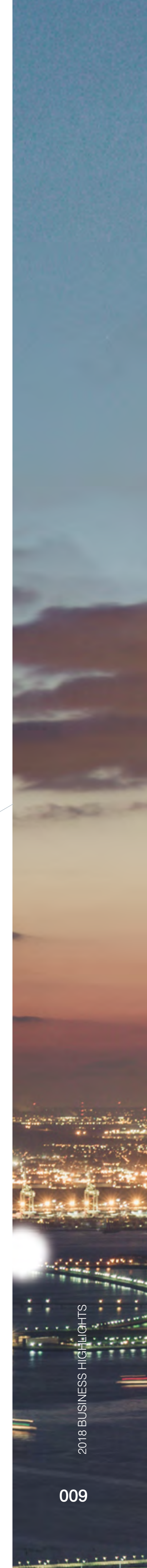
709.7

KRW billion

A total of 738 innovative companies have undertaken 215 rounds of IR activities, with 130 of them attracting a combined total of KRW 709.7 billion



- Investment attraction
- Investments by KDB
- Number of IR rounds provided by KDB NextRound




Manulife
SAMSUNG
HITACHI

Expanded a Platform for

Global Growth

Expanded the KDB global network

KDB constantly expands its overseas network in order to help Korean companies grow their overseas businesses, and to lead the globalization of the Korean financial industry. In 2018, we established the Asia Regional Head Office in Singapore and set up establishment plans for the Jakarta Representative Office, in efforts to expand our Southeast Asian network in accordance with the government's New Southern Policy.

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Supported the globalization of Korean companies

KDB supports the globalization of Korean companies with outstanding technologies and strong growth potential. KDB fulfilled this role in 2018 by providing financing to the companies entering overseas markets, and by expanding its financial arrangement and advisory services for overseas project finance. We also helped Korean companies enter the overseas infrastructure business through leveraging the Global Infrastructure Fund (GIF) and the Global Infrastructure Venture Fund (GIVF).

P. 24. 26

Identified new business opportunities in overseas markets

KDB is committed to becoming 'Global KDB' competing on a global scale. We therefore continuously identify new business opportunities in overseas markets. In particular, we focused our efforts on expanding cross-border financing for non-residents, thereby securing offshore operating assets totaling USD 9.4 billion in 2018, with a year-on-year increase of 14.6%. We also acted as lead arrangers for various international bond offerings in 2018, including hybrid and green bonds issued by Korean issuers.

P. 26

Expanded Korea's global footprints

Diversified sources of foreign currency funding Despite challenging conditions in 2018, we successfully launched a number of public offerings in the global capital market, thereby proving the trust that our investors have placed in us. After the successful issuance of global bonds in March 2018, we also issued EUR-denominated bonds and Samurai bonds, which enabled us to further diversify our sources of funding. These activities by KDB have established favorable market conditions and advantageous benchmarks for other Korean issuers.

800 million

Issuance of EUR 800 million worth of EUR-denominated bonds

EUR

1,750 million

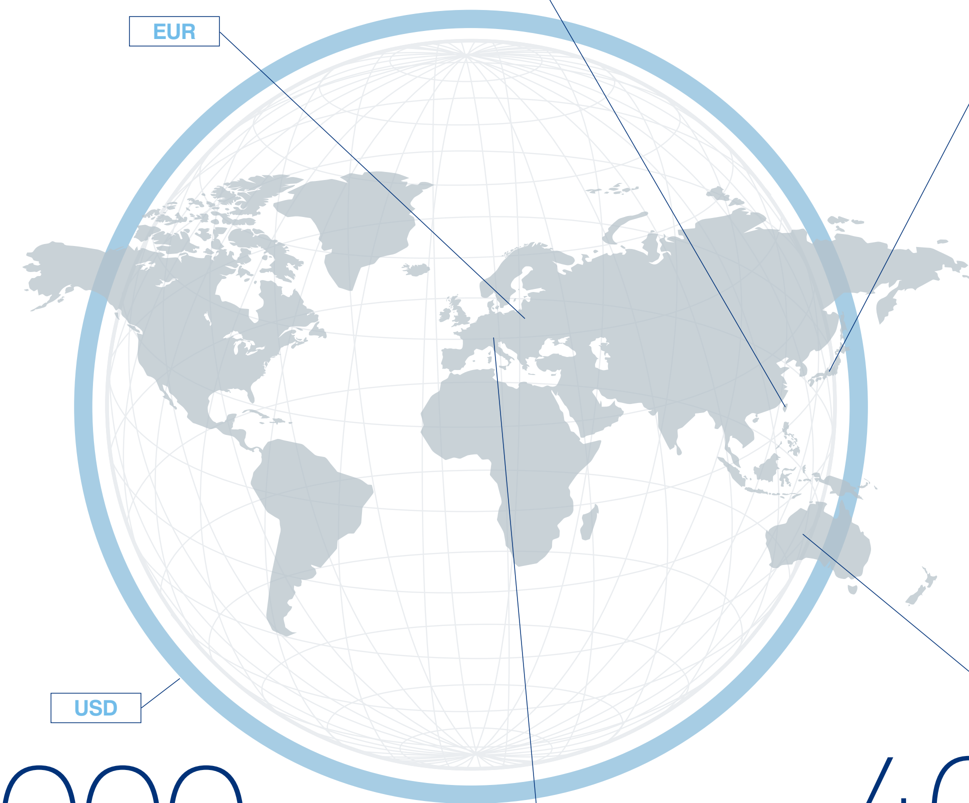
Issuance of CNY 1,750 million worth of Formosa bonds

CNY

50 billion

Issuance of JPY 50 billion worth of Samurai bonds

JPY



USD

1,000 million

Issuance of USD 1,000 million worth of global bonds

CHF

200 million

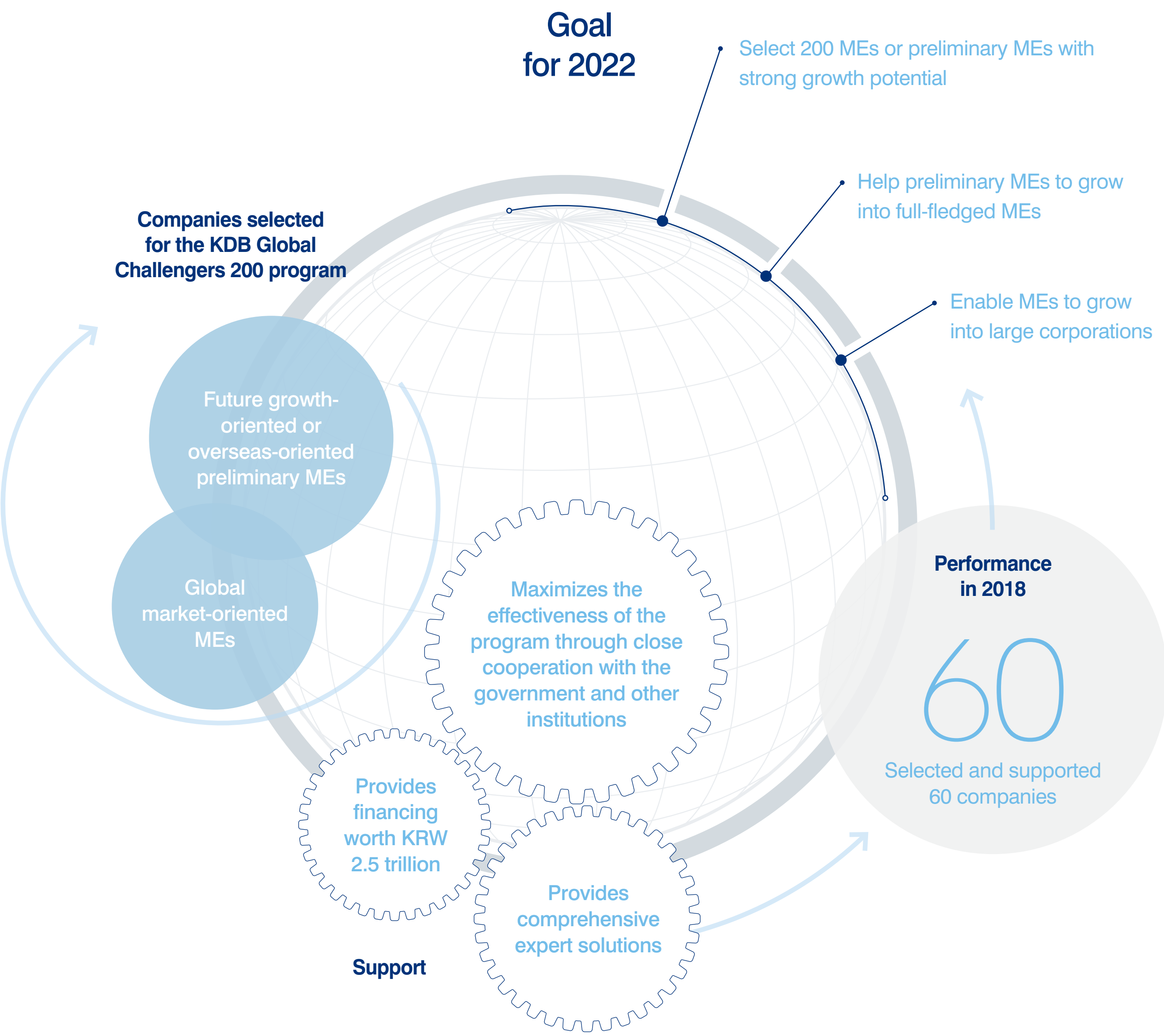
Issuance of CHF 200 million worth of CHF-denominated bonds

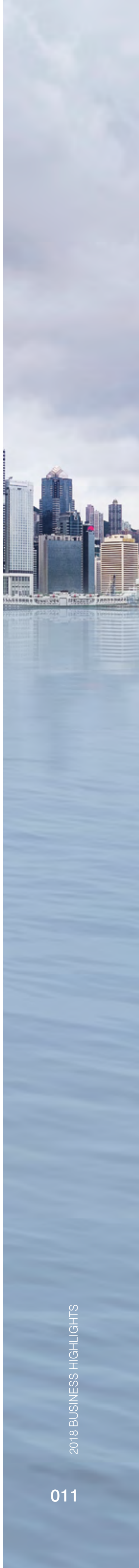
AUD

400 million

Issuance of AUD 400 million worth of Kangaroo bonds

Supported global growth of Korean SMEs and MEs As Korea's leading policy finance institution and a partner for the stable growth of SMEs and MEs, KDB is committed to helping them enhance their global competitiveness. We launched the KDB Global Challengers 200 program in 2018 to help preliminary MEs and MEs with strong growth potential to grow into world-leading companies. We provided comprehensive financial services including consulting to 60 companies in 2018, and expect to provide support to 200 companies by 2022.





Created a Platform for

Sustainable Growth

Community Healing

As a member of local communities, KDB undertakes a range of social contribution activities. Our corporate social responsibility policy commits us to continuous and sincere participation in volunteer activities. Since 1996, the KDB family volunteer group has been run through voluntary participations from our employees and their families, lending a helping hand to people in need for more than 20 years. Moreover, the KDB Foundation helps young people, retirees, and other vulnerable members of our society set up their own businesses. It also provides direct support to the underprivileged at home and abroad, contributing to the welfare of local communities around the world.

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Socially Responsible Financing

KDB is committed to promoting socially responsible investing (SRI) and other types of sustainable finance to support economic, environmental, and social coexistence. KDB ensures that projects funded by KDB reflect social values and meet global environmental requirements as an Implementing Entity of the Green Climate Fund (GCF) accredited for the first time among Korean institutions, and as the first Korean financial institution to adopt the Equator Principles. In addition, we drive healthy, robust growth of the Korean economy by increasing support for social enterprises and job creation, and through Mutual Growth Funds formed in partnership with large corporate groups.

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Knowledge Sharing

KDB supports the development of society by sharing the knowledge it has accumulated as Korea's leading policy finance institution. We actively support the Knowledge Sharing Program (KSP) of the Ministry of Economy and Finance, by sharing our expertise on policy finance with public officials and employees of financial institutions from emerging nations. We also run an annual program to develop the next-generation ethnic Korean leaders in Central Asia; as well as nurturing global talent, this program also contributes to forming friendly bilateral relations between Korea and Central Asian nations.

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Created shared values through finance

Promoted socially responsible financing KDB became the first Korean entity to issue KRW-denominated green bond and social bond in 2018, thereby contributing to the development of socially responsible finance market in Korea. The proceeds from the green bond will be used to support the low-carbon green projects in Korea, while the proceeds from the social bond will be used to help resolve social issues in Korea, including job creation, in line with international guidelines on social bonds. As such, finance is more than a tool for generating profits for KDB, but instead we use it as a way to resolve social issues and build a sustainable society, thus performing a pioneering role in socially responsible finance in Korea.

Oct. 2018
Issued the first KRW-denominated social bond in Korea

May 2018
Issued the first KRW-denominated green bond in Korea

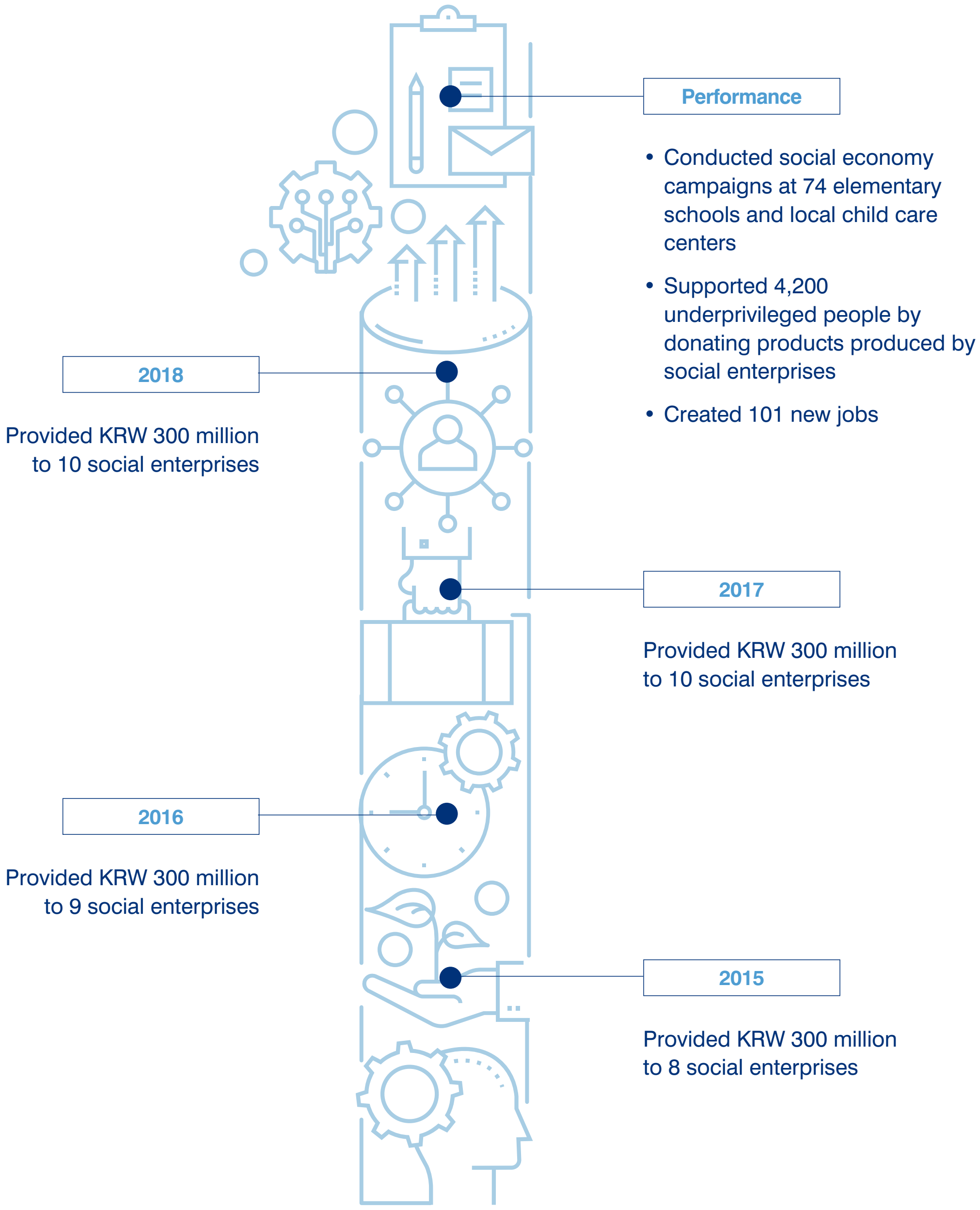
Jun. 2017
Issued KDB's first foreign currency-denominated green bond

Jan. 2017
Became the first Korean financial institution to adopt the Equator Principles

Dec. 2016
Accredited as an Implementing Entity of the Green Climate Fund (GCF) for the first time among Korean institutions

FIRST

Supported the social economy KDB helps the underprivileged start their own businesses and also supports social enterprises that contributes to job creation, with the goal of establishing an ecosystem that will allow the social economy to take root. As part of these efforts, the KDB Foundation has provided support to social enterprises since 2015, and encourages them to invest into facilities and business development. In 2018, it provided KRW 300 million to 10 social enterprises, and also offered business mentoring tailored to each company's specific requirements. The Foundation has supported 37 companies over the last four years, for a total of KRW 1.2 billion.



AS ONE

05

Financial Engine of Korea's Takeoff,

MISSION

Contribute to the Development of Korea's Financial Industry and Economy

VISION

GLOBAL KDB

As a leading financial institution in Korea, KDB has laid the foundation for the advancement of the national economy and the financial industry in each stage of Korea's economic development. KDB draws on the competence of all its employees in order to realize its vision of being the 'Financial Engine of Korea's Takeoff, Global KDB'.

STRATEGIES

- Lead innovative growth and the 4^{th} Industrial Revolution
- Spearhead the advancement of the financial industry
- Reinforce the Bank's role as a market safety net
- Build the foundation for sustainable policy financing
- Prepare for the reunification of Korea

Vision & Strategy

VISION

Financial Engine of Korea's Takeoff, Global KDB

KDB's mission is to contribute to the development of the financial industry and the national economy of Korea. To that end, KDB established its mid to long-term vision as being the 'Financial Engine of Korea's Takeoff, Global KDB'. The mission and vision of KDB will play a key role in the economic development of Korea by facilitating the growth of the real economy, as well as by spearheading the advancement of the financial industry.

STRATEGIES

KDB is committed to achieving its goals and mission based on the five mid to long-term management strategies as follows:

01 Lead innovative growth and the 4th Industrial Revolution

KDB aims to foster industries with growth potential and sustain growth momentum for the national economy through the supply of venture capital to technology and creativity-driven SMEs and innovative start-ups.

02 Spearhead the advancement of the financial industry

We will pioneer new markets on behalf of Korean financial institutions by building expertise and accelerating globalization, and play a leadership role in the advancement of the Korean financial industry.

03 Reinforce the Bank's role as a market safety net

We will bolster our market safety net role as Korea's representative financial institution, by preemptively instituting restructuring measures for companies and industries amid the global trend of slow growth and continued volatility.

04 Build the foundation for sustainable policy financing

We will strive to ensure sustainability — a prerequisite for undertaking our roles and missions as Korea's leading policy finance institution.

05 Prepare for the reunification of Korea

We launched the Reunification Business Department in 2015 to prepare for reunification with North Korea, building up necessary competencies by researching measures to scale up financial services for pre/post-reunification periods through business cooperation and personnel exchanges with relevant institutions.

CORE VALUES

We share with our stakeholders the five core values of trust, passion, collaboration, client focus, and market leadership to successfully realize our vision and mid to long-term strategies.

Trust

Build trust and earn the respect of clients and colleagues by achieving above and beyond our social responsibilities as a financial institution

Passion

Stay passionate and positive as we lead the development of the financial industry and facilitate the growth of the real economy

Collaboration

Ensure full cooperation among departments and employees to provide cutting-edge financial services

Client Focus

Understand diverse client needs to promote the success of our customers

Market Leadership

Explore new financial fields based on distinctive competitiveness

Management Plans for 2019

MANAGEMENT GOAL

Build on KDB's status as the leading policy finance institution in Korea by driving innovative growth and invigorating the national economy

KEY TASKS

01 Lead innovative growth to develop future growth drivers

- Create an ecosystem which facilitates innovative start-ups
- Increase financial support for business sectors driving innovative growth

02 Help SMEs/MEs and major industries become more competitive

- Help SMEs and MEs improve their competitiveness
- Help major industries improve their business structures and overall competitiveness
- Improve management efficiency of companies undergoing restructuring

03 Lead the advancement of the financial industry by leveraging global capital markets

- Increase local presence and build competitive advantages across Asia in line with the Korean government's New Southern Policy
- Expand cross-border finance for non-resident clients
- Widen the use of investment banking platform to facilitate corporate growth

04 Emphasize the social role of policy financing and prepare for a new economic era on the Korean Peninsula

- Pursue inclusive finance for SMEs/MEs and large corporations
- Focus more on socially responsible financing including job creation
- Research inter-Korean economic cooperation and the development of the North Korean economy, and establish internal and external collaboration systems

05 Build solid foundations for policy financing

- Improve financial soundness and secure stable sources of funding
- Expand tangible and intangible infrastructures needed to deliver future-oriented policy financing

In 2018, KDB fulfilled its role in policy financing by ensuring a constant and reliable supply of funding for industry, with a particular focus on SMEs & MEs as well as the industries of the future. We support innovative growth in the new era of the 4th Industrial Revolution, while enhancing stability and effectiveness in policy financing in order to ensure strong and sustainable growth of the national economy.

BUSINESS REVIEW

Corporate Banking & Restructuring

KDB facilitates the stable growth of Korean companies and leads the innovative growth of the national economy.

Corporate Banking

REVIEW OF 2018 KDB takes a leading role in policy finance in Korea, and supports the sustainable growth of the national economy. While offering customized financial services through its wide range of financial products, KDB proactively facilitates preemptive corporate structural adjustments and supports business realignments in an effort to create a more advanced industrial structure. By promoting the growth of medium-sized enterprises (MEs) and providing extensive financial support to the 4th Industrial Revolution-related companies, KDB advocates the enhancement of corporate competencies and the sustainable growth of the national economy.

Amid growing uncertainties in 2018, domestic companies have strived to cope with the changes towards the 4th Industrial Revolution. In response, KDB has reached out to the different needs of each company by providing sufficient funds for facility investments in core industries, and has also actively induced them to reorganize their businesses in order to secure new growth engines, thereby supporting the overall competitiveness improvement throughout the industry.

Moreover, the Bank has encouraged affiliates of corporate groups facing temporary liquidity problems to take preemptive restructuring measures. At the same time, based on systematic risk management, KDB provided effective financial tools to the companies in financial difficulty to prevent the crisis from spreading to the whole economy.

As Korea's leading policy finance institution, KDB plays an active role in shaping diverse economic and industrial policies, together with other government agencies and policy finance institutions.

Landmark deal of 2018

Comprehensive financial services for LG Display's facility investment

OVERVIEW

LG Display made facility investments into its OLED business as part of its business reorganization. KDB supported this investment by providing the client with a comprehensive range of financial services consisting of syndicated loan arrangement & participation, and green bond issuance & guarantee, totaling about KRW 1.1 trillion.

FEATURES

- Identified the corporate client's needs for large-scale facility investment and proactively proposed comprehensive financial services in response
- Provided financial services customized to the client needs to secure funding in both local and foreign currencies by arranging and providing loans in KRW and arranging the issuance of a green bond in foreign currency with the Bank's guarantee

SIGNIFICANCE

- Represents KDB's effective engagement in its corporate client's business reorganization efforts as well as facility investment in OLED business, a core area of the 4th Industrial Revolution
- Contributed to facilitating green finance in Korea as a policy bank and an Implementing Entity of the Green Climate Fund (GCF) by arranging the issuance of the first green bond of a Korean manufacturing company

While being at the forefront of creating an economic ecosystem for balanced growth between large corporations and SMEs & MEs through the win-win cooperation program, KDB has also continued its efforts to identify and provide financing to promising new MEs in order to expand its client base and contribute to job creation.

Of the total KRW 67.3 trillion of funds supplied by KDB in 2018, KRW 45.6 trillion, or 67.8% of the total, was provided to SMEs and MEs. In particular, KRW 0.5 trillion was funded through 'Mutual Growth Fund', a fund created specifically to boost the growth of SMEs and MEs. KDB also operates 'KDB Global Challengers 200', a program developed to foster the growth of MEs. The program aims to provide 200 MEs or preliminary MEs possessing outstanding technologies and growth potential with comprehensive services so that they can grow further into leading global companies. In 2018, 60 companies were selected and provided with consulting and comprehensive financial services.

Funds supplied

(Unit: KRW trillion)

67.3

Total funds supplied in 2018

Funds supplied to MEs*

2018	**24.0**
2017	21.4
2016	18.5

* MEs: Companies that neither fall under the legally defined scope of SMEs nor are affiliated to conglomerates restricted from cross-shareholdings

KDB Global Challengers 200

By growth phases	Preliminary MEs	Early-stage MEs	Growth-stage MEs
	Establishment of the basis for growth	R&D, domestic M&A, investment in new projects	Diversification of export markets, overseas M&A
Services on demand	· Loan · Equity · Equity-linked note	· Equity · Debt financing · M&A advisory	· Foreign direct investment · M&A advisory
By corporate characteristics	Future growth-oriented Overseas-oriented	Global market-oriented	

PLANS FOR 2019 In 2019, risk is expected to increase further with ongoing trade tensions and slowing global economy. In addition, ample liquidity within domestic companies and the robust growth of capital markets in Korea are likely to reduce companies' reliance on banks for capital, which will in turn further intensify competition in the corporate loan market.

KDB will stay focused on leading innovative growth and improving economic vitality. We will continue to help companies secure engines for future growth and improve their competitiveness, while at the same time boosting our own competencies in policy banking.

In this regard, we will continue with the 'KDB Global Challengers 200' program and select 40 more companies this year. We will also bring together MEs looking for new business opportunities and SMEs & ventures with innovative technologies in new growth fields, and provide additional financing where necessary. In addition, KDB will continue to make every effort in promoting the job creation at SMEs & MEs and support social enterprises through special financial products such as 'Job Creation Support Fund' and 'Socially Responsible Business Support Fund'.

Corporate Restructuring

REVIEW OF 2018 KDB acts as a safety net for the Korean economy and its major industries by supporting principle-based and efficient restructurings. In particular, the Bank proactively improves the business fundamentals and competitiveness of Korean companies by responding promptly to potential insolvencies at large corporate groups.

In 2018, KDB set up an optimal normalization plan for Kumho Tire through an in-depth financial and non-financial analysis of the company. We then laid the groundwork for normalization by attracting new outside investors following mediation between the conflicting interests of investors, labor unions, management, the government, and creditors. In the case of STX affiliates, KDB reacted to the unique circumstances of each affiliate through successful M&As and sales, thereby completing the restructuring works and reducing uncertainty. In addition, KDB has supplied liquidity to the market for corporate restructuring and contributed to building a foundation for market-driven restructuring by cooperating with other financial institutions.

PLANS FOR 2019 In 2019, KDB will continue to act as a market safety net based on its consistent corporate restructuring principles. In particular, we will leverage our extensive experience and expertise in corporate restructuring to encourage companies to engage in voluntary structural realignment and make financial improvements, thereby helping them to avoid insolvency and improve their competitiveness. For financially distressed companies, we will take prompt and efficient measures for an effective restructuring, which will not only enable companies to revive their operations but also contribute to revitalization of the Korean economy and industrial ecosystem.

Capital Markets

KDB will stay at the forefront of financial and industrial innovation as a global capital market player as well as a reliable capital arranger for businesses.

Debt Capital Markets

REVIEW OF 2018 KDB is the only bank in Korea with the license to arrange the domestic corporate bond issuances. On the back of this privilege, KDB arranges or underwrites the issuance of domestic securities, provides advisory services on structured finance and syndicated loans, and arranges the issuance of international bonds.

In 2018, KDB supplied a substantial amount of foreign currency to the Korean economy by arranging public offerings and private placements of corporate bonds in international markets. We have diversified our product line-up by arranging the issuance of increasingly popular hybrid and green bonds. We made a successful entry into the international green bond market by arranging the issuance of green bonds for Korea Hydro & Nuclear Power and LG Display worth USD 600 million and USD 300 million, respectively.

Following 2017, KDB also co-arranged the issuance of the Foreign Exchange Stabilization Bond worth USD 1 billion, strengthening its partnership with the Korean government and contributing to the external credibility of the Republic of Korea. Despite interest rate hikes in the U.S., the US-China trade dispute, and challenging conditions in emerging markets, the deal attracted the largest volume of subscription ever for the Bond, resulting in the lowest spread over the benchmark in history, while also enabling potential reduction in the cost of overseas borrowings for Korean issuers and extending the overall maturity of the nation's external debt.

Furthermore, KDB has strengthened its support for innovative growth of SMEs and MEs by leveraging the capital markets. We set up customized funding plans for underperforming businesses, and provided funds to SMEs and MEs with outstanding technologies to help them develop new businesses, which in turn contributed to strengthening the competitiveness of companies competing in the era of the 4th Industrial Revolution.

PLANS FOR 2019 In 2019, KDB aims to broaden its structured finance business overseas by leveraging its strategic partnerships with global financial institutions. It will also make inroads into new markets and increase its market share of green bond and hybrid bond space in order to continue its leading role in arranging foreign currency funding for domestic companies. In addition, KDB will offer debt capital market products specifically designed for new industries and SMEs & MEs in its efforts to support government policies on innovative growth. KDB will also offer structured products to improve companies' access to capital markets, as well as other products which cater to the specific characteristics of different industries and companies.

M&A

REVIEW OF 2018 KDB arranges financing for companies undertaking M&A as part of its financial advisory services to help them secure additional funds and improve their capital structure. In 2018, the Bank successfully advised on the sales of Kumho Tire, STX Engine, and STX Corporation, thereby playing its role in facilitating the restructuring of major industries in Korea. We also advised Asia Cement on its acquisition of Halla Cement, thus contributing to streamlining the domestic cement industry.

In addition, KDB advises SMEs and MEs on M&As in order to help them develop drivers for new growth. KDB arranged financing for Kolmar Korea's acquisition of CJ HealthCare, and the refinancing for Prostar Capital's takeover of Kyungnam Energy. The Bank provided financial advisory services to Baba Fashion in its takeover of Hiphoper, an online retailer, which enabled this medium-sized manufacturer of women's wear to move beyond the traditional manufacturing sector and to meet the challenges of the 4th Industrial Revolution. In addition, three more MEs signed up to join the 'M&A Growth Partnership'[1], an M&A platform developed specifically for SMEs and MEs. KDB was also active in global M&A markets, as it arranged financing for the acquisition of Nature's Care, an Australian company, by a Chinese private equity fund, and the acquisition of I-MED, also of Australia, by a British private equity fund.

PLANS FOR 2019 KDB will continue to focus its resources on helping SMEs and MEs secure drivers of new growth and offer one-stop advisory services tailored to new business through the 'M&A Growth Partnership' program. While also providing new growth companies and those operating in the 4th Industrial Revolution with M&A advisory services fit for different growth stages, KDB will partner with other related institutions to help them acquire new technology, overcome managerial challenges, and make exits on initial investments. Furthermore, KDB will facilitate cross-border M&As to help Korean companies secure new growth engines, and it will support the overseas expansion of Korean companies by sourcing more overseas targets through building stronger ties with global institutions and expanding its global networks.

1) A specially developed program to help SMEs and MEs with their M&A transactions by providing comprehensive services, ranging from consulting to the final execution

Consulting

REVIEW OF 2018 Since 2003, KDB has been involved with over 800 projects in a wide range of sectors, including management & financial consulting, public service & development consulting, and corporate turnarounds, as well as in-house and overseas consulting. In 2018, we focused on growth diagnostics and business strategy consulting for companies in the growth and maturity phases, as well as on corporate diagnostics and turnaround consulting for companies in financial distress. Another key focus was providing consulting services to companies selected for the 'KDB Global Challengers 200' program, with an aim to help them achieve innovative growth. In addition, KDB has built an online consulting platform which enables it to communicate more efficiently with SME and ME clients, and to react more promptly to their consulting needs.

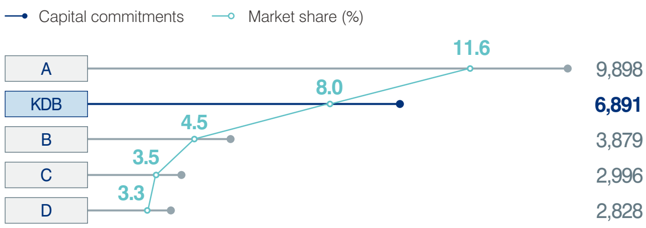
PLANS FOR 2019 KDB plans to utilize its online consulting platform to meet the growing demand from corporate clients for consulting services, and will tailor its services to each phase of the business life cycle. At a time of slowing growth in Korea, KDB will provide support to SMEs and MEs by offering high quality consulting services so that they can meet the challenges of the 4th Industrial Revolution.

Private Equity

REVIEW OF 2018 Since the beginning of its private equity business in January 2005, KDB has set up 28 private equity funds (PEFs) and built up an extensive track record in fund management, including buy-out, growth, and mezzanine financing. As of the end of 2018 Q3, total capital commitments amounted to KRW 6,890.6 billion with 16 funds under management. KDB ranks second in Korea by total funds committed, with a market share of approximately 8%.

Total capital commitments

(As of September 30, 2018; Unit: KRW billion)



In 2018, KDB formed the 'KDB Small & Medium Mezzanine PEF', size totaling KRW 150 billion, to provide funds to SMEs and MEs which need to reorganize their business portfolio and/or improve their financial structure. KDB also formed the 'Infrastructure Initiative 1st PEF', size totaling KRW 90 billion — the Bank's first blind pool fund to invest solely in the green & energy infrastructure projects. In addition, it utilized its existing 'KBS-KDB PEF' to nurture media contents development in Korea, and played a pioneering role in the Asian capital markets by partnering with International Finance Corporation (IFC) to invest in companies from emerging markets in Asia through the 'KDB Asia PEF'.

PLANS FOR 2019 The PEF market in Korea is expected to grow more slowly in 2019, and under the ample market liquidity and strong competition among blind pool fund managers, we expect a market more favorable for investee companies. Top-tier fund managers in Korea are accelerating their expansion overseas, with investments expected to be particularly robust in newly-developing and rapidly-growing Asian countries.

KDB plans to leverage its existing blind pool funds to build up quality assets in the 4th Industrial Revolution-related companies and infrastructure projects. This action will support innovative growth and job creation in the domestic economy by supplying long-term growth capital through PEFs. The Bank will also explore ways to increase rates of return and achieve higher payouts by enhancing the value of its existing portfolio and seeking early exits. This will also enable KDB to attract idle funds, and thus establish a virtuous cycle in the Korean capital market. Moreover, KDB will enhance its status in global capital markets by increasing its efforts to promote overseas investment and strengthen ties with other international organizations.

Innovation & Growth Banking

KDB will lead innovative growth in Korea by responding proactively to changes in markets and the demands of the 4th Industrial Revolution.

Leading Innovative Growth

To reestablish its policy banking role as the leading policy finance institution for innovative growth, KDB is reorganizing its functions to intensify its support for innovative ventures and start-ups. To this end, KDB elevated the Innovation & Growth Banking Center to a Division in January 2019, to bolster overall financial support for the 4th Industrial Revolution. KDB is also implementing a system to efficiently induce the transformation of industrial structure towards the 4th Industrial Revolution, and will continue to support and contribute to the acceleration of innovative growth by fostering future-oriented new industries. While creating an innovative start-up ecosystem by expanding its services for technology-orientated start-ups, KDB will strengthen its policy role in promoting innovative growth by increasing its support for the scale-up of innovative companies.

Establishing a System for the 4th Industrial Revolution

In 2018, KDB undertook a wide range of measures aimed at driving the growth of innovative companies that are vital in creating new jobs, and helping existing industries to embrace the 4th Industrial Revolution. Reflecting the latest global trends in technology and government policies, KDB established the 'Common Criteria for Innovative Growth', and based on these criteria, we specified 300 items of innovative growth, to effectively implement relevant support measures. In addition, KDB set up the 'Innovation Growth Intelligence System' in cooperation with other policy finance institutions in order to systematically analyze and report information on the 4th Industrial Revolution. This system will enable the continuous update of the Criteria, and will ensure effective policy finance implementation for innovative growth.

In 2019, driven by the 4th Industrial Revolution, we expect industrial convergence to intensify. Accordingly, KDB will strengthen its role as a communications channel between the Korean government and other policy finance institutions and will further improve cooperation with private financial institutions. We will seek to add to the Criteria new industries and technologies with strong potential, and provide new growth engines with financial services they need, thus contributing to the transformation of Korean economy towards an innovative growth-oriented industrial structure. The Innovation Growth Intelligence System will continue to be an analysis tool for innovative growth, and will be enhanced to become an integrated platform for the government, policy finance institutions, and private financial institutions.

Venture & Technology Banking

In line with the government policy towards developing innovative growth engines, KDB is actively engaging in the identification and promotion of promising technologies and companies through direct investments. In addition to direct investments into equity, convertible bonds (CBs), and bonds with warrants (BWs) of start-ups and SMEs with outstanding technologies and ideas, KDB operates special-purpose funds to support the growth of the domestic venture capital market. KDB launched the '2018 Hanhwa New Industry Global Plus-up Fund' in cooperation with KOTRA, raising KRW 50 billion to help innovative start-ups attract global investments and expand overseas. KDB is currently preparing to launch 'KDB-ME Open Innovation Fund II', size totaling KRW 20.1 billion, to promote mutual cooperation and growth of MEs and start-ups.

Launched in August 2016, ‘KDB NextRound’ is a market-driven venture investment platform connecting start-ups and SMEs with investors. Since its launch, a total of 738 innovative companies have undertaken 215 rounds of investor relations (IR) activities, with 130 of them attracting a combined total of KRW 709.7 billion. In addition, this platform has been improved by adding the ability to attract overseas venture capital, and by introducing companies according to their business types and geographical distributions. These qualitative and quantitative improvements have made KDB NextRound into Korea’s leading venture investment platform.

The Bank also provides comprehensive financial support for the industry-academia-research cooperation that will be essential in establishing a virtuous cycle in the development, transfer, and commercialization of technologies. We are currently running the ‘KDB R&BD (Research & Business Development) Financial Support Program’ to provide SMEs and start-ups with the funds they need for technology development. As of the end of 2018, KDB has provided a total of KRW 22.9 billion to 13 companies through the program, thereby contributing to the vitalization of R&BD ecosystem.

In 2019, KDB will take the initiative to expand the KDB NextRound and increase its direct investments into start-ups. We also plan to strengthen the competitiveness of start-ups by launching ‘Global Partnership Fund IV’, a platform for the global expansion of Korean start-ups, to help them leverage the expertise and networks of overseas venture capital. Going forward, we will lead the innovative growth of Korea by continuing to support the development, transfer, and commercialization of promising technologies through industry-academia-research cooperation.

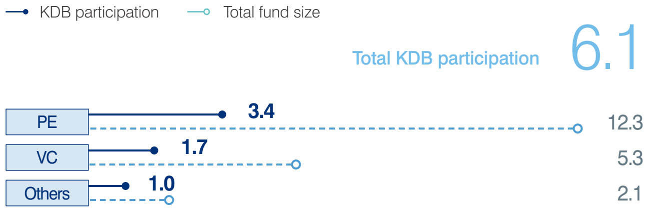
Indirect Investment

KDB supplies companies with customized funding according to the growth phase of each company, via private equity (PE) and venture capital (VC) funds managed by private fund managers. We have established the ‘Growth Support Fund’, ‘Growth Ladder Fund’, and ‘New Industry Development Fund’ in order to support government policy, while also leading the venture capital market in Korea through market-friendly investments. In particular, KDB took the lead in forming the Growth Support Fund, targeted at companies in their growth or exit phases, and the Fund is expected to grow to KRW 8 trillion in size by 2020. In 2018, its first year of operations, KDB formed 18 funds totaling KRW 2.9 trillion under the Growth Support Fund umbrella.

As of the end of 2018, KDB had invested a total of KRW 6.1 trillion in 179 funds, establishing itself as a key investor in the Korean fund business. In addition, KDB is committed to promoting an innovative investment culture by bringing about a venture capital market that is driven by the private sector and by expanding the autonomy of fund managers.

Indirect investment volume

(As of December 31, 2018; Unit: KRW trillion)



KDB will continue to develop an innovative start-up ecosystem in 2019 through the proactive supply of venture capital. As the Growth Support Fund enters its second year, we will supply more growth capital to SMEs and MEs as well as start-ups, and support the development of the 4th Industrial Revolution. Moreover, we will help regional economies achieve innovative growth by forming funds which will identify and support local companies with strong growth potential.

On-lending

On-lending is a market-friendly, indirect policy finance tool specifically developed for SMEs and MEs. When financial intermediaries, such as commercial banks in Korea, request funds on behalf of their SME or ME clients, KDB supplies long-term funds at low interest rates to the intermediaries, after reviewing the qualifications of each client.

In 2018, KDB supplied a total of KRW 8.3 trillion to 8,110 companies through on-lending. More than 61%, totaling KRW 5.1 trillion in size, was provided to SMEs and MEs as long-term funds, with maturities of three years or more. In addition, we have supported innovative growth by introducing ‘Special On-lending for Smart Farms’, ‘Special On-lending for the 4th Industrial Revolution Core Technologies’, and other new products.

In 2019, KDB plans to increase the volume of long-term, low interest rate on-lending. Furthermore, we will develop a sustainable basis for on-lending by focusing on areas related to digital transformation and job creation.

On-lending loans supplied by year

(Unit: KRW trillion)

Project Finance

KDB supports the balanced, sustainable growth of the Korean economy through project finance focused on social overhead capital (SOC), public works as well as new and renewable energy.

Domestic Project Finance

REVIEW OF 2018 KDB provides a comprehensive range of project finance (PF) services, including financial advisory and arrangement, to cater to the needs of the sponsors in SOC, power, plants/resources, public real estate projects as well as shipping and aviation financing.

In 1995, KDB pioneered the PF market in Korea by successfully arranging financing for the construction of the Incheon International Airport Highway. Since then, KDB has led the advancement of financial institutions in Korea, while fulfilling its policy role in supporting the expansion of the national infrastructure, improvements in power supply, and growth in the regional economies. To this end, we have worked in partnership with the private sector, encouraging financial institutions to undertake long-term investments.

In 2018, KDB confirmed its status as the PF market leader in Korea by arranging financing for 30 projects — 7 SOC projects and 23 regional development projects — totaling KRW 11.8 trillion. KRW 8.2 trillion out of this was arranged for SOC projects, including the Gwang myeong-Seoul Expressway, the privately-funded Guri-Pocheon Expressway, and Seosan Photovoltaic Generation. KDB also arranged financing totaling KRW 3.6 trillion for real estate projects, including the Guro G-Valley Multi-purpose Facility Development, the Asan Smart Valley General Industrial Complex Development, and the publicly-funded Gocheok-dong Rental Housing Development, thereby contributing to the revitalization of regional economies.

PLANS FOR 2019 In the SOC sector, KDB's strategy is to invest in private investment projects led by financial investors (FIs), where financial institutions develop the project in partnership with engineering firms. The Bank also plans to expand its participation in new and renewable energy projects, an area in which major new projects are expected to emerge as a result of government policies promoting new energy industries and renewable energy.

In real estate sector, KDB will support the construction of industrial infrastructure for SMEs and MEs, including industrial complexes and knowledge-based industry centers. In addition, we will respond to the government's housing policy by participating in projects to build publicly-funded rental housing for young adults and for the general public. Moreover, we will promote more participation in regional development projects aimed at benefiting a wider public.

Overseas Project Finance

REVIEW OF 2018 KDB began its overseas project finance (PF) business in 2003, and has since established an overseas deal sourcing network with a particular focus on local professionals. The first local PF desk was opened in Singapore in 2011, followed by New York in 2015, and London and Beijing in 2016.

In 2018, KDB arranged financing for 20 overseas projects totaling USD 1.2 billion, and 46 projects in shipping and aviation financing worth USD 6.7 billion. Overseas PF deals included Midway Solar Power Project in the U.S., Bulgana Wind Farm in Australia, Kia Motors' Gas-fired Power Plant in Mexico, and Duqm Export Refinery Complex in Oman. In shipping and aviation financing, we completed financing arrangements for BBAM's acquisition of 65 aircrafts from AirAsia, and successfully arranged the financing for Zodiac Group's purchase of six new container ships.

PLANS FOR 2019 KDB will diversify its overseas business in 2019 by building up expertise in financial advisory and strengthening its networks with leading global investment institutions. In addition, the Bank will leverage its extensive experience in renewable energy to encourage major domestic companies wanting to increase their use of renewable energy to consider a corporate power purchase agreement (PPA)[1]. In shipping and aviation financing, through targeted marketing we will expand our current Asia-based asset portfolio with assets from the U.S. and Europe by establishing direct sales channels and networks with shipping and airline companies in those regions.

[1] Corporate PPA: A legal contract whereby a company purchases electricity from an independent power producer instead of a utility company

Trading

KDB will solidify its market position by leveraging the experience it has accumulated over many years of pioneering the trading market in Korea.

F/X & Derivatives Trading

REVIEW OF 2018 KDB was the pioneer in the Korean trading market in the 1980s when F/X and derivatives products were scarce in Korea. In the 1990s, KDB led the development of the KRW interest rate swap and KRW/USD currency option markets, and has since led the KRW derivatives market. For some 30 years, we have accumulated capabilities required to deal in a wide range of products, ranging from F/X, swaps, options, and other basic derivatives to complex structured derivatives.

In 2018, four interest rate hikes by the Fed and the US-China trade conflict caused increasing uncertainty and concerns over a global economic slowdown. In this challenging environment, KDB leveraged its extensive experience and expertise to offer hedging products customized to the specific needs of its corporate clients. We provided interest rate swap products to SMEs and MEs, and offered in-depth currency risk advisory services for innovative companies. In addition, as the chair bank of the Foreign Exchange Committee in Korea, KDB took the lead in adopting the Statement of Commitment to the F/X Global Code, thus further enhancing transparency of the Korean F/X market.

PLANS FOR 2019 Amidst the continuing market uncertainties in 2019, KDB will continue to provide its clients with products specifically tailored to their requirements. KDB will aim to expand its business spheres and secure new growth engines by attracting more F/X and derivatives trading from both domestic asset managers and non-resident clients. We will also focus on our role as a market maker in carbon emissions trading, which will both support government policy and solidify our reputation as the Korea's leading derivatives trader.

Money Market & Capital Market Trading

REVIEW OF 2018 KDB leverages its overseas financial networks to establish proactive securities trading strategies, thereby providing a round-the-clock trading system; we can stay ahead of market volatility at home and abroad.

In 2018, KDB increased the proportion of its investments in corporate bonds with an AA or higher rating, and in the sovereign bonds of major economies. We also focused on minimizing risk and maximizing returns through portfolio diversification, flexible hedging, and duration adjustments. Following the opening of the Chinese stock market to foreign investors, KDB became the first Korean bank to win Qualified Foreign Institutional Investor (QFII) and RMB Qualified Foreign Institutional Investor (RQFII) licenses in 2009 and 2015, respectively. This has helped us to make active inroads into the securities markets of emerging countries. Moreover, KDB was cited for its contributions as a primary dealer for Korean Treasury Bonds by the Minister of Economy and Finance in 2018, for the fourth consecutive year.

PLANS FOR 2019 In 2019, volatility in global financial markets is expected to increase, mainly due to the global economic slowdown and growing financial uncertainties in emerging markets. KDB will expand its global trading book to better manage risk and pursue stable profitability, focusing on investment-grade sovereign bonds of advanced economies, and diversification of its portfolio. In addition, as the leading fixed income house in Korea, KDB will continue to play a vital role in the domestic securities market, by supporting bond issuances of its clients and contributing to the advancement of the secondary bond market in Korea through solidifying its role as a primary dealer.

Overseas Business

KDB leverages its global competitiveness and international networks to support overseas expansion of Korean companies and the global advancement of the Korea's financial industry.

Active Overseas Expansion

KDB is playing a leading role in the globalization of Korean financial institutions, and is leveraging its overseas networks to support the government's New Southern Policy. Moreover, we encourage Korean companies to expand their global market presence by offering comprehensive corporate banking services ranging from loans to bond issuance, PF, M&A, shipping and aviation financing, consulting and derivatives trading.

KDB has 26 overseas locations across 19 countries; 1 regional head office, 9 branches, 5 subsidiaries, 9 representative offices, and 2 expatriate employees. We are constantly pursuing our globalization strategy to expand the overseas network and diversify our operations. In 2018, KDB increased its presence in Southeast Asia, a region of rapid growth in finance. The Asia Regional Head Office was established in Singapore, and the establishment plan for Jakarta Representative Office received approval from the Indonesian financial authorities, thereby supporting the New Southern Policy and further accelerating our move towards becoming 'Global KDB'. The Asia Regional Head Office, in particular, played an important role as we developed effective business strategies to facilitate our operations in Asia, which in turn enabled us to improve our asset portfolio for higher profitability.

In 2019, KDB will accelerate its overseas expansion by exploring opportunities for acquiring local financial institutions and by upgrading the Ho Chi Minh City Representative Office to a branch.

Cross-Border Syndicated Loans

KDB attracted new major clients in 2018 by entering new emerging markets, and enjoyed fruitful results as a result of taking an active role in arranging loan financings. We provided financial arrangement services for the Winson Oil International (Hong Kong), Haitong International Securities (Hong Kong), Indiabulls Housing Finance (India), Yes Bank (India) and Reliance Industries (India). As well as being successful in their own right, these deals will act as bridgeheads for Korean financial institutions to launch their businesses in global financial markets. The deal for Reliance Industries, India's biggest private company, was of particular significance — KDB put together a USD 2.5 billion syndicated loan in cooperation with leading global investment banks, proving its capabilities and establishing a presence in a major emerging economy.

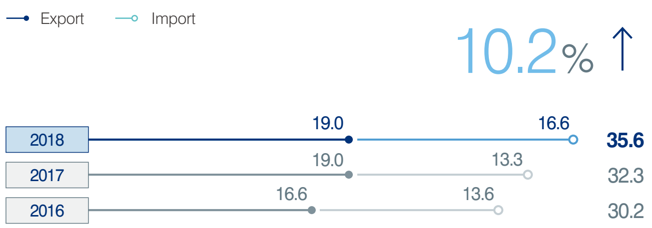
In 2019, KDB will respond to the New Southern Policy by expanding its presence in global syndicated loan markets, with a particular focus on emerging economies in Asia. We will work in partnership with global financial institutions, and develop specific strategies for each target country with a focus on their growth industries. This will establish a strong overseas presence for KDB, and further enhance our reputation in the global market.

Trade Finance

KDB offers comprehensive trade finance services to domestic companies, and is the 5th largest provider of trade finance in Korea. In 2018, KDB provided USD 35.6 billion of export & import trade finance, up approximately 10% over the previous year.

Export and import financing supplied to Korean companies by year

(Unit: USD billion)



KDB has been increasing its trade volume with global banks in risk participation. For the first time among Korean financial institutions, KDB opened trade finance credit lines guaranteed by international financial institutions for banks from emerging nations. In 2018, we further expanded our trade finance business by offering direct trade loans to banks in emerging countries.

KDB will widen its trade finance business in 2019 by continuing to provide comprehensive trade finance services to Korean companies, expanding its risk participation trade volume and the pool of client banks for trade loans business.

Pension & Trust

The strength of KDB's pension operations lies in the asset management know-how we have long accumulated as Korea's leading corporate banking specialist.

Pension

As of the end of 2018, KDB ranked 11th in terms of pension assets under management (AUM) among 43 domestic pension operators in Korea. KDB's pension AUM increased by 9.3% from 2017, reaching KRW 5.8 trillion at the end of 2018. The pension market is expected to grow further on growing attention to post-retirement finances in an era of aging population, low-growth, and low-interest rates.

Pension assets under management

(Unit: KRW billion)

9.3% ↑

2018	**5,768**
2017	5,279
2016	4,713

True to its mission and legacy, KDB is committed to government pension policies and to the stable growth of Korea's retirement pension market. Specifically, KDB will hone its strategies to respond effectively to the fast-evolving retirement pension market as well as boost its pension asset management capabilities.

Trust

KDB retains, operates, and manages a wide range of assets entrusted to it, including monetary assets, real estate, and debentures, granting them to beneficiaries upon maturity. KDB began its money trust business in 1989, and eventually expanded into property trust and custody business over the years.

In 2018, trust assets increased by 47.4% compared to the previous year on the backdrop of increased rates of return on money trusts and an active expansion of property trust business. The custody balance of assets also went up by 4.8% driven mostly by the Korea Fund of Funds and the Growth Support Fund.

Trust assets balance

(Unit: KRW billion)

47.4% ↑

2018	**19,069**
2017	12,937
2016	10,858

Custody balance

(Unit: KRW billion)

4.8% ↑

2018	**24,039**
2017	22,932
2016	21,181

Regulations are expected to be eased further in 2019 with the potential enactment of the Trust Business Act which is aimed at improving and expanding the trust market in Korea. Targeted new products will be launched in response to the growing interest of individual customers in trust services in an era of aging population and low economic growth. In addition, SMEs and MEs will have more access to funding through the utilization of collateral trusts.

As the external business environment continues to evolve, KDB will strengthen its role as a trustee bank specializing in corporate finance. We will achieve this by developing customized asset management plans to improve rates of return and meet the other requirements of our corporate clients. In custody business, KDB will actively target investment funds and strengthen ties with funds of funds and other institutions.

KDB is committed to improving economic, social, and environmental conditions throughout the nation. We always strive to run our business in a way that is ethical, responsible, and sustainable, and thus create long-term value for all of our stakeholders.

SUSTAINABILITY REVIEW

Liability Management

KDB ensures the stable supply of funds that are vital for the continuing development of the national economy through flexible funding policies, diversification of financing channels, and strict liquidity management.

KDB Bonds

KDB issues Industrial Finance Bonds (KDB Bonds) in KRW and foreign currencies to procure the resources required to supply funds for the promotion of sustainable growth in accordance with the Korea Development Bank Act.

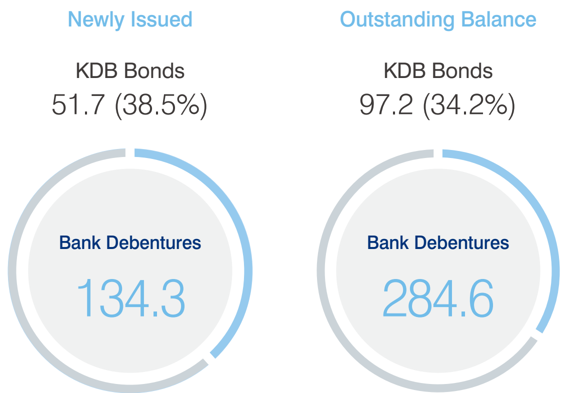
As stipulated in the Act, KDB is protected by the government from insolvency as a state-owned policy bank, and it enjoys the same credit rating as the government in terms of risks under Basel III. As a result, KDB bonds are issued at the lowest spread against the benchmark among special bonds (bonds issued by public organizations) and financial bonds, except for government-guaranteed special bonds (Korea Deposit Insurance Corporation Bonds and Korea Student Aid Foundation Bonds).

• KRW-denominated In 2018, the Korean economy grew at a rate near to its potential growth rate, triggering an increase in the Bank of Korea's base rate in November, the first in 12 months. Major economies underwent monetary policy normalization, with the U.S. Federal Reserve hiking the federal funds rate four times. Yields on KRW-denominated bond decreased compared to the previous year mainly attributable to a slowing economy in Korea and growing concerns over the US-China trade dispute.

KDB Bonds issued in 2018 totaled KRW 51.7 trillion, and the outstanding balance marked KRW 97.2 trillion, each number growing by KRW 0.5 trillion from 2017. The total outstanding balance is the third largest behind Korea Treasury Bonds and Monetary Stabilization Bonds. Moreover, the market interest rate of KDB bonds is utilized as a key benchmark rate in the bond market by the Korea Financial Investment Association along with those of Korea Treasury Bonds and Monetary Stabilization Bonds, maintaining its solid status as a representative market interest rate.

KDB Bonds and outstanding balance

(As of December 31, 2018; Unit: KRW trillion)



Market interest rate of major bonds

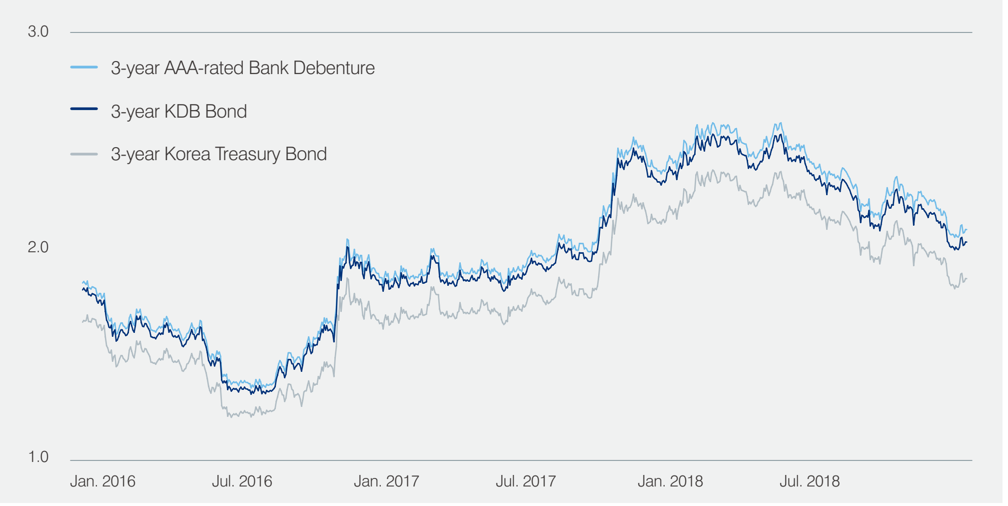
(As of December 31, 2018; Unit: %)

	1Y	3Y	5Y	10Y
Korea Treasury Bonds	1.751	1.823	1.892	1.956
KDB Bonds	1.946	1.987	2.059	2.095
Bank Debentures (AAA)	1.985	2.043	2.090	2.189

In an effort to reduce its interest rate risk, KDB issued floating-rate notes (FRNs) amounting to KRW 12.3 trillion, and also lowered its financing costs through 8 issuances of structured KDB Bonds and 26 interest rate swaps. In addition, KDB contributed to the promotion of sustainable finance by issuing its first KRW-denominated green bond in May and first social bond in October, each in the size of KRW 300 billion, both being firsts for the Korean market.

Recent key bond rates trend

(As of December 31, 2018; Unit: %)



KDB aims to further reduce its financing costs in 2019 by maintaining a flexible financing policy, and enhance the reputation of the KDB Bonds and broaden its investor base through a market-friendly approach. We will also ensure a stable supply of capital for industries through flexible financing which responds to the market environment and our own internal funding requirements.

• **Foreign currency-denominated** Despite increasing volatility in financial markets in 2018, triggered by U.S. Federal Reserve interest rate hikes, KDB was able to secure foreign currency-denominated funds totaling USD 6.4 billion. The Bank also issued global bonds, EUR-denominated bonds, and Samurai bonds, and thus established benchmarks for Korean issuers' foreign currency funding. In addition, we diversified our financing channels by launching into niche markets, such as CHF, Formosa, and Kangaroo bonds, attracting supranational, sub-sovereign, and agency (SSA) investors across different regions.

In 2019, our funding strategy will continue to focus on flexibility, bracing for potential changes in the market from base rate changes. In addition to USD-denominated global bonds, KDB will constantly monitor market conditions and serve as Korea's benchmark borrower in various markets covering EUR, JPY-denominated bonds, sustainability bonds, etc. Simultaneously, we will make concerted efforts to improve borrowing conditions for Korean institutions while expanding our SSA investor base.

Deposits

KDB contributes to the efficient supply of policy funds by taking deposits to supplement KDB Bonds, which are sensitive to market conditions. The Bank strengthens its competitiveness as a policy bank by maintaining an adequate level of deposits in order to reduce interest rate risk and by keeping funding costs low through attracting money market accounts and other low-cost deposits.

Although interest rates continued to fluctuate in 2018, KDB was able to attract low-cost funds, such as money market deposit accounts, by launching distinctive deposit products that do not require face-to-face customer interaction and by leveraging social media marketing. In particular, we launched 'Daily Plus Free Installment Savings' in May to meet the latest customer requirements, attracting approximately 17,000 accounts by year-end. Moreover, by linking this new product to money market deposit accounts, we have expanded our customer base and contributed to efficient and stable funding.

Competition among banks to attract deposits will become even fiercer in 2019, due to tougher regulations on the loan-deposit ratio, which will lead to an increase in funding costs. Against this backdrop, KDB will ensure a stable supply of policy financing by employing a number of deposit-taking strategies. First, we will leverage our strength as a corporate banking specialist to expand our deposit services and financial support for SMEs and MEs. Second, we will expand our wealth management services for premier customers, and train more private banking specialists. Third, we will respond proactively to the changing environment for banking by rolling out intelligent banking systems which offer customer-tailored interactive screen and other non-face-to-face services.

Liquidity Management

KDB ensures the stable management of liquidity through diverse management strategies including operations of call loans, repo, MMF, and CP, utilizing its surplus funds.

As volatility in the global financial market is expected to increase, likely due to changes in rate policies of major economies, KDB will look to avoid liquidity gaps through preemptive risk management by maintaining an optimal level of liquidity by closely monitoring market conditions and flexibly adapting to supply-and-demand swings.

Against this backdrop, KDB strives for stable management of funds based on diversified investment by product type and maturity structure to pursue appropriate liquidity and risk management.

Risk Management

KDB maintains financial soundness and stability in its business activities through the effective management of a diverse range of risks based on fundamental principles of risk management.

KDB's Risk Management Principles

- Risk must be managed in a manner that is independent, comprehensive, and uniform on a bank-wide basis;
- Risk must be accurately identified, measured and evaluated, and then properly managed;
- Risk must be maintained at a level in balance to profit;
- Risk must be diversified to prevent a buildup of assets concentrated in a specific category; and
- Risk must be managed within certain limits or guidelines in order to prevent undue exposure.

Effective Risk Management by Specialized Councils

KDB operates independent risk management committee and council to ensure prompt and effective risk management decision-making. The Risk Management Committee (RMC) is KDB's highest decision making body that examines important matters such as yearly risk management plans and total risk limits for the Bank. The RMC members are mainly comprised of independent directors with extensive experience and knowledge in finance and economic matters. Chaired by one of the independent directors, the Committee is armed with a decision-making mechanism that ensures balanced views on critical risk management agenda. All agenda items resolved by the RMC are reported to the Board of Directors.

In 2018, a total of 25 agenda items were presented for discussion to the Committee. Major agenda items adopted for resolution included the risk management plans for 2018, and the setting of exposure limits by country. Other important risk management issues were also reported to the Committee, including the analysis report on bank-wide stress test results and verification report on the BIS capital ratio.

The Risk Management Council is comprised of Division Heads, and its roles and responsibilities include the monitoring of the Bank's constant risk variables, and the orchestration of operations, so that risks can be effectively managed within each operation unit. Following the limits set by the Committee, the Council discusses and distributes the risks among Divisions, sets limits for trading losses and F/X positions. In 2018, the Council was convened 10 times with agenda items including the credit portfolio management plans and the distribution of internal capital limits.

Key committees and councils for risk management

Board of Directors

Risk Management Committee

- A committee within the Board of Directors (Chair: Independent director, Members: Independent and inside directors, excluding the Chairman)
- Makes decisions on annual limit on internal capital and basic measures for risk management, etc.

Risk Management Council

- A risk management council composed of Division Heads (Chair: Vice Chairman, Members: All Division Heads)
- Makes decisions on the distribution of internal capital limits by Divisions, sets industry and country exposure limits, etc.

Chief Risk Officer

- Head of the Risk Management Division
- Plans, supervises, and monitors risk management, reports key issues to the management, etc.

Risk Management Methodologies

• Credit risks Credit risks refer to possible losses in the event that debts cannot be collected as a result of a failure of counterparties to make repayments or to fulfill their payment obligations in other ways. While monitoring all assets that are exposed to credit risk, we also measure and manage credit concentration risk, which can occur as a result of excessive exposure to individual companies or corporate groups.

• Market risks Market risks refer to possible losses to the Bank's assets resulting from fluctuations of interest rates, stock prices, F/X rates, and other variables. KDB measures and manages possible losses in trading positions (including positions in securities and derivatives held for trading) due to negative movements in market indices. Moreover, by classifying the severity of market changes into three stages — precautionary, semi-crisis, and crisis stages — in accordance with the degree of benchmark fluctuations, we operate Market Risk Contingency Plans appropriate to each of the three stages. KDB also conducts stress tests to measure the potential scale of losses based on scenarios replicating significant fluctuations in major market indices over the last three years and the financial crisis in 2008.

• Interest rate risks Interest rate risks refer to possible losses due to interest rate fluctuations that cause a decrease in net present value (NPV) or net interest income (NII) of rate-sensitive assets and an increase in interest expenses on rate-sensitive liabilities. KDB manages interest rate risk mainly through Value at Risk (VaR), and also employs Earnings at Risk (EaR), duration gap, and repricing gap as auxiliary management indices.

• Liquidity risks Liquidity risk is defined as the possibility of potential loss due to a temporary shortage in funds caused by a maturity mismatch or an unexpected capital outlay. Liquidity risk soars when funding rates rise, assets are sold below a normal price, or a good investment opportunity is missed. KDB uses Basel III's short-term liquidity regulation index, the liquidity coverage ratio (LCR), and a mid to long-term liquidity regulation index, the net stable funding ratio (NSFR) to manage its liquidity risks, and manages them to exceed the regulatory requirements.

• Operational risks Operational risks refer to possible losses that may occur due to inadequate internal procedures, failed system, employee errors, as well as external events that disrupt business processes. Through a Control Self-Assessment (CSA) program implemented at three-month intervals, we make sure that the relevant staff at each department is fully aware of the potential operational risks associated with their job functions, and can properly manage those risks. We established business continuity plans for each job function to prepare for potential disruptions due to disasters, strikes, and other emergencies. Annual mock drills are held to ensure that major operations can be resumed within a target timeframe in the event of an emergency.

Asset Soundness Management

KDB categorizes the soundness of its assets as 'normal', 'precautionary', 'substandard', 'doubtful', or 'estimated loss' based on an evaluation of the possibility of insolvency and sets loan loss provisions according to the categorization. Starting from 2018, KDB makes reasonable estimates of the probability of defaults as well as loss given defaults, and sets aside adequate level of loan loss provisions using the expected credit loss (ECL) impairment model in line with the International Financial Reporting Standards 9 (IFRS 9).

KDB constantly strives to minimize the insolvencies and puts necessary measures into place, including requiring additional collateral and the early collection of debts. If assets become non-performing, we seek possibilities for corporate normalization, or manage the assets through sales or write-offs.

REVIEW OF 2018 In 2018, KDB further improved its risk management systems in support of its vital role in policy finance. We continued with our portfolio rebalancing, by reducing the concentration risk of exposures to large corporations, and diversifying the portfolio with exposures to new growth industries and SMEs. Furthermore, to promote risk diversification, we took into account the risk and growth potential of each company in managing exposure limits. To increase the effectiveness of the overall portfolio management, we introduced a branch performance evaluation system linked with exposure management at each branch, contributing to the improvement of our asset soundness.

KDB has been actively responding to changes in the regulatory environment. In 2018, we successfully adopted the NSFR regulation, as well as the IFRS 9. In addition, we established a 'contingency plan for BIS ratio' to properly manage the Bank's capital adequacy in the event of an emergency.

PLANS FOR 2019 KDB will continue with its efforts to further improve its risk management systems in order to secure future growth drivers. To this end, we will establish guidelines to induce increased exposures to SMEs and MEs as we continue to foster promising industries and innovative companies. We will seek for any improvement in our risk governance to ensure sustainable policy financing, and keep the management informed with timely risk analyses for practical risk-based decision-making.

Moreover, we will stay ahead of changes in financial regulations. In 2019, domestic regulatory authorities are expected to set out enforcement standards for the new Basel III regulations and other regulations related to large-scale exposures in order to enhance the stability of financial systems in Korea. We will ensure that KDB adopts the new regulations as seamlessly and effectively as possible.

Research & Credit Review

KDB is expanding the breadth of its research to support the sustainable growth of national economy and set the direction for economic development on the Korean Peninsula.

Industry & Technology Research

KDB undertakes industry reviews & analysis, including industry assessment and forecast, as well as industry issue analysis. In addition, it undertakes technology reviews, technological competitiveness evaluation, and intellectual property (IP) value evaluation on behalf of its corporate clients. This research supports KDB's main operations, including risk management, loans and investments, and also helps to fulfill its role in policy finance by improving the industrial structure in Korea and nurturing new growth industries. KDB shares its knowledge of industrial development by publishing the research results in periodicals and by presenting them in seminars.

In 2018, KDB created a new research team dedicated to new technologies and new industries of the 4th Industrial Revolution, including smart factories, artificial intelligence, and blockchains. The team undertook research on ventures, including start-up case studies and the development of KDB Venture Index. KDB received Level 4 Tech Credit Bureau (TCB) Certification, the highest rating, from Korea Credit Information Services by meeting the manpower, evaluation model, track record, and system integration standards set forth in the government-issued 'Roadmap for implementing Technology Financing'.

KDB will provide its mid to long-term forecasts in the 'Strategy Report on Future Industries' in order to strengthen the competitiveness of core industries. In addition, we will undertake global research, with a focus on studying overseas industries and technology, and deepen our cooperation with overseas institutions to support the government's New Southern Policy. Other targets for 2019 include improving the accuracy of our industry assessment models, expanding the scope of assessment target industries, and reducing the time taken for each assessment.

Credit Review

In 2018, KDB adopted 'Credit Review System for New Industries and Innovative Companies' in order to better cope with a wide range of funding requirements that innovative companies experience during their business life cycle. The System transcends traditional practices of requiring track records or collateral, and instead analyzes the comprehensive value of new technologies, business models, their potential ripple effects on industry and market, growth potential, and market reputation. The System has enabled KDB to actively support innovative companies that have won positive market recognition for their innovation and potential for growth, but not have had timely access to capital due to lack of a proven track record. In addition, the Bank has been strengthening the management of its credit exposure to corporate groups by establishing working capital credit line limits on 23 largest corporate groups and by setting up an exposure management plan for small and medium-sized corporate groups.

In 2019, KDB plans to gradually expand its overseas credit review workforce in line with its strategy of expanding global network in Asia. We will also expand the task force for the System in order to better support innovative growth. Furthermore, we will continue to improve our expertise in credit review by adopting a comprehensive training program for fostering next-generation credit review specialists.

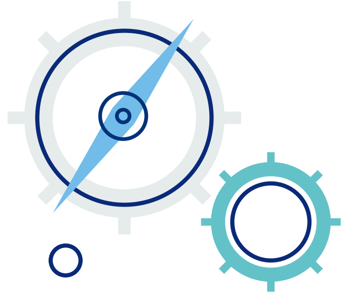
Research on Reunification Finance

After years of frosty relations with North Korea, brought on by the North's development of nuclear arms, inter-Korean relationships quickly turned sunnier in 2018, with more emphasis on dialogue. As a result, the inter-Korean Summit took place in April 2018, and the North Korea-United States Singapore Summit was held in the following June.

KDB has been exploring various ways in which it can expand its role in inter-Korean economic cooperation and development finance for North Korea. The Bank has also undertaken in-depth economic and industrial research on how to promote the development of the North Korean economy and facilitate inter-Korean economic cooperation. In addition, we continue to host the 'North Korea Policy Forum', collecting opinions of experts in every field regarding inter-Korean relationships and unification.

In 2019, KDB will further strengthen its policy banking role in relation to inter-Korean economic cooperation and development finance in North Korea, in support of the 'New Economic Map of the Korean Peninsula' and other government policies. In addition, KDB will fulfill its role as Korea's leading policy bank by developing new ways to cooperate with domestic financial institutions and global organizations, in anticipation of a revival of inter-Korean economic cooperation.

Ethical Management



Driven by a strict sense of ethics and a commitment to ensuring protection for our customers and other stakeholders, everyone at KDB puts ethical management at the center of its corporate culture.

Compliance

REVIEW OF 2018 KDB practices ethical management by continuously realigning its anti-corruption infrastructure and running a wide range of programs to promote its code of conduct. Effective training on ethics for employees is provided to boost ethical awareness, and a culture of ethical management has taken root to cultivate a transparent and fair workplace.

In 2018, the Korean government set out stricter requirements for the public sector to restore integrity and comply with high ethical standards that meet the expectations of the general public. Against this backdrop, KDB stepped up the following efforts.

Firstly, we further improved our infrastructure for anti-corruption and integrity. Our Code of Conduct was significantly improved through a BOD resolution, and the scope of the Executive Pledge of Ethics, which was previously taken only by the Chairman, Vice-Chairman, and Auditor, was expanded to include Executive Directors in order to increase the sense of responsibility and integrity of the top management.

Secondly, KDB expanded its anti-corruption and integrity programs to spread a culture of integrity. Each department undertook voluntary integrity implementation and participated in a bank-wide contest for integrity policy suggestion. Moreover, branches and employees with high ethical performance were awarded.

Lastly, in accordance with strengthened anti-money laundering supervision standards, KDB has implemented relevant measures, such as more detailed ‘know your customer (KYC)’ due diligence and stricter rules on Suspicious Transaction Reporting (STR). We have also improved our abilities to counter cryptocurrency money laundering, and reviewed anti-money laundering systems at our overseas branches. Moreover, in response to the resumption of U.S. sanctions on Iran and strengthened sanctions on North Korea in 2018, we have thoroughly implemented the sanctions into our everyday business for full compliance.

PLANS FOR 2019 The key target for ethical management in 2019 will be strengthening the control of anti-corruption and integrity functions. Firstly, we will make overhauls to KDB’s integrity infrastructure and provide exemplary best practices. For example, we plan to make improvements to internal regulations, namely the Code of Conduct, and provide integrity manuals by each job function.

Secondly, we plan to adopt an anonymous reporting system that will expose any corrupt activities and improve our self-purification capabilities. The system will guarantee reporters’ anonymity and enhance the overall effectiveness of our anti-corruption system.

Lastly, KDB will also make substantial improvements to its anti-money laundering systems, while actively responding to the compliance assessment by the Financial Action Task Force (FATF), which is scheduled to take place in 2019.

Consumer Protection

REVIEW OF 2018 KDB continuously strives to improve its consumer protection systems based on its core value of protecting the rights of financial consumers, which is especially important given the recent trend in Korea towards strengthened protection for financial consumers.

KDB has established a consumer protection process for each phase of the life of a financial product from development to sales and post-sales. We regularly examine across all phases for any factor that may impinge on consumer rights in order to prevent improper or incomplete product sales. The product development and sales departments co-operate by sharing information on recent consumer protection issues through the Financial Consumer Protection Council. As a result of these efforts, KDB earned ‘Excellent’ ratings across all categories from the ‘Evaluation of Consumer Protection Status’ by the Financial Supervisory Service in 2018.

Major compliance management programs

Programs	Details
Voluntary integrity implementation & integrity policy suggestion contest	Encourages employee participation in establishing integrity policy and identifying areas vulnerable to corruption
Ethics awards for branches and employees	Provides incentives to branches and employees with high ethical standards
Securities report system	Requires employees engaging in loan business to report on their securities accounts and transaction details biannually
Financial investment product trade report system	Requires employees engaged in specific job functions defined in the Capital Markets Act to report on their buying and selling of financial investment products monthly or quarterly
Cryptocurrency possession report system	Requires employees engaging in cryptocurrency business to report their possession of cryptocurrency biannually
Report system for outside lecture requests	Requires employees to report outside lecture requests tied to their job functions or influences
Clean Report Center / No Gift Campaign	Prohibits solicitation and acceptance of gifts exceeding specified amounts
Gapjil[1] Report Center	Builds a report system for unfair demands or treatment to fellow employees or people outside the Bank
Solicitation report system	Requires employees to report on unlawful solicitation from fellow employees and people outside the Bank
Compliance self-check system	Checks the compliance status of all employees biannually
Whistleblowing system	Ensures whistleblowers' anonymity and rewards them
Executive Pledge of Ethics	Mandates registered directors to maintain integrity in job performance
Code of Conduct Pledge	Mandates new hires to comply with the Code of Conduct
Ethics training	Provides trainings to new employees and employees engaged in job functions vulnerable to corruption
Compliance monitoring	Conducts monitoring on compliance reports, self-inspection reports from branches, and monthly compliance training results

[1] Abuse of power by someone against a person in a weaker position

We have also systematized our complaint handling system to improve customer satisfaction. We have set up an SMS-based notification service as part of the complaint handling procedure in order to address complaints more promptly, while also striving to reduce the number of complaints by analyzing the cause of the most frequent complaints, providing training on handling complaints, and distributing a checklist for complaints prevention. Moreover, we conduct in-house customer satisfaction surveys to enhance employee awareness, thereby improving levels of consumer satisfaction.

KDB makes the utmost effort to protect the personal information of its customers. We have established detailed standards for the handling of personal information and regularly check on the implementation of these standards. As a result, KDB earned an 'Excellent' rating from the assessment of its personal information protection system by the Ministry of the Interior and Safety in 2018. We also operate electronic financial fraud prevention and monitoring systems to protect consumers from voice phishing.

2018 Milestones and performance for consumer protection

Milestones	Performance
Established a consumer protection system for each life phase of a financial product	• Planning & Development Stage: Reviewed consumer right infringement when developing and revising products and services • Sales Stage: Prevented incomplete sales by providing appropriate information on key product features and risks • After-sales Stage: Improved consumer protection levels through on-site reviews of consumer protection status
Increased customer satisfaction by collecting their opinions	• Collected diverse customer opinions through the Voice of Customer (VOC) system • Received an 'Excellent' rating in the 'Public-service Customer Index (PSCI)' survey organized by the Ministry of Economy and Finance • Facilitated customer satisfaction (CS) training by taking into account the results of PSCI survey • Received & handled complaints, and then conducted follow-up checks
Disclosed information to ensure the public's right to know	• Provided up-to-date information and actively responded to information disclosure requests • Provided group training to employees in charge of information disclosure
Conducted personal information protection activities for customers	• Conducted regular reviews on browsing history and provision history to a third party • Ran a campaign to delete critical personal information files stored on PCs at work • Acquired an 'Excellent' rating from the assessment of its personal information protection system by the Ministry of the Interior and Safety
Conducted monitoring to prevent losses from electronic financial fraud	• Improved the electronic financial fraud prevention and monitoring system • Provided training on preventing voice phishing attacks

PLANS FOR 2019 In 2019, KDB will continue to build a stronger system for the mutual development of the Bank and its customers. To this end, KDB plans to establish and observe 'Consumer Protection Days' and expand employee training on consumer protection to heighten their awareness of the financial consumers' rights.

We will also further increase customer satisfaction by improving our work processes. In addition to providing its employees more customer satisfaction trainings, KDB plans to improve its electronic financial fraud protection systems. Moreover, we will strictly comply with obligations under global financial regulations, and further enhance our personal information management capabilities.

Human Resources Management

KDB seeks to recruit forward-looking global talent driven by passion and determination, and also possessing the qualifications and sense of ethics needed to lead the development of the Korean financial industry.

Fair and Competency-driven Recruitment

KDB hires new employees every year in order to respond effectively to the ever-changing economic and business environments, and to strengthen its organizational competencies. We ensure equal opportunity and fairness in our recruitment process by adopting 'blind recruitment' practices. Recruitment is driven above all by job competencies, with an emphasis on a candidate's basic capabilities and organizational fit within the financial industry.

KDB hired 63 new employees in 2018, all of whom had undergone a multi-dimensional evaluation at each stage of the hiring process in line with National Competency Standards (NCS). We significantly increased the proportion of new employees with technological background, including big data, ICT, and biotech. These talented new recruits will take the lead in shaping the future of Korean industries in the era of the 4th Industrial Revolution.

Strengthening Job Competencies

We segment job functions at KDB into 172 categories with the aim of maximizing organizational competencies through enhancement of individual job competencies. We support employees in their individual development through a wide range of personalized Career Development Programs (CDPs) which are divided into exploration, development, and master phases. Employees in the exploration phase can improve their skills in their own job functions while also gaining experience within other areas. Subsequently, more support is given to employees to help them further develop their expertise as they move towards the master phase.

For specialized job positions requiring higher level of expertise, positions are filled through competitive in-house recruitment process. In 2018, we recruited staff for positions in project finance, regional development, shipping and aviation finance, credit review, risk management, and industry analysis & assessment. We also operate an open position system which emphasizes the importance of expertise, and imbues our organizational culture with added vitality. In 2018, we proceeded with in-house and external recruitment to hire qualified experts in three areas — retirement pension consulting, management strategy, and bancassurance & fund sales — and thus continued our efforts to secure experts in each area.

Programs for Development of Global Talent

KDB offers its employees a wide array of opportunities to develop their expertise and pursue knowledge in their own specific areas of interest. The Bank's career development roadmap consists of three-phase training courses for each of its 24 job functions, and a variety of in-house training courses are offered covering key areas including loans, deposits, and F/X transactions. In addition, we enable our employees to continue their education anytime and anywhere by providing online courses through the KDB e-Campus, in partnership with professional training institutions.

KDB also runs a range of overseas programs aimed at developing global talent. We offer training programs to nurture regional specialists in countries with strong growth potential such as Indonesia and Vietnam, where we are seeking future business opportunities. Moreover, employees are dispatched to overseas networks in New York, London, and Singapore for on-the-job training and are offerred a variety of foreign language training courses before and after work.

Corporate Social Responsibility

All members of KDB are aware of their responsibility in contributing to the sustainable growth of local communities, and strive to make a positive difference to society through social contribution activities.

KDB'S FOUNDING MISSION

To contribute to the sound development of the financial industry and national economy

KDB's corporate social responsibility (CSR) activities can be categorized into three types as follows:

- **Socially Responsible Financing**
  Support important public values, such as job creation, industrial and economic development through KDB's financial activities
- **Community Healing**
  Promote and maintain a healthy society by extending a helping hand to various groups in society through a range of non-financial activities
- **Knowledge Sharing**
  Share knowledge and experience accumulated from the aforementioned activities, to provide yet another foundation for advancement and create positive momentum and value

Socially Responsible Financing

KDB maintains a keen interest in fostering future growth engines, pursuing the balanced growth of companies of various sizes and regions, expanding public infrastructure, and improving the environment, while providing socially responsible financial products and services.

2018 Summary for socially responsible financing

(Unit: KRW billion)

Objectives of funds	Amount supplied by KDB	Number of projects
Fostering the growth of SMEs and MEs	3,346	1,457
Invigorating regional economies and pursuing balanced growth	440	173
Repairing and ramping up social infrastructure	1,307	59
Nurturing environmentally-friendly industries	894	200
Contributing to improving industrial safety	542	127

Case 1.

Climate Change Project Development Seminar

KDB addressed the climate change issue by hosting the Climate Change Project Development Seminar (co-hosted by KDB and KEPCO) in March 2018, and invited a number of climate change-related companies, including KEPCO and academic experts. At the Seminar, we shared information on KDB's roles as an Implementing Entity of Green Climate Fund (GCF). Following up on this seminar, we will build a system of seamless cooperation with both major climate change project participants and academic experts, and actively facilitate more KDB-GCF co-financing projects.

Case 2.

KDB Climate Finance Forum 2018

KDB hosted the KDB Climate Finance Forum in October 2018, and invited companies and organizations involved in climate change projects, including the Ministry of Economy and Finance, GCF, and Hanwha Energy. At the forum, we shared detailed information about the measures we have put in place to enhance accessibility to GCF funds, and our experience in and strategies for implementing climate change projects. There was a panel discussion with participation from KDB, KEPCO, and K-SURE to discuss how to expand the financial fundamentals for climate change projects in developing countries. This forum has helped us to build close ties with major climate change project stakeholders. Going forward, KDB plans to be more active in climate change projects including new and renewable energy sector.

Case 3.

Korea's first green bond (in KRW)

Leveraging the experience gained in 2017 by issuing a foreign currency-denominated green bond, KDB issued Korea's first KRW-denominated green bond, worth KRW 300 billion with 3-year maturity at an annual coupon of 2.35%, in May 2018, targeting institutional investors interested in socially responsible investment (SRI). KDB allocated 5.3% of the net proceeds to solar power projects and 94.7% to double track railway projects. Except for one project still under construction (expected to be complete by December 2024), all funded projects are currently in operation. Once all the projects are operating, the total reduction in CO_2 emissions is expected to be 201,515 tons per annum, of which, given KDB's participation, our contribution will be an annual 16,589 tons, or 528 tons per KRW 1 billion of proceeds (details in the table below). The issuance of a KRW-denominated green bond is expected to increase interest in SRI in the domestic market, and will promote green finance by attracting financial resources much-needed to counter climate change.

Environmental impacts

Sector	Energy Generation Capacity (MWh) or Line Length (Km)	Reduction of CO_2 emissions[1] (tCo_2/year)		
		By Project	Contribution of KDB green bonds	Per KRW 1 billion of the Bank's proceeds
Solar power	20MWh	18,725	5,318	334
Double track railway	7.8km	92,932	929	119
	12.8km	20,928	2,553	19
	20.8km	68,930	7,789	56
Total		201,515	16,589	528

[1] Key methodologies for the measurement of CO_2 emissions
- "Methodology for the Assessment of Project GHG Emissions and Emission Variations" (European Investment Bank, 2014)
- "Projected Costs of Generating Electricity" (International Energy Agency, 2015)
- "Large-scale Methodology: High speed passenger rail systems" (United Nations)

Case 4.

Korea's first social bond (in KRW)

KDB issued Korea's first KRW-denominated social bond in October 2018, worth KRW 300 billion with 2-year maturity at an annual coupon rate of 2.08%. All the proceeds were allocated towards creating jobs at 42 companies. The total number of employees at these companies went up from 9,552 at the end of 2016 to 11,846 at the 2017 year-end, an increase of 24%. By providing financial support with social value, we are encouraging companies to create jobs, thereby strengthening the foundations for continued corporate hiring. The issuance of the KRW-denominated social bond will further promote the socially responsible finance market in Korea, which remains in its early phase, and will also enhance KDB's reputation as a leading policy bank.

Social impacts

Sector	Number of target companies	Number of new hires		
		At the end of 2016 (A)	At the end of 2017 (B)	Change (B-A)
Job creation	42	9,552	11,846	2,294

Case 5.

EQUATOR PRINCIPLES

Effective implementation of socially responsible financing

In addition to the activities mentioned above, KDB also undertook a range of other projects in 2018 to promote socially responsible finance.

Sound environmental and social risk management

- KDB, as the only Equator Principles Financial Institution (EPFI) in Korea, recognizes the importance of ensuring that the projects we finance are developed in a manner that is socially responsible and reflects sound environmental management practices. Adopted by the Bank in 2017, the Equator Principles (EPs) serve as a baseline and framework for determining, assessing, and managing environmental and social risk in project-related transactions. We are fully committed to implementing the EPs through our Environmental and Social (E&S) Review and Management Guideline that sets out the Bank's objectives, standards, and procedures for managing environmental and social risks in the projects. In 2018, our dedicated E&S team conducted internal environmental and social reviews on project finance and project-related corporate loan transactions that fell within the scope of the Equator Principles.

Expansion of the Mutual Growth Fund

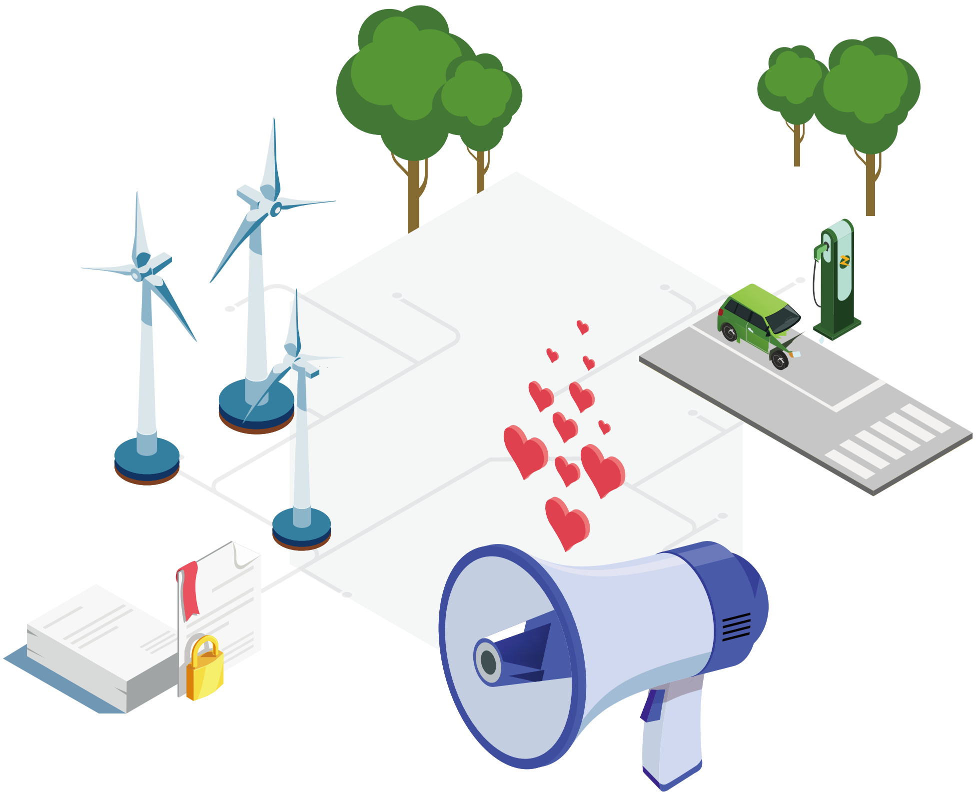
- Received deposits from 13 corporate groups and established a fund totaling KRW 732.5 billion
- Financed KRW 3.4 trillion to 595 companies from 2012 to 2018
- Established a Mutual Growth Fund with Hanwha Group in June 2018 to provide loans for SME and ME suppliers to Hanwha Group

Support for job creation and social enterprises through special financial products

- Helped SMEs create jobs, and expanded support for social enterprises by providing targeted financial products as given below.

Special financial products

Products	Description
Special Funds for Job Creation	• Increases financial support for companies that have made qualitative improvements in employment, including hiring young people and/or the disabled, and turning temporary workers into permanent staff
Socially Responsible Business Support Fund	• Increases support for social enterprises and eco-friendly companies
Regional Economy Vitalization Support Fund	• Increases financial support for companies that are located in or have relocated to regional areas
Special On-lending for Job Creation	• Supports job creation by companies, and strengthens the foundations for continued hiring



Community Healing

KDB carries out community service activities that involve long-term commitment under the four key themes of neighborhood, education, culture, and nation.

Neighborhood

KDB family volunteer group Since 1996, KDB employees and their families have been paying regular visits to welfare facilities, such as rehab centers, facilities for the hearing impaired, and orphanages. The volunteers undertake a range of activities that embody their neighborly love including quarterly deliveries of much-needed supplies.

Support for people living in welfare blind spots This program identifies underprivileged people who are caught in welfare support blind spots, and supports them in the spirit of neighborly love. KDB provided a wide range of sponsorships in 2018, including sponsorships for promising track and field athletes and an alternative school.

***Kimchi* sharing** Every year since 2008, KDB and the Seoul City Women's Society have worked together to deliver *kimchi* to neighbors in need, especially elderly people who live alone. In November 2018, we delivered 12,000 cabbages of *kimchi* to elderly people living alone, low-income families, and welfare facilities.

Regular sharing events In partnership with the Yeongdeungpo Senior Welfare Center, KDB visits elderly people living alone to deliver rice and other daily necessities, as well as goods needed to stay warm during the winter. We also take part in a wide range of volunteer activities, including free meals, financial donations, special activities on major national holidays, as well as fundraising and volunteering activities involving all employees at the end of each year.

Blood drives KDB runs blood drives in which all employees are encouraged to participate, with the aim of helping pediatric patients with leukemia. Participants deliver their blood donation certificates and make financial donations to relevant institutions, and the Bank matches the donations made.

Employee donations KDB collects the last four-digit portion of its employees' monthly wages, and donates the sum in the form of scholarships and support for low-income and single-parent households.

Education

KDB has provided biannual pro-bono financial education programs targeting teenagers. Also, since 1985, we have invited children living on remote islands to Seoul to help them experience life in the biggest city in Korea.

Culture

Our Mecenat activities are focused on bringing culture, arts, and sports closer to the public. We invite young people from low-income families and disabled teenagers to various cultural events, and also provide sponsorships to unpopular culture & art performances.

Nation

One-Company-for-One-Village & One-Company-for-One-Platoon campaigns 2018 marks the 13th year of our 'One-Company-for-One-Village' campaign, through which we provide medical services, host events to promote the purchase of local products, provide a helping hand to farmers, and invite them to cultural performances. KDB also runs the 'One-Company-for-One-Platoon' campaign which supports Korean armed forces and encourages our employees to experience the importance of national security.

KDB Foundation

Established in 2007, the KDB Foundation runs projects in three areas — socially responsible finance, community service, and talent development. The following projects run by the Foundation reflect KDB's commitment to creating social value through sustainable finance.

In 2018, a total of 406 teams applied for 'KDB Start-up Program', a program supporting start-ups run by young people, and 25 teams were chosen to participate in the final round. They were provided with a range of training programs, including professional start-up training, mentoring, and venture capital support. 7 teams were finally selected to be offered start-up funds totaling KRW 200 million, as well as other follow-up programs.

'KDB Microcredit Fund' helps underprivileged people build more stable finances. In 2018, we helped 14 small businesses and 4 franchisees start their own businesses. In addition to financial support, KDB offered 12 follow-up business management programs, such as management consulting and one-on-one mentoring.

'KDB Social Economy Enterprise Support Program' has been in place since 2015, with the aim of supporting the creation of jobs for the underprivileged. In 2018, we provided 10 social enterprises with resources for facility investments, as well as customized mentoring on marketing, finance, and labor. This program has supported a total of 37 social enterprises since its launch, and has created jobs for 101 people.

Knowledge Sharing

KDB does its utmost to enable society to move forward in a more constructive direction by sharing its vast knowledge database accumulated over many years of experience with the public.

Sharing know-how in policy finance

KDB shares its knowledge of development finance with emerging countries, and promotes friendly international relations. Therefore, in response to a request made by the World Bank, in May 2018, we shared our know-how in policy finance for new growth industries and experience as a GCF Implementing Entity with public officials from Laos. This was followed by training for employees of the National Bank of Cambodia in August, and public officials from Indonesia in September. In November, we provided training on development finance and risk management to employees of the State Bank of Vietnam and VietinBank. We also invited employees of the central banks of Thailand, Myanmar, and Vietnam to visit KDB in December, and explained KDB's roles and functions in policy finance.

In July 2018, KDB provided training regarding the public-private partnership (PPP) projects in Korea to the officials of Indonesia's Ministry of Finance, as part of the Knowledge Sharing Program (KSP) organized by the Ministry of Economy and Finance and in order to support the Korean government's cooperation with developing countries. KDB also invited foreign students at the KAIST Graduate School of Finance in November and explained KDB's roles and functions, as part of a program organized by KOICA to help public officials from developing countries become financial experts.

Developing global talent

In July 2018, KDB Foundation invited 33 ethnic Korean university students from four countries in Central Asia to join the 'KDB Global Leadership Program'. Aimed at fostering the next-generation leaders in Central Asia, this customized six-week training program consisted of Korean language and history courses, cultural experiences, leadership training, and a tour of Seoul.

KDB will continue to support next-generation ethnic Korean leaders who can be a bridge between two countries. A total of 221 graduates have been generated from this program since its launch in 2012, and approximately 60 of them have been admitted to prestigious graduate schools in Korea, hired by multinational corporations, or become public officials in Central Asia.

FINANCIAL REVIEW

Management's Discussion & Analysis

The 2018 financial statements prepared by KDB conform to the Korean International Financial Reporting Standards (K-IFRS). K-IFRS refers to Korea's adoption of the standards and interpretations released by the International Accounting Standards Board (IASB). The 2018 financial statements of KDB cover financial performance from January 1 to December 31 of the year, and the financial figures in this Management's Discussion & Analysis (MD&A), unless specified otherwise, are based on consolidated financial statements.

2018 Review

The global economy sustained a moderate growth but concerns over a slowdown mounted on unstable economic conditions in emerging markets influenced by the US interest rate hikes, looming risks from the US-China trade disputes, Brexit and other factors.

The Korean economy likewise experienced slower growth with decreased growth in manufacturing, moderate improvements in services and continued sluggishness in construction. The nominal growth rate remains below the recent trend and the GDI growth rate is fastly receding on deteriorating terms of trade. Domestic demand was stagnant with weaker investment and slower consumption growth. The Korean financial industry, however, was able to maintain sound levels of profitability and asset quality, despite the global economic downturn and increasing household debts in Korea.

According to our survey, facilities investment showed a continuous trend of investment concentration in semiconductors and displays. Following recent industry trends, the change in external and internal industrial structure is having a greater impact, encouraging the embracement of new technology. Despite growing corporate awareness of the need for investments in the 4th Industrial Revolution-related fields, actual corporate investments are still insufficient.

KDB has concentrated more of its competencies on future growth industries and industries associated with the 4th Industrial Revolution to ensure the stability and revitalization of the national economy as Korea's representative financial institution. KDB also encouraged preemptive restructuring for corporate groups suffering from a temporary shortage in liquidity and took effective financial measures to prevent a potential contagion of crisis.

Our continued efforts also include promoting overseas advancement of Korean companies, fostering a healthy start-up ecosystem, contributing to the competencies of SMEs, and marking grounds for a Global KDB through providing financial arrangements in overseas PF market and establishing the Asia Regional Head Office in Singapore as the business hub in Southeast Asia.

KDB's prestige as a market leader and Korea's representative financial institution, together with its impressive capital adequacy, has been comprehensively evaluated by international credit rating agencies. In 2018, KDB maintained high credit ratings (Moody's Aa2, S&P AA, and Fitch AA-), and its BIS capital ratio stood at 14.80 percent.

2019 Outlook

Reflecting a confluence of factors affecting major economies, the global growth is projected to slow from 3.6 percent in 2018 to 3.3 percent in 2019 according to IMF World Economic Outlook (April 2019). However, the gaps among the growth rates of advanced economies are widening and the financial markets in some emerging countries are showing signs of instability, escalating uncertainties over global growth.

Korea is projected to grow 2.6 percent in 2019, an inch down from 2018 (2.7 percent), according to IMF and KDI, as export growth moderates and domestic demand slows. Facilities investment will continue to see slow growth in 2019, as the unprecedented huge investment in semiconductors is expected to subside and investment demand in other sectors will be marginal. Growth in the Korean economy will be limited by weaker private consumption and slower growth in exports as a result of delays in the economic recovery of major trading partners.

In addition, risks will persist on the backdrop of a worsening trade environment caused by global economic downturn, increasing trade protectionism, and the ongoing Brexit issue. The lackluster growth of the global economy and trade volume, falling unit prices of major export items and weakening global competitiveness could become downside risks to growth projections. Internally, there are still risk factors concerning increasing amounts of non-performing loans caused by deteriorating conditions in the global and domestic economy, and high household debts — albeit the recent slowed growth in household debts.

KDB plans to fulfill its role by strengthening its fundamentals at a time when the volatility of domestic and international economic situation is increasing. KDB will spearhead the era of the 4th Industrial Revolution, reinvigorating the national economy as well as raising monitoring efforts on the global and domestic capital markets, while also providing a market safety net.

In 2019, KDB will strive to carry out its role based on stable credit ratings, globally competitive financial expertise, and thorough risk management, in the face of a rapidly changing financial environment. Moreover, KDB will facilitate a rebound of the national economy by taking the lead in advancing the financial industry as well as backing the push for globalization.

Income Analysis

Summary Statement of Income

(Unit: KRW billion)

	2018	2017	Change	
			Amount	%
Net operating revenue	3,603.4	3,929.5	(326.1)	(8.3)
Net interest income	2,081.2	2,254.3	(173.1)	(7.7)
Non-interest income	1,522.2	1,675.2	(153.0)	(9.1)
Provision for credit losses	(372.3)	1,371.9	(1,744.2)	(127.1)
G&A expenses	1,709.6	1,790.3	(80.7)	(4.5)
Operating income	2,266.1	767.3	1,498.8	195.3
Non-operating income	(1,087.3)	778.4	(1,865.7)	(239.7)
Income tax expenses	472.8	982.3	(509.5)	(51.9)
Net profit	706.0	563.4	142.6	25.3

KDB recorded a net profit of KRW 706 billion in 2018, up KRW 143 billion compared to the previous year. Operating income rose by KRW 1,499 billion year-on-year to stand at KRW 2,266 billion which was mainly attributable to the reversal of credit losses. Non-operating income fell by KRW 1,866 billion compared to the previous year, mainly due to net losses from investments in associates, resulting in a negative non-operating income of KRW 1,087 billion.

Interest Income and NIM

(Unit: KRW billion)

	2018	2017	Change	
			Amount	%
Interest-earning assets (Annual average balance)	160,775	161,041	(266)	(0.2)%
Yield rate (%)	3.08	2.84		0.24%p
Interest-bearing liabilities (Annual average balance)	175,157	177,001	(1,844)	(1.0)%
Cost rate (%)	2.17	1.94		0.23%p
NIM (%)	0.71	0.71		–

* Non-consolidated basis

Interest-earning assets and interest-bearing liabilities dropped 0.2% and 1.0%, respectively, to KRW 160,775 billion and KRW 175,157 billion, while the yield rate and cost rate increased by 0.24%p and 0.23%p to stand at 3.08% and 2.17%, respectively. Both yield rate and cost rate increased, and thus the net interest margin remained the same as last year.

Financial Condition

Summary Statement of Financial Position

(Unit: KRW billion)

	2018	2017	Change	
			Amount	%
Assets	260,076.2	263,811.7	(3,735.5)	(1.4)
Cash & due from banks	8,730.0	8,235.5	494.5	6.0
Securities	77,412.0	75,713.8	1,698.2	2.2
Loans	142,936.0	143,224.1	(288.1)	(0.2)
Other assets	30,998.2	36,638.3	(5,640.1)	(15.4)
Liabilities	225,822.7	230,240.9	(4,418.2)	(1.9)
Deposits	33,949.2	34,300.1	(350.9)	(1.0)
Borrowings	26,379.5	28,692.7	(2,313.2)	(8.1)
Bonds	123,175.4	120,228.0	2,947.4	2.5
Other liabilities	42,318.6	47,020.1	(4,701.5)	(10.0)
Equity	34,253.4	33,570.8	682.6	2.0
Issued capital	18,108.1	17,938.1	170.0	0.9
Capital surplus	813.8	1,058.4	(244.6)	(23.1)
Retained earnings	10,518.9	9,827.1	691.8	7.0
Capital adjustments	316.4	324.6	(8.2)	(2.5)
Accumulated other comprehensive income	24.7	694.5	(669.8)	(96.4)
Non-controlling interests	4,471.5	3,728.1	743.4	19.9

At the end of 2018, KDB's assets amounted to KRW 260,076 billion, down 1.4% compared to the previous year. This was mainly attributable to a decrease in other assets, which fell by 15.4% to KRW 30,998 billion.

KDB's liabilities went down by 1.9% year on year to record KRW 225,823 billion, which is mainly attributable to reduction in borrowings and other liabilities. Borrowings amounted to KRW 26,380 billion, down 8.1% from the previous year, and other liabilities recorded KRW 42,319 billion, down 10.0% year on year.

KDB's issued capital went up with an increase of capital worth KRW 170 billion as KDB issued new shares to the Korean government in 2018. As a result, KDB's total equity stood at KRW 34,253 billion, up 2.0% from the previous year, due to aforementioned increase in issued capital, and increases in retained earnings and non-controlling interests.

Loans

(Unit: KRW billion)

	2018	2017	Change	
			Amount	%
Corporate loans	119,636	121,040	(1,404)	(1.2)
Large enterprises	95,635	95,224	411	0.4
SMEs	24,001	25,816	(1,815)	(7.0)
Household loans	698	1,537	(839)	(54.6)
Public and others	1,363	1,173	190	16.2
Total loans	121,697	123,750	(2,053)	(1.7)

* Non-consolidated basis

Total loans recorded KRW 121,697 billion, down 1.7% from the previous year. Corporate loans, which accounted for the largest proportion of total loans, fell by 1.2% year-on-year to KRW 119,636 billion as loans to large enterprises increased by 0.4% while loans to SMEs decreased by 7.0%.

Funding

(Unit: KRW billion)

	2018	2017	Change	
			Amount	%
Deposits	33,949	34,300	(351)	(1.0)
Borrowings	26,380	28,693	(2,313)	(8.1)
Bonds	123,175	120,228	2,947	2.5

Deposits of KDB fell by 1.0% compared to the previous year while borrowings also decreased by 8.1%. Bonds increased by 2.5% year-on-year, resulting in the proportion of funding sourced from bonds rising from 65.6% to 67.1%.

Asset Quality

(Unit: KRW billion)

	2018	2017	Change	
			Amount	%
Total credit	121,697	123,751	(2,054)	(1.7)
Normal	110,819	111,063	(244)	(0.2)
Precautionary	5,726	8,368	(2,642)	(31.6)
Sub-standard	3,703	2,533	1,170	46.2
Doubtful	315	548	(233)	(42.5)
Estimated loss	1,134	1,239	(105)	(8.5)
Sub-standard and below loans (NPL)	5,152	4,320	832	19.3
NPL ratio	4.23%	3.49%		0.74%p
Loan loss reserve	4,261	4,142	119	2.9
NPL coverage ratio	82.7%	95.9%		(13.2)%p

* Non-consolidated basis

Total credit at the 2018 year-end amounted to KRW 121,697 billion, down 1.7% or KRW 2.1 trillion year-on-year. NPLs increased by 19.3% to KRW 5,152 billion, as exposures to some companies undergoing restructuring were classified as below sub-standard. As a result, the NPL ratio increased from 3.49% in 2017 to 4.23% in 2018.

Loan loss reserves recorded KRW 4,261 billion, up 2.9% compared to the previous year. As a result of the increase in NPLs, the NPL coverage ratio fell by 13.2%p to 82.7%.

Capital Adequacy

Capital Adequacy Ratio and Tier 1 Ratio

(Unit: %)

	2018	2017	Change (%p)
Capital adequacy ratio	14.80	15.26	(0.46)
Tier 1 ratio	12.69	13.18	(0.49)

The BIS capital adequacy ratio and Tier 1 ratio of KDB, in accordance with Basel III as of the end of 2018, stood at 14.80% and 12.69%, respectively, down 0.46%p and 0.49%p compared to the previous year. The BIS capital recorded KRW 34.4 trillion at year-end, up by 1.1% year-on-year, thanks to additional capital injections (KRW 0.17 trillion) from the Korean government. Risk-weighted assets went up by 4.2% to KRW 232.6 trillion, mainly attributable to increases in indirect investments and the restructuring portfolio. The BIS capital adequacy ratio of KDB is well maintained above the minimum requirement of 8%.

Independent Auditors' Report

Based on a report originally issued in Korean

The Board of Directors and Shareholders
Korea Development Bank

Opinion

We have audited the accompanying consolidated financial statements of Korea Development Bank and its subsidiaries (collectively, the "Group"), which comprise the consolidated statements of financial position as of December 31, 2018 and 2017, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korea IFRS).

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 Statement* 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 the Republic of Korea, and we have fulfilled our other 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.

Other Matter

Auditing standards and their application in practice vary among counties. The procedures and practices used in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those 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 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 Statements on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with Korean Standards on Auditing, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Group's internal control.
- Evaluate the appropriateness of accounting policies used and the reasonableness of accounting estimates and related disclosures made by management.
- Conclude on the appropriateness of management's use of the going concern basis of accounting and, based on the audit evidence obtained, whether a material uncertainty exists related to events or conditions that may cast significant doubt on the Group's ability to continue as a going concern. If we conclude that a material uncertainty exists, we are required to draw attention in our auditor's report to the related disclosures in the consolidated financial statements or, if such disclosures are inadequate, to modify our opinion. Our conclusions are based on the audit evidence obtained up to the date of our auditor's report. However, future events or conditions may cause the Group to cease to continue as a going concern.
- Evaluate the overall presentation, structure and content of the consolidated financial statements, including the disclosures, and whether the consolidated financial statements represent the underlying transactions and events in a manner that achieves fair presentation.
- Obtain sufficient appropriate audit evidence regarding 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.

Seoul, Korea
March 28, 2019

This report is effective as of March 28, 2019, 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.

Korea Development Bank and Subsidiaries

Consolidated Statements of Financial Position

December 31, 2018 and 2017

(In millions of won)

	Notes	December 31, 2018 (*)		December 31, 2017 (*)
Assets				
Cash and due from banks	4, 49, 58, 59, 62	₩	8,730,028	8,235,486
Securities measured at FVTPL	5, 58, 59, 62		13,490,715	-
Financial assets held for trading	6, 58, 59, 62		-	1,904,649
Financial assets designated at FVTPL	7, 58, 59, 62		-	120,019
Securities measured at FVOCI	8, 49, 58, 59, 62		30,277,386	-
Available-for-sale financial assets	9, 49, 58, 59, 62		-	39,593,926
Securities measured at amortized cost	10, 49, 58, 59, 62		5,691,616	-
Held-to-maturity financial assets	11, 58, 59, 62		-	6,040,641
Loans measured at FVTPL	12, 58, 59, 62		779,520	-
Loans measured at amortized cost	13, 51, 58, 59, 62		142,156,494	-
Loans	14, 51, 58, 59, 62		-	143,224,116
Derivative financial assets	15, 58, 59, 60, 62		3,925,505	6,382,579
Investments in associates	16, 61		27,952,330	28,054,557
Property and equipment, net	17, 61		5,951,840	6,026,911
Investment property, net	18, 61		367,271	412,586
Intangible assets, net	19, 61		939,784	1,292,426
Deferred tax assets	47		924,659	920,983
Current tax assets			86,459	74,516
Other assets	20, 58, 59, 62		18,660,416	21,264,039
Assets held for sale	21		142,138	264,294
Total assets		₩	260,076,161	263,811,728
Liabilities				
Financial liabilities measured at FVTPL	22, 58, 59, 62	₩	2,164,538	1,626,185
Deposits	23, 58, 59, 62		33,949,175	34,300,089
Borrowings	24, 58, 59, 62		26,379,539	28,692,715
Debentures	25, 58, 59, 62		123,175,447	120,228,005
Derivative financial liabilities	15, 58, 59, 60, 62		3,229,104	5,823,991
Policy reserves	26		16,325,334	15,586,838
Defined benefit liabilities	27		447,116	403,092
Provisions	28		2,157,120	1,687,266
Deferred tax liabilities	47		3,713,425	3,512,909
Current tax liabilities			96,270	369,572
Other liabilities	29, 58, 59, 62		14,185,647	17,991,308
Liabilities held for sale	21		-	18,954
Total liabilities		₩	225,822,715	230,240,924

December 31, 2018 and 2017

(In millions of won)

	Notes	December 31, 2018 (*)	December 31, 2017 (*)
Equity			
Issued capital	30	₩ 18,108,099	17,938,099
Capital surplus	30	813,820	1,058,374
Capital adjustment	30	316,429	324,596
Accumulated other comprehensive income	30	24,710	694,547
Retained earnings	30	10,518,889	9,827,095
(Regulatory reserve for credit losses of ₩1,405,853 million and ₩1,347,622 million as of December 31, 2018 and 2017, respectively)			
(Required provision for (reversal of) regulatory reserve for credit losses of ₩(148,180) million and ₩58,231 million as of December 31, 2018 and 2017, respectively)			
(Planned provision for (reversal of) regulatory reserve for credit losses of ₩(148,180) million and ₩58,231 million as of December 31, 2018 and 2017, respectively)			
Total equity attributable to owners of the parent		29,781,947	29,842,711
Non-controlling interests		4,471,499	3,728,093
Total equity		34,253,446	33,570,804
Total liabilities and equity		₩ 260,076,161	263,811,728

(*) The consolidated statement of financial position as of December 31, 2018 is prepared in accordance with Korean IFRS 1109 and Korean IFRS 1115; however, the comparative consolidated statement of financial position as of December 31, 2017 was not retrospectively restated to apply Korean IFRS 1109 and Korean IFRS 1115.

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Consolidated Statements of Comprehensive Income

Years ended December 31, 2018 and 2017

(In millions of won, except earnings per share information)

	Notes		2018	2017
Interest income	31	₩	6,112,194	5,753,821
Interest expense	31		(4,031,035)	(3,499,555)
Net interest income	61		2,081,159	2,254,266
Net fees and commission income	32		435,001	478,674
Dividend income	33		274,734	260,147
Net loss on securities measured at FVTPL	34		(8,018)	-
Net loss on financial instruments held-for-trading	35		-	(27,311)
Net gain (loss) on financial instruments designated at FVTPL	36		(64,227)	73,452
Net gain on securities measured at FVOCI	37		41,191	-
Net loss on available-for-sale financial assets	38		-	(155,078)
Net loss on securities measured at amortized cost	39		(16)	-
Net gain on held-to maturity financial assets	40		-	193
Net gain on derivatives	41		19,243	1,058,089
Net foreign currency transaction gain (loss)	42		240,173	(754,779)
Other operating income, net	43		584,131	741,803
Non-interest income, net			1,522,212	1,675,190
Provision for (reverse of) credit losses	44		(372,276)	1,371,885
General and administrative expenses	45, 61		1,709,566	1,790,269
Operating income	61		2,266,081	767,302
Net gain (loss) related to investments in associates	16		(796,791)	273,350
Other non-operating income	46		250,945	1,749,961
Other non-operating expense	46		(541,468)	(1,244,920)
Non-operating income (expense), net			(1,087,314)	778,391
Profit before income taxes			1,178,767	1,545,693
Income tax expenses	47		472,787	982,321
Profit for the year	30	₩	705,980	563,372
(Profit for the year adjusted for regulatory reserve for loan losses: ₩854,160 million and ₩505,141 million for the years ended December 31, 2018 and 2017, respectively)				

Years ended December 31, 2018 and 2017

(In millions of won, except earnings per share information)

	Notes	2018 (*)		2017 (*)
Other comprehensive income (loss) for the year, net of tax	30		(262,080)	(36,608)
Items that are or may be reclassified subsequently to profit or loss:				
Net loss on securities measured at FVOCI		₩	(51,762)	-
Valuation gain on available-for-sale financial assets, net			-	113,596
Share of other comprehensive income (loss) of associates			(106,818)	207,928
Exchange differences on translation of foreign operations			34,326	(289,413)
Valuation gain on cash flow hedge			3,770	7,737
Others			(522)	(88,713)
			(121,006)	(48,865)
Items will not be reclassified to profit or loss:				
Remeasurements of defined benefit liabilities			(46,156)	12,257
Fair value changes on financial liabilities designated at fair value due to credit risk			(6,342)	-
Net loss on securities measured at FVOCI			(54,323)	-
Share of other comprehensive loss of associates			(34,253)	-
			(141,074)	12,257
Total comprehensive income for the year		₩	443,900	526,764
Profit attributable to:				
Owners of the parent	30	₩	529,266	493,412
Non-controlling interests			176,714	69,960
Profit for the year		₩	705,980	563,372
Total comprehensive income attributable to:				
Owners of the parent		₩	266,310	605,419
Non-controlling interests			177,590	(78,655)
Total comprehensive income for the year		₩	443,900	526,764
Earnings per share:				
Basic and diluted earnings per share (in won)	48	₩	147	139

(*) The consolidated statement of comprehensive income for the year ended December 31, 2018 is prepared in accordance with Korean IFRS 1109 and Korean IFRS 1115; however, the comparative consolidated statements of comprehensive income for the year ended December 31, 2017 were not retrospectively restated to apply Korean IFRS 1109 and Korean IFRS 1115.

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Consolidated Statements of Changes in Equity

Years ended December 31, 2018 and 2017 (In millions of won)

	Attributable to owners of the parent							
	Issued capital	Capital surplus	Capital adjustment	Accumulated other comprehensive income	Retained earnings	Total	Non-controlling interests	Total equity
Balance at January 1, 2017	₩ 17,543,099	1,236,666	215,236	582,540	9,333,683	28,911,224	2,108,246	31,019,470
Profit for the year	-	-	-	-	493,412	493,412	69,960	563,372
Valuation gain (loss) on available-for-sale financial assets	-	-	-	122,203	-	122,203	(8,607)	113,596
Share of other comprehensive income (loss) of associates	-	-	-	209,903	-	209,903	(1,975)	207,928
Exchange differences on translation of foreign operations	-	-	-	(232,218)	-	(232,218)	(57,195)	(289,413)
Valuation gain on cash flow hedge	-	-	-	7,737	-	7,737	-	7,737
Remeasurements of defined benefit liabilities	-	-	-	(437)	-	(437)	12,694	12,257
Others	-	-	-	4,819	-	4,819	(93,532)	(88,713)
Total comprehensive income for the year	-	-	-	112,007	493,412	605,419	(78,655)	526,764
Paid-in capital increase	395,000	(1,946)	-	-	-	393,054	-	393,054
Acquisition on / disposal of interest in subsidiaries while maintain control	-	(176,346)	109,360	-	-	(66,986)	1,698,502	1,631,516
Transaction with owners	395,000	(178,292)	109,360	-	-	326,068	1,698,502	2,024,570
Balance at December 31, 2017 (*)	₩ 17,938,099	1,058,374	324,596	694,547	9,827,095	29,842,711	3,728,093	33,570,804
Balance at January 1, 2018	₩ 17,938,099	1,058,374	324,596	694,547	9,827,095	29,842,711	3,728,093	33,570,804
Changes in accounting policy (Note 63)	-	(372)	-	(372,123)	274,862	(97,633)	(115,803)	(213,436)
Restated balance at January 1, 2018	17,938,099	1,058,002	324,596	322,424	10,101,957	29,745,078	3,612,290	33,357,368
Profit for the year	-	-	-	-	529,266	529,266	176,714	705,980
Net gain (loss) on securities measured at FVOCI	-	-	-	(144,170)	34,758	(109,412)	3,327	(106,085)
Share of other comprehensive loss of associates	-	-	-	(139,150)	-	(139,150)	(1,921)	(141,071)
Exchange differences on translation of foreign operations	-	-	-	14,690	-	14,690	19,636	34,326
Valuation gain on cash flow hedge	-	-	-	3,770	-	3,770	-	3,770
Remeasurements of defined benefit liabilities	-	-	-	(25,386)	-	(25,386)	(20,770)	(46,156)
Fair value changes on financial liabilities designated at fair value due to credit risk	-	-	-	(6,342)	-	(6,342)	-	(6,342)
Others	-	-	-	(1,126)	-	(1,126)	604	(522)
Total comprehensive income for the year	-	-	-	(297,714)	564,024	266,310	177,590	443,900
Dividends	-	-	-	-	(147,092)	(147,092)	-	(147,092)
Paid-in capital increase	170,000	(824)	-	-	-	169,176	-	169,176
Acquisition on / disposal of interest in subsidiaries while maintain control	-	(243,358)	(8,167)	-	-	(251,525)	681,619	430,094
Transaction with owners	170,000	(244,182)	(8,167)	-	(147,092)	(229,441)	681,619	452,178
Balance at December 31, 2018 (*)	₩ 18,108,099	813,820	316,429	24,710	10,518,889	29,781,947	4,471,499	34,253,446

(*) The consolidated statement of changes in equity for the year ended December 31, 2018 is prepared in accordance with Korean IFRS 1109 and Korean IFRS 1115; however, the comparative consolidated statement of changes in equity for the year ended December 31, 2017 was not retrospectively restated to apply Korean IFRS 1109 and Korean IFRS 1115.

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Consolidated Statements of Cash Flows

Years ended December 31, 2018 and 2017

(In millions of won)

	Notes	2018 (*)	2017 (*)
Cash flows from operating activities			
Profit for the year		₩ 705,980	563,372
Adjustments for:			
Income tax expense	47	472,787	982,321
Interest income	31	(6,112,194)	(5,753,821)
Interest expense	31	4,031,035	3,499,555
Dividend income	33	(274,734)	(260,147)
Loss on valuation of securities measured at FVTPL		15,491	-
Loss on valuation of financial assets held for trading	35	-	7,993
Loss (gain) on valuation of financial instruments designated at fair value through profit or loss	36	54,190	(79,375)
Net gain on securities measured at FVOCI	37	(41,191)	-
Net loss on available-for-sale financial assets	38	-	155,078
Net loss on securities measured at amortized cost	39	16	-
Net gain on held-to maturity financial assets	40	-	(193)
Gain on valuation of loans measured at FVTPL	12	(32,227)	-
Gain on valuation of derivatives		(178,788)	(178,417)
Net loss (gain) on fair value hedged items	41	36,381	(622,318)
Loss (gain) on foreign exchange translation	42	(175,519)	815,036
Loss on disposal of investments in associates	43	285,187	128,018
Impairment loss on investments in associates	16	347,317	27,379
Share of loss (profit) of associates	16	449,474	(300,729)
Provision for loan losses allowance	13, 14	172,686	976,961
Provision for due from banks	44	45	-
Increase (reversal) of provision for payment guarantees	28	69,769	(10,312)
Increase (reversal) of provision for unused commitments	28	(15,916)	59,186
Increase (reversal) of provision for financial guarantee provision	28	(39,825)	83,412
Increase of lawsuit provision	28	10,458	355,894
Reversal of restoration liability	28	(430)	(615)
Increase of other provisions	28	73,687	14,034
Increase (reversal) of provision for other assets	44	(559,035)	262,635
Defined benefit costs	27	163,088	161,430
Depreciation of property and equipment	17	276,323	266,617
Net loss (gain) on property and equipment	46	(4,077)	438,159
Depreciation of investment property	18	6,083	6,301

(*) The consolidated statement of cash flows for the year ended December 31, 2018 is prepared in accordance with Korean IFRS 1109 and Korean IFRS 1115; however, the comparative consolidated statement of cash flows for the year ended December 31, 2017 was not retrospectively restated to apply Korean IFRS 1109 and Korean IFRS 1115.

See accompanying notes to the consolidated financial statements.

Years ended December 31, 2018 and 2017

(In millions of won)

	Notes	2018 (*)	2017 (*)
Net loss on investment property	46	21,484	1,353
Amortization of intangible assets	19	214,411	218,737
Net loss on intangible assets	46	219,332	527,917
Net loss (gain) on assets held for sale	46	26,122	(22,299)
Net loss on share capital repayable on demand	43	106,398	107,549
Gain on redemption of debentures	43	(8)	(122)
		(382,180)	1,867,217
Changes in operating assets and liabilities:			
Due from banks		(1,430,715)	(476,022)
Securities measured at FVTPL		(6,638,000)	-
Financial assets held for trading		-	934,917
Financial assets designated at fair value through profit or loss		-	223,078
Loans measured at FVTPL		386,262	-
Loans measured at amortized cost		(42,647)	-
Loans		-	250,234
Derivative financial instruments		(94,861)	(691,673)
Other assets		3,611,943	752,505
Financial liabilities designated at fair value through profit or loss		-	(189,213)
Deposits		(341,516)	(5,071,831)
Policy reserves		738,495	1,152,859
Defined benefit liabilities		(106,710)	(111,891)
Provisions		(120,213)	(309,555)
Other liabilities		(4,286,560)	(3,258,427)
		(8,324,522)	(6,795,019)
Income taxes paid		(567,370)	(59,432)
Interest received		6,028,806	5,627,812
Interest paid		(3,548,469)	(3,699,746)
Dividends received		709,490	857,186
Net cash used in operating activities		₩ (5,378,265)	(1,638,610)

Years ended December 31, 2018 and 2017

(In millions of won)

	Notes	2018 (*)	2017 (*)
Cash flows from investing activities			
Net, decrease in securities measured at FVTPL		₩ 1,368,215	-
Disposal of securities measured at FVOCI	8	16,319,720	-
Acquisition of securities measured at FVOCI	8	(11,362,496)	-
Disposal of available-for-sale financial assets	9	-	21,741,259
Acquisition of available-for-sale financial assets	9	-	(17,964,038)
Redemption of securities measured at amortized cost	10	390,743	-
Acquisition of securities measured at amortized cost	10	(2,246,392)	-
Redemption of held-to-maturity financial assets	11	-	76,906
Acquisition of held-to-maturity financial assets	11	-	(857,249)
Disposal of property and equipment	17	148,746	32,188
Acquisition of property and equipment	17	(296,965)	(717,844)
Acquisition of investment property	18	(1,908)	(460)
Disposal of intangible assets	19	14,217	9,527
Acquisition of intangible assets	19	(106,810)	(92,547)
Disposal of assets and liabilities held for sale		152,248	587,752
Disposal of investment in associates	16	553,136	471,495
Acquisition of investments in associates	16	(2,044,736)	(1,449,906)
Net cash flows by the change of subsidiaries		257,957	705,109
Net cash provided by investing activities		3,145,675	2,542,192
Cash flows from financing activities			
Net, increase in financial liabilities designated at FVTPL		485,839	-
Proceeds from borrowings		36,576,654	38,897,054
Repayment of borrowings		(38,902,233)	(40,508,902)
Proceeds from issuance of debentures		111,594,315	99,353,713
Repayment of debentures		(108,745,920)	(100,110,868)
Paid-in capital increase		169,176	143,054
Decrease of share capital repayable on demand		(9,461)	-
Increase of non-controlling interests		1,132	-
Dividends paid		(147,092)	-
Net cash provided by (used in) financing activities		1,022,410	(2,225,949)
Effects from changes in foreign currency exchange rate for cash and cash equivalents held		(83,402)	(616,256)
Net decrease in cash and cash equivalents		(1,293,582)	(1,938,623)
Cash and cash equivalents at beginning of the year		10,334,990	12,273,613
Cash and cash equivalents at end of the year	56	₩ 9,041,408	10,334,990

(*) The consolidated statement of cash flows for the year ended December 31, 2018 is prepared in accordance with Korean IFRS 1109 and Korean IFRS 1115; however, the comparative consolidated statement of cash flows for the year ended December 31, 2017 was not retrospectively restated to apply Korean IFRS 1109 and Korean IFRS 1115.

See accompanying notes to the consolidated financial statements.

Notes to the Consolidated Financial Statements

1. Reporting Entity

The accompanying consolidated financial statements comprise Korea Development Bank ("KDB" or the "Bank") and its subsidiaries (collectively the "Group"). General information of the Bank and its subsidiaries is stated below.

(1) Controlling company

KDB was established on April 1, 1954, in accordance with *the Korea Development Bank Act* to finance and manage major industrial projects, in order to expedite industrial development and enhance the national economy.

The Bank is engaged in the banking industry under the *Korea Development Bank Act* and other applicable statutes, and in the fiduciary in accordance with *the Financial Investment Services and Capital Markets Act.*

Korea Finance Corporation (KoFC), the former ultimate parent company, and KDB Financial Group Inc. (KDBFG), the former immediate parent company, were established by spin-offs of divisions of the Bank as of October 28, 2009. KoFC and KDBFG were merged into the Bank, effective as of December 31, 2014. Issued capital is ₩18,108,099 million with 3,621,619,768 shares of issued and outstanding as of December 31, 2018 and the government of the Republic of Korea owns 100% of the Bank's shares.

The Bank's head office is located in 14, Eunhaeng-ro, Yeouido-dong, Yeongdeungpo-gu, Seoul and its service network as of December 31, 2018, is as follows:

	Domestic		Overseas			Total
	Head Office	Branches	Branches	Subsidiaries	Representative offices	
KDB	1	74	9	5	8	97

(2) Consolidated subsidiaries

The Group's equity ownership in its consolidated direct and indirect subsidiaries as of December 31, 2015 and 2014 are summarized as follows:

Investor	Investee	Country	Industry	Fiscal year end	Ownership (%) 2018	Ownership (%) 2017
	Subsidiaries:					
KDB	KDB Asia (HK) Ltd.	Hong Kong	Finance	December	100.00	100.00
	KDB Ireland Ltd.	Ireland	Finance	December	100.00	100.00
	KDB Bank Uzbekistan Ltd.	Uzbekistan	Finance	December	86.32	86.32
	KDB Bank Europe Ltd.	Hungary	Finance	December	100.00	100.00
	Banco KDB Do Brazil S. A.	Brazil	Finance	December	100.00	100.00
	KDB Capital Corporation	Korea	Financial lease	December	99.92	99.92
	KDB Infrastructure Investment Asset Management Co., Ltd.	Korea	Asset management	December	84.16	84.16
	Daewoo Shipbuilding & Marine Engineering Co., Ltd.	Korea	Manufacturing	December	55.72	56.01
	Shinhan Heavy Industries Co., Ltd. (*1) (*5)	Korea	Manufacturing	December	89.22	89.22
	Samwoo Heavy Industry Co., Ltd. (*1) (*5)	Korea	Manufacturing	December	100.00	100.00
	Daehan Shipbuilding Co., Ltd. (*1) (*5)	Korea	Manufacturing	December	70.04	70.04
	Korea Infrastructure Fund	Korea	Financial investment	December	85.00	85.00
	Korea Education Fund (*3)	Korea	Financial investment	Half-yearly	50.00	50.00
	Korea BTL Fund I (*3)	Korea	Financial investment	Half-yearly	41.67	41.67
	Korea Railroad Fund I (*3)	Korea	Financial investment	Half-yearly	50.00	50.00
	Principals and interests guaranteed trusts (*4)	Korea	Financial investment	December	-	-
	Principals guaranteed trusts (*4)	Korea	Financial investment	December	-	-

Investor	Investee	Country	Industry	Fiscal year end	Ownership (%)	
					2018	2017
KDB	KDB Venture M&A Private Equity Fund	Korea	Financial investment	December	57.56	57.56
	KDB Consus Value Private Equity Fund	Korea	Financial investment	December	68.20	58.08
	Components & Materials M&A Private Equity Fund	Korea	Financial investment	December	83.33	83.33
	KDB Value Private Equity Fund VI	Korea	Financial investment	December	99.84	99.84
	KDB Value Private Equity Fund VII (*5)	Korea	Financial investment	December	55.00	55.00
	KDB Sigma Private Equity Fund II (*5)	Korea	Financial investment	December	73.33	73.33
	KDB Asia Private Equity Fund (*5)	Korea	Financial investment	December	65.00	65.00
	KoFC-KBIC Frontier Champ 2010-5 PEF (*2)	Korea	Financial investment	December	50.00	50.00
	KTB Korea-Australia Global Cooperation Private Equity Fund (*6)	Korea	Financial investment	December	-	95.00
	KDBC IP Investment Fund 2 (*5)	Korea	Financial investment	December	66.66	66.66
	KoFC-KDBC Pioneer Champ 2010-4 venture investment fund (*5)	Korea	Financial investment	December	100.00	100.00
	NVESTOR 2016 Private Equity Fund	Korea	Financial investment	December	80.00	80.00
	KDB-IAP OBOR Private Equity Fund (*2) (*5)	Korea	Financial investment	December	44.69	44.69
	KDB Small Medium Mezzanine PEF (*5)	Korea	Financial investment	December	73.33	-
	K-Five 5th Securitization Specialty Co., Ltd. and 7 others (*7)	Korea	Financial investment	December	-	-
	KIAMCO Road Investment Private Fund Special Asset Trust 2 and 32 beneficiary certificates	Korea	Financial investment	December	-	-
	Sub-subsidiaries:					
KDB Capital Corporation	Vietnam Int'l Leasing Co., Ltd.	Vietnam	Finance	December	81.65	81.65
	I-Cube Investment Fund 1 (*2) (*5)	Korea	Financial investment	December	18.70	18.70
	KDBC Biomedical New Growth Investment Fund	Korea	Financial investment	December	60.00	60.00
	KDBC Food Industry Investment Fund 1 (*2)	Korea	Financial investment	December	50.00	50.00
	Stock Collateral Loan MMT 4 (*6)	Korea	Financial investment	December	-	100.00
	Special money trust of Apache Golf Bond with Warrant	Korea	Financial investment	December	100.00	100.00
	Capstone Professional Investors Private Placement Real Estate Investment Trust #9 (*6)	Korea	Financial investment	December	-	50.00
	DB Financial Investment MMT	Korea	Financial investment	December	100.00	100.00
	Shinyoung Securities MMT	Korea	Financial investment	December	100.00	100.00
	Kyobo Securities MMT	Korea	Financial investment	December	100.00	-
	SK Securities MMT	Korea	Financial investment	December	100.00	-
	KDB Capital the Sixth Securitization Specialty Co., Ltd. (*7)	Korea	Financial investment	December	-	-
	KDB Capital the Eighth Securitization Specialty Co., Ltd. (*7)	Korea	Financial investment	December	-	-
	DB curious Private Equity Fund L. P.	Korea	Financial investment	December	98.74	98.74
	KCLAVIS Meister Fund No.49	Korea	Financial investment	December	58.82	-
	ST Capital the Third New Technology Combination	Korea	Financial investment	December	81.97	-

Investor	Investee	Country	Industry	Fiscal year end	Ownership (%)	
					2018	2017
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	DW Mangalia Heavy Industries S. A. (*6)	Rumania	Shipbuilding	December	-	51.00
	DSME Shangdong Co., Ltd.	China	Parts of watercraft manufacturing	December	100.00	100.00
	Shinhan Heavy Industries Co., Ltd. (*1)	Korea	Parts of watercraft manufacturing	December	-	-
	DeWind Co. (*6)	USA	Wind power generation	December	-	100.00
	Samwoo Heavy Industry Co., Ltd. (*1)	Korea	Parts of watercraft manufacturing	December	-	-
	DK Maritime S. A.	Panama	Shipping industry	December	100.00	100.00
	DSME Oman LLC (*6)	Oman	Real-estate developer	December	-	70.00
	DSME Far East LLC	Russia	Shipbuilding	December	100.00	100.00
	PT. DSME ENR CEPU (*6)	Indonesia	Mine lot investment	December	-	85.00
	DSME Information Consulting Co., Ltd.	Korea	IT Service	December	100.00	100.00
	DSME Kazakhstan LLP	Kazakhstan	Ship repairing	December	100.00	-
KDB Consus Value Private Equity Fund	KDB Life Insurance Co., Ltd. (*8)	Korea	Finance	December	92.73	85.05
KDB Value Private Equity Fund VI	Daewoo Engineering & Construction Co., Ltd. (*8)	Korea	Construction	December	51.34	51.34
I-Cube Investment Fund 1	IP-Cube Partners Co., Ltd. (*6)	Korea	Service	December	-	100.00

(*1) The Bank consolidates directly the investee which was a subsidiary of Daewoo Shipbuilding & Marine Engineering Co., Ltd., as it has control over the investee through the commencement of the administrative proceeding under the *Corporate Restructuring Promotion Act* for the year ended December 31, 2017.

(*2) Although the Group's shareholding in the investee is less than 50%, it controls the investee since 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.

(*3) The investees are financed by the Bank and managed by KDB Infrastructure Investment Asset Management Co., Ltd. They are included in the scope of consolidation even though the Bank holds less than half of the voting rights because the Bank is exposed to variable returns, and has the ability to affect those returns through its power over the investee.

(*4) The trusts are included in the scope of consolidation because the Bank has power over the trusts to control the financial and operating policies of the entity, and is exposed to variable returns through the contract for preservation of principal and interest or principal only.

(*5) Indirect ownership through subsidiaries is included.

(*6) The investees are excluded from the scope of consolidation as of December 31, 2018 due to liquidation or disposal.

(*7) The investees are established for the investor's business, or are structured entities that the investor has rights to obtain the majority of the benefits of the investee or retains the majority of the risks related to the investee. The investees are included in the scope of consolidation because the investor has power over the investees to control the financial and operating policies of the entity, exposure or rights to variable returns from its involvement with the investees and the ability to use its power over the investees to affect those returns.

(*8) The parent company of the sub-subsidiary is a SPE, which is not separately disclosed in the consolidated financial statements.

(3) Changes in subsidiaries

Subsidiaries that are newly included in the consolidated financial statements and those that are excluded from the consolidated financial statements as of December 31, 2018 are as follows:

(i) Subsidiaries newly included in scope of consolidation as of December 31, 2018

Reason	Subsidiaries
ABCP line of credit and purchase commitment	K-Five 7th Securitization Specialty Co., Ltd. Sinokor SF 3rd Co., Ltd. KDB Small Medium Mezzanine PEF

(In millions of won)

(ii) Subsidiaries excluded from scope of consolidation as of December 31, 2018

Reason	Subsidiaries
Liquidation	K-Five 4th Securitization Specialty Co., Ltd. Ubest 3rd Securitization Specialty Co., Ltd KDB Company Growth Didimdol Private Equity Investment Fund KTB Korea-Australia Global Cooperation Private Equity Fund Multi-Asset KDB Shipping Private Fund SNT-2

(4) Financial information of subsidiaries

Financial information of subsidiaries included in the consolidated financial statements as of and for the years ended December 31, 2018 and 2017 are as follows:

	2018					
	Assets	Liabilities	Equity	Operating revenue	Net profit (loss)	Total comprehensive income (loss)
KDB Asia (HK) Ltd.	₩ 1,956,143	1,615,419	340,724	84,594	19,153	30,281
KDB Ireland Ltd.	460,344	373,580	86,764	26,832	7,245	7,190
KDB Bank Uzbekistan Ltd.	633,731	568,471	65,260	26,901	8,993	10,400
KDB Bank Europe Ltd.	917,265	835,739	81,526	85,749	2,478	(398)
Banco KDB Do Brazil S. A.	328,486	256,040	72,446	149,042	11,764	2,641
KDB Capital Corporation	5,594,986	4,694,534	900,452	480,479	121,616	121,110
KDB Infrastructure Investment Asset Management Co., Ltd.	47,347	8,617	38,730	31,468	17,705	17,655
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	11,918,522	8,078,300	3,840,222	9,644,384	344,722	332,469
Shinhan Heavy Industries Co., Ltd.	331,754	290,565	41,189	252,022	13,592	12,284
Samwoo Heavy Industry Co., Ltd.	271,540	238,267	33,273	116,797	107	89
Daehan Shipbuilding Co., Ltd.	620,478	736,212	(115,734)	521,071	(52,747)	(54,366)
Korea Infrastructure Fund	7,655	6	7,649	671	580	580
Korea Education Fund	120,183	7	120,176	4,938	4,614	4,614
Korea BTL Fund I	439,795	301	439,494	17,279	15,913	15,913
Korea Railroad Fund I	203,497	9	203,488	5,635	5,081	5,081
Principals and interests guaranteed trusts	248,069	237,766	10,303	11,008	3,693	3,693
Principals guaranteed trusts	268,233	262,043	6,190	7,041	187	187
KDB Venture M&A Private Equity Fund	120	7,910	(7,790)	-	-	-
KDB Consus Value Private Equity Fund	18,700,778	17,896,897	803,881	3,909,771	51,684	171,878
Components & Materials M&A Private Equity Fund	1,136	1,812	(676)	4	(26)	(26)
KDB Value Private Equity Fund VI	9,358,161	7,578,192	1,779,969	10,733,868	(99,183)	(111,750)
KDB Value Private Equity Fund VII	96,390	3,226	93,164	40,487	12,973	18,127
KDB Sigma Private Equity Fund II	220,445	543	219,902	994	(1,215)	(1,958)
KoFC-KBIC Frontier Champ 2010-5 PEF	469	3	466	1,460	1,453	1,453
KDB Asia Private Equity Fund	42,549	200	42,349	-	(4,643)	616
KDBC IP Investment Fund 2	10,096	3,085	7,011	1,143	712	712
KoFC-KDBC Pioneer Champ 2010-4 venture investment Fund	6,050	2	6,048	1,432	(394)	(394)
NVESTOR 2016 Private Equity Fund	70,452	25,252	45,200	29,149	8,711	8,711

(In millions of won)

	2018					
	Assets	Liabilities	Equity	Operating revenue	Net profit (loss)	Total comprehensive income (loss)
KDB-IAP OBOR Private Equity Fund	146,697	49,982	96,715	-	6,870	10,885
KDB Small Medium Mezzanine PEF	17,968	1,278	16,690	7	(1,520)	(1,520)
K-Five 5th Securitization Specialty Co., Ltd. and 7 others	687,997	788,889	(100,892)	37,217	(3,886)	(3,886)
KIAMCO Road Investment Private Fund Special Asset Trust 2 and 32 beneficiary certificates	2,431,919	5,768	2,426,151	193,451	130,009	127,939

	2017					
	Assets	Liabilities	Equity	Operating revenue	Net profit (loss)	Total comprehensive income (loss)
KDB Asia (HK) Ltd.	₩ 1,481,387	1,171,441	309,946	76,587	22,762	(16,026)
KDB Ireland Ltd.	399,436	320,670	78,766	21,616	7,606	(1,212)
KDB Bank Uzbekistan Ltd.	745,374	677,237	68,137	90,386	60,790	(42,187)
KDB Bank Europe Ltd.	873,868	793,699	80,169	46,576	6,096	6,917
Banco KDB Do Brazil S. A.	363,222	293,418	69,804	140,860	10,046	1,048
KDB Capital Corporation	5,078,188	4,281,709	796,479	429,661	115,107	93,859
KDB Infrastructure Investment Asset Management Co., Ltd.	38,805	6,729	32,076	25,456	13,418	13,480
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	11,446,753	8,456,091	2,990,662	11,101,818	621,492	527,133
Shinhan Heavy Industries Co., Ltd.	315,526	286,621	28,905	46,853	3,165	2,378
Samwoo Heavy Industry Co., Ltd.	281,704	248,520	33,184	38,824	(3,361)	(3,457)
Daehan Shipbuilding Co., Ltd.	543,676	602,057	(58,381)	438,857	(6,352)	(6,352)
Korea Infrastructure Fund	9,775	6	9,769	865	751	751
Korea Education Fund	128,391	7	128,384	5,011	4,668	4,668
Korea BTL Fund I	469,776	321	469,455	18,526	17,072	17,072
Korea Railroad Fund I	309,417	12	309,405	13,879	13,040	13,040
Principals and interests guaranteed trusts	252,947	246,337	6,610	16,434	(1,477)	(1,477)
Principals guaranteed trusts	272,342	266,339	6,003	5,559	176	176
KDB Venture M&A Private Equity Fund	120	7,910	(7,790)	-	-	-
KDB Consus Value Private Equity Fund	17,331,649	17,089,983	241,666	4,515,023	49,595	(14,937)
Components & Materials M&A Private Equity Fund	1,162	1,812	(650)	4	(2,251)	4,712
KDB Value Private Equity Fund VI	9,797,318	7,732,081	2,065,237	12,068,750	(458,596)	(483,214)
KDB Value Private Equity Fund VII	214,051	62,087	151,964	15,766	10,027	(3,105)
KDB Sigma Private Equity Fund II	222,435	574	221,861	2	4,595	4,525
KoFC-KBIC Frontier Champ 2010-5 PEF	15,017	3	15,014	2,131	(294)	18
KTB Korea-Australia Global Cooperation Private Equity Fund	1,286	5	1,281	2	1,861	1,861
KDB Asia Private Equity Fund	26,353	195	26,158	-	(2,619)	(4,466)
KDBC IP Investment Fund 2	9,398	3,000	6,398	2,167	2,162	1,776
KoFC-KDBC Pioneer Champ 2010-4 venture investment Fund	11,621	179	11,442	3,410	3,227	1,571

(In millions of won)

	2017					
	Assets	Liabilities	Equity	Operating revenue	Net profit (loss)	Total comprehensive income (loss)
NVESTOR 2016 Private Equity Fund	62,384	25,886	36,498	13,717	96	96
KDB-IAP OBOR Private Equity Fund	140,592	47,894	92,698	-	(1,598)	(8,062)
K-Five 5th Securitization Specialty Co., Ltd. and 7 others	767,162	863,933	(96,771)	43,211	(10,939)	(10,949)
KIAMCO Road Investment Private Fund Special Asset Trust 2 and 34 beneficiary certificates	2,370,818	7,313	2,363,505	150,995	120,659	105,610

2. Basis of Preparation

(1) Application of accounting standards

These consolidated financial statements have been prepared in accordance with the Korean International Financial Reporting Standards (K-IFRS) enacted by the *Act on External Audit of Stock Companies*.

(2) Changes and disclosures of accounting policies

(i) New and amended standards and interpretations adopted

The Group newly applied the following amended and enacted standards for the annual period beginning on January 1, 2018. The nature and the impact of each new standard or amendment are described below:

K-IFRS 1109 'Financial Instruments'

K-IFRS 1109 'Financial Instruments' replaces the existing guidance in K-IFRS 1039 *'Financial Instruments: Recognition and Measurement'*. K-IFRS 1109 brings together all three aspects of the accounting for financial instruments project: classification and measurement, impairment and hedge accounting. Also, KIFRS 1107 Financial Instruments: Disclosures has been amended in accordance with K-IFRS 1109.

The Group's accounting policies have been changed and the amounts recognized in the financial statements have been modified as a result of the adoption of KIFRS 1109 on January 1, 2018. In accordance with the transitional provisions, the financial statements for the year ended December 31, 2017 have not been restated.

The main features of the standard include: a business model for the managing financial assets; classification and measurement of financial assets based on contractual cash flow characteristics of financial assets; an impairment model for financial instruments based on expected credit losses; the hedged item that meet the requirements of hedge accounting, increases in hedging instruments, or changes in the evaluation method for hedge effectiveness.

Classification and measurement of financial assets

K-IFRS 1109 requires a financial asset to be classified and measured subsequently at amortized cost, fair value through other comprehensive income (FVOCI), or fair value through profit or loss (FVTPL) based on the holder's business model and instrument's contractual cash flow characteristics as shown below. If a hybrid contract contains a host that is a financial asset, an embedded derivative is not separated from the host and the entire hybrid contract is classified according to the requirement of K-IFRS 1109.

	Contractual cash flow characteristics	
Business model	Composed solely of principal and interest	Other
Objective of collecting contractual cash flows	Measured at amortized cost (*1)	Measured at FVTPL (*2)
Objective of collecting contractual cash flows and selling financial assets	Measured at FVOCI (*1)	
Objective of selling or others	Measured at FVTPL	

(*1) Financial assets may be irrevocably designated as measured at FVTPL to eliminate or reduce accounting mismatch.

(*2) Investments in equity instruments not held for trading may be irrevocably designated as measured at FVOCI.

Classification and measurement of financial liabilities

K-IFRS 1109 requires that the amount of change in fair value of the financial liability designated as measured at FVTPL that is attributable to changes in the credit risk shall be presented in other comprehensive income and the amount shall not be reclassified as profit or loss. If the requirements create or enlarge an accounting mismatch in profit or loss, all gains or losses on that liability including the effects of changes in the credit risk shall be presented in profit or loss.

Impairment: financial assets and contract assets

In K-IFRS 1109, impairment of debt instruments measured at amortized costs or FVOCI, lease receivables, contract assets, loan commitments and financial guarantee contracts is recognized based on the expected credit loss (ECL) impairment model.

K-IFRS 1109 outlines a 'three-stage' model for impairment based on changes in credit risk since initial recognition. A loss allowance is measured based on the 12-month ECL or life-time ECL which allows early recognition of credit loss compared to the incurred loss model of K-IFRS 1039.

Classification		Loss allowance
Stage 1	Assets with no significant increase in credit risk since initial recognition	12-month ECL: Expected credit losses that result from default events that are possible within 12 months after the reporting date.
Stage 2	Assets with significant increase in credit risk since initial recognition	Lifetime ECL: Expected credit losses that result from all possible default events over the expected life of the financial instrument.
Stage 3	Credit-impaired assets	

In K-IFRS 1109, the cumulative changes in lifetime ECL since initial recognition are recognized as a loss allowance for originated credit-impaired financial assets.

Hedge accounting

K-IFRS 1109 maintains mechanics of hedge accounting (fair value hedge, cash flow hedge and a hedge of a net investment in a foreign operation) as set forth in K-IFRS 1039. However, unlike requirements in K-IFRS 1039 that are too complex and strict, K-IFRS 1109 is more practical, principle based and less strict and focuses on the entity's risk management activities. Also, K-IFRS 1109 allows broader range of hedged items and hedging instruments. Under K-IFRS 1039, a hedge is assessed to be highly effective only if the offset is in the range of 80-125 percentage by performing numerical test of effectiveness. In K-IFRS 1109, such requirements are alleviated.

For details about impacts of the adoption of the K-IFRS 1109, see Note 63.

K-IFRS 1115 'Revenue from Contracts with Customers'

K-IFRS 1115 *'Revenue from Contracts with Customers'* replaces the existing guidance in K-IFRS 1011 *'Construction Contracts'*, K-IFRS 1018 *'Revenue'*, K-IFRS 2113 '*Customer Loyalty Programmes*', K-IFRS 2115 *'Agreements for the Construction of Real Estate'*, K-IFRS 2118 *'Transfers of Assets from Customers'* and K-IFRS 2031 *'Revenue - Barter Transactions Involving Advertising Services'*. The Group applied K-IFRS 1115 to the annual period beginning January 1, 2018 and recognized the cumulative impact of initially applying the standard as an adjustment to retained earnings as at January 1, 2018, the period of initial application.

Under the new K-IFRS 1115, revenue is recognized by applying a five-stage revenue recognition model (Identification of a contract with a customer → Identification of performance obligations in the contract → Determination of the transaction price → Allocation of the transaction price to the separate performance obligations in the contract → Recognition of revenue upon satisfying the performance obligations) to all of its contracts with customers.

For details about impacts of the adoption of the K-IFRS 1115, see Note 63.

K-IFRS 1028 'Investments in Associates and Joint Ventures'

When an investment in an associate or a joint venture is held by, or it held indirectly through, an entity that is a venture capital organization, a mutual fund, etc., the entity may elect to measure that investment at fair value through profit or loss. The amendments clarify that an entity shall make this election separately for each associate of joint venture, at initial recognition of the associate or joint venture. The adoption of K-IFRS 1028 has no significant impact on the financial statements of the Group.

K-IFRS 1102 'Share-based Payment'

Amendment to K-IFRS 1102 clarifies the accounting for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled and valuation method used to measure fair value of cash-settled share-based payment. The adoption of K-IFRS 1102 has no significant impact on the financial statements of the Group.

Enactments to Interpretation 2122'Foreign Currency Transactions and Advance Consideration'

According to these enactments *'Foreign Currency Transactions and Advance Consideration'*, the date of the transaction for determining the exchange rate to use on initial recognition of the related asset, expense or income (or part of it) is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration. If there are multiple payments or receipts in advance, the entity shall determine a date of the transaction for each payment or receipt of advance consideration. The adoption of enactments to Interpretation 2122 has no significant impact on the financial statements of the Group.

(ii) New standards and interpretations issued but not effective

The following new standards, interpretations and amendments to existing standards have been issued but not effective for annual periods beginning after January 1, 2018, and the Group has not early adopted them. The Group is currently in progress of analyzing the potential impact on the financial statements resulting from the application of these standards, interpretations and amendments.

K-IFRS 1116 'Leases'

K-IFRS 1116 *'Leases'* will replace K-IFRS 1017 *'Leases'*, Interpretation 2104 *'Determining whether an Arrangement contains a Lease'*, Interpretation 2015 *'Operating Leases-Incentives'*, and Interpretation 2027 *'Evaluating the Substance of Transactions Involving the Legal Form of a Lease'*. The Group will adopt this standard for annual periods beginning on or after January 1, 2019.

At inception of a contract, the Group shall assess whether the contract is, or contains, a lease. Also, at the date of initial application, the Group shall assess whether the contract is, or contains, a lease in accordance with the standard. However, the Group may not need to reassess all contracts with applying the practical expedient that can be applied to contracts entered before the date of initial application.

For a contract that is, or contains, a lease, the Group shall account for each lease component within the contract as a lease separately from non-lease components of the contract. The lessee is required to recognize the right-of-use assets and lease liabilities representing the right to occupy the underlying assets and the duty to make lease payments, respectively. However, as the cases of short-term lease and the low value assets the exemption is applicable. In addition, as a practical expedient, the lessee may elect, by class of underlying asset, not to separate non-lease components from lease components, and instead account for each lease component and any associated non-lease components as a single lease component.

From a lessor's accounting perspective, K-IFRS 1116 will not significantly change in comparison to K-IFRS 1017.

(a) Accounting for a lessee

A lessee shall apply this standard to its leases either (a) retrospectively to each prior reporting period presented applying K-IFRS 1008 'Accounting Policies, Changes in Accounting Estimates and Errors' (Full retrospective application); or (b) with the cumulative effect of initially applying the standard being recognized at the date of initial application.

The Group plans to apply K-IFRS 1116 retrospectively with the cumulative effect of initially applying the standard and as such will not restate any comparative information.

The Group performed an impact assessment to identify potential financial effects of applying K-IFRS 1116. The assessment was performed based on available information as at January 1, 2019 to identify effects on 2019 financial statements.

The total minimum lease payment expected to be paid by the Bank in relation to operating leases before discounted to their present value is ₩40,257 million. When the payment is discounted at incremental borrowing rate of the lessee, the total minimum lease payment amounts to ₩37,144 million. For the all (or partial) contracts that are, or contain, a lease, the Bank plans to apply the practical expedient to account for each lease component and any associated non-lease components as a single lease component

Based on the impact assessment, the Bank expects the right-of-use asset and a lease liability as at January 1, 2019 to be increased by ₩46,496 million and ₩37,132 million, respectively. The results of the assessment in the financial effects may change due to additional information that the Group may obtain in the future.

(b) Accounting for a lessor

For the lease accounting as the lessor from the Group's point of view, the Group expects the impact to the financial statements applying K-IFRS 1116 will not be significant.

Amendments to K-IFRS 1109 'Financial Instruments'

The narrow-scope amendments made to K-IFRS 1109 'Financial Instruments' enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted.

Amendments to K-IFRS 1019 'Employee Benefits'

The amendments require that an entity shall calculate current service cost and net interest for the remainder of the reporting period after a plan amendment, curtailment or settlement based on updated actuarial assumptions from the date of the change. The amendments also require that a reduction in a surplus must be recognized in profit or loss even if that surplus was not previously recognized because of the impact of the asset ceiling. The amendments are effective for plan amendments, curtailments and settlements occurring in reporting periods that begin on or after 1 January 2019, with early adoption permitted.

Amendments to K-IFRS 1028 'Investments in Associates and Joint Ventures'

The amendments clarify that an entity shall apply K-IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. The amendments clarify that an entity shall apply K-IFRS 1109 to other interests in an associate or joint venture to which the equity method is not applied. In addition, the entity shall apply the impairment requirements in K-IFRS 1109 first to its other long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. These amendments will be applied retrospectively for annual periods beginning on or after January 1, 2019, with early adoption permitted. In accordance with the transitional provisions in K-IFRS 1109, the restatement of the comparative information is not required and the cumulative effects of initially applying the amendments retrospectively should be recognized in the beginning balance of retained earnings (or other components of equity, as appropriate) at the date of initial application.

Enactment to Interpretation of K-IFRS 2123 'Uncertainty over Income Tax Treatments'

The Interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed. This Interpretation will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted, and an entity can either restate the comparative financial statements retrospectively or recognize the cumulative effect of initially applying the Interpretation as an adjustment in the beginning balance at the date of initial application.

Annual Improvements to K-IFRS 2015 – 2017 Cycle:

The amendments to K-IFRS 1103 'Business Combination' clarify that when a party to a joint arrangement obtains control of a business that is a joint operation, and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. And amendments to K-IFRS 1111 *'Joint Agreements'*, K-IFRS 1012 *'Income Tax'* and K-IFRS 1023 *'Borrowing Costs'* have been issued.

(3) Basis of measurement

The consolidated financial statements have been prepared on the historical cost basis except for the following material items in the consolidated statement of financial position:

- Derivative financial instruments measured at fair value
- Financial instruments measured at fair value through profit or loss
- Available-for-sale financial instruments measured at fair value
- Fair value hedged financial instruments with changes in fair value, due to hedged risks, recognized in profit or loss
- Liabilities for defined benefit plans, which are recognized as net of the total present value of defined benefit obligations less the fair value of plan assets

(4) Functional and presentation currency

In preparing the Group's consolidated financial statements, transactions in foreign currencies are initially recorded by the Group entities at their respective functional currency rates prevailing at the date of the transaction. The Group's consolidated financial statements are presented in Korean won, which is also the Group's functional currency. The following entities of the Group have different functional currency from the presentation currency:

Functional currency	Subsidiaries
USD	KDB Asia Ltd.
	KDB Ireland Ltd.
	KDB Asia Private Equity Fund
	KDB-IAP OBOR Private Equity Fund
	Multi-Asset KDB Shipping Private Fund SPO-1
	Multi-Asset KDB Shipping Private Fund SNT-1
	Multi-Asset KDB Shipping Private Fund DA-3
	Multi-Asset KDB Shipping Private Fund KLC-1
	Multi-Asset KDB Ocean Value-up Private Fund 5th
	Multi-Asset KDB Ocean Value-up Private Fund 6th
UZS	KDB Bank Uzbekistan Ltd.
HUF	KDB Bank Europe Ltd.
BRL	Banco KDB Do Brazil S. A.

(5) Use of estimates and judgments

The preparation of the consolidated financial statements in conformity with K-IFRS requires management to make judgments, estimates and assumptions that affect the application of accounting policies and the reported amounts of assets, liabilities, income and expenses. Management's estimates may differ from actual outcomes if management's estimates and assumptions based on management's best judgment at the reporting date are different from the actual environment.

Estimates and underlying assumptions are evaluated on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimates are revised and in any future years affected.

The following are the key assumptions concerning the future and other key sources of estimation uncertainty at the end of the reporting period that have a significant risk of resulting in a material adjustment to the carrying amounts of assets and liabilities within the next financial year:

(i) Fair value of financial instruments

Financial instruments held-for-trading, financial instruments designated at fair value through profit or loss, available-for-sale financial assets and derivative instruments are recognized and measured at fair value. If the market for a financial instrument is not active, fair value is determined either by using a valuation technique or independent third-party valuation service. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, referencing to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models.

Financial instruments, which are not actively traded in the market and those with less transparent market prices, will have less objective fair values and require broad judgment on liquidity, concentration, uncertainty in market factors and assumptions in price determination and other risks. Diverse valuation techniques are used to determine the fair value of financial instruments, from generally accepted market valuation models to internally developed valuation models that incorporate various types of assumptions and variables.

(ii) Provisions for credit losses (allowances for loan losses, provisions for payment guarantee, and unused commitments)

The Group tests impairment and recognizes allowances for losses on financial assets classified at amortized cost, debt instruments measured at fair value through other comprehensive income and recognizes provisions for guarantees, and unused loan commitments. Accuracy of provisions for credit losses is dependent upon estimation of expected cash flows of the borrower for individually assessed allowances of loans, and upon assumptions and methodology used for collectively assessed allowances for groups of loans, guarantees and unused loan commitments.

(iii) Deferred taxes

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply in the year when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted or substantively enacted at the reporting date. Deferred income tax assets are recognized to the extent that sufficient taxable profit will be available to allow all or part of the deferred tax asset to be utilized. Actual income taxes in the future may not be identical to the recognized deferred tax assets and liabilities,

(iv) Defined benefit liabilities

The Group operates a defined benefit plan. Defined benefit liability is calculated by annual actuarial valuations as of the reporting date. In order to perform the actuarial valuations, assumptions for discount rates, future salary increases and others are required to be estimated. Defined benefit plans contain significant uncertainties in estimations due to its long-term nature.

(6) Approval date for the consolidated financial statements

The consolidated financial statements were authorized for issue by the Board of Directors on March 28, 2019, which will be submitted for approval to the shareholders' meeting to be held on March 29, 2019.

3. Significant Accounting Policies

The significant accounting policies applied by the Group in preparation of its consolidated financial statements are included below. The accounting policies set out below have been applied consistently to all periods presented in these consolidated financial statements.

(1) Basis of consolidation

(i) Subsidiaries and business combinations

Subsidiaries are entities controlled by the Group. The Group controls an entity when it is exposed to, or has right to, variable returns from its involvement with the entity and has the ability to affect those returns through its power of the entity. The financial statements of subsidiaries are included in the consolidated financial statements from the date on which control commences until the date on which controls ceases.

If a subsidiary of the Group uses accounting policies other than those adopted in the consolidated financial statements for like transactions and events in similar circumstances, appropriate adjustments are made to its financial statements in preparing the consolidated financial statements.

For acquisitions meeting the definition of a business combination, the acquisition method of accounting is used. Identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are measured initially at their fair values at the acquisition date. Any goodwill arising from initial consolidation is tested for impairment at least once a year and whenever events or changes in circumstances indicate the need for impairment. The cost of an acquisition is measured as the aggregate of the consideration transferred, measured at acquisition date in fair value of the assets transferred, equity instruments issued and liabilities incurred or assumed and the amount of any non-controlling interests in the acquire. Costs related to acquisition are recognized as expenses when occurred.

The excess of the cost of acquisition over the fair value of the Group's share of the identifiable net assets acquired is recorded as goodwill. If the cost of acquisition is less than the fair value of the Group's share of the net assets acquired, the difference is recognized directly in the consolidated statement of comprehensive income.

Intra-group balances, income and expenses, unrealized gain and loss and dividends resulting from intra-group transactions are fully eliminated. A change in the ownership interest of a subsidiary, without a change of control, is accounted for as an equity transaction. If the Group loses control over a subsidiary, it recognizes any investment retained at fair value and any surplus or deficit in profit or loss.

(ii) Investments in associates

Associates are all entities over which the Group has significant influence but not control. Significant influence is presumed to exist when the Group holds between 20% and 50% of the voting power. Investments in associates are accounted for by the equity method of accounting and are initially recognized at cost. The Group's investment in associates includes goodwill (net of any accumulated impairment loss) identified on acquisition. When the investors' share on the fair value of the associates' identifiable assets and liabilities exceeds acquisition cost of the associates' interest, the excess portion is recognized as the current profit for the year of acquisition.

The Group's share of its associates' post-acquisition profits or loss is recognized in the statement of comprehensive income, and its share of post-acquisition movements in reserves is recognized in reserves. When the Group's share of loss in an associate equals or exceeds its interest in the associate, including any other unsecured receivables, the Group does not recognize further loss, unless it has incurred obligations or made payments on behalf of the associates. The carrying amount of equity method investments and the long-term interest that partially consists of investors' net investment are included in interest in the associate. Unrealized gain and loss on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associate. Accounting policies of associates have been changed where necessary to ensure consistency with the policies adopted by the Group.

(iii) Acquisitions from entities under common control

The assets and liabilities acquired are recognized at the carrying amounts recognized previously in the Group controlling shareholder's consolidated financial statements. The difference between cash paid and acquired net assets are recorded in equity.

(iv) Non-controlling Interests

Non-controlling interests in a subsidiary are accounted for separately from the parent's ownership interests in a subsidiary. Each component of net profit or loss and other comprehensive income is attributed to the owners of the parent and non-controlling interest holders, even when the allocation reduces the non-controlling interests balance below zero.

(v) Changes in the parent company's ownership interest

Changes in the parent company's ownership interest in a subsidiary that do not result in a loss of control are accounted for as equity transactions with owners in their capacity as owners. Adjustments to non-controlling interests are based on a proportionate amount of the net assets of the subsidiary. The difference between the consideration and the adjustments made to non-controlling interests is recognized directly in equity attributable to the owners of the parent company.

(2) Operating segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components. Segment results that are reported to the chief operating decision maker include items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items mainly comprise corporate assets (primarily the Group's headquarters), head office expenses, and income tax assets and liabilities. The Group recognizes the CEO as the chief operating decision maker.

(3) Foreign exchange

(i) Foreign currency transactions

Transactions in foreign currencies are translated to the functional currency of company entities at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the reporting date are translated to the functional currency at the exchange rate at that date. Non-monetary assets and liabilities denominated in foreign currencies that are measured at fair value are translated to the functional currency at the exchange rate at the date that the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are translated using the exchange rate at the date of the transaction.

Foreign currency differences arising on translation are recognized in profit or loss, except for differences arising on the translation of available for sale equity instruments, a financial liability designated as a hedge of the net investment in a foreign operation, or in a qualifying cash flow hedge, which are recognized in other comprehensive income. Exchange rate effect of the gain (or loss) from non-monetary item is categorized according to whether the gain (or loss) is recognized as other comprehensive income or as profit or loss.

(ii) Foreign operations

If the presentation currency of the Group is different from a foreign operation's functional currency, the financial statements of the foreign operation are translated into the presentation currency using the following methods:

Unless the functional currency of foreign operations is in a state of hyperinflation, assets and liabilities of foreign operations are translated at the closing exchange rate at the end of the reporting period. Revenues and expenses on the statement of comprehensive income are translated at the exchange rates of the date of transaction. Foreign currency differences that arise from translation are recognized as other comprehensive income.

Any goodwill arising on the acquisition of a foreign operation, and any adjustments in fair value to the carrying amounts of assets and liabilities due to such acquisition, are treated as assets and liabilities of the foreign operation. Therefore, such are expressed in the functional currency of the foreign operations and, alongside other assets and liabilities of the foreign operation, translated at the closing exchange rate.

In the case of the disposal of a foreign operation, cumulative amounts of exchange difference regarding the foreign operation, recognized separately from other comprehensive income, are re-categorized from assets to profit or loss as of the moment the disposal profit or loss is recognized.

(iii) Foreign exchange of net investment in foreign operations

Monetary items receivable from or payable to a foreign operation, with none or little possibility of being settled in the foreseeable future, are considered a part of the net investment in the foreign operation. Therefore, the exchange difference is recognized as comprehensive income or loss in the consolidated financial statement, and re-categorized to profit or loss as of the disposal of the related net investment.

(4) Recognition and measurement of financial instruments

(i) Initial recognition

The Group recognizes a financial asset or a financial liability in its statement of financial position when the Group becomes a party to the contractual provisions of the instrument. A regular way purchase or sale of financial assets is recognized and derecognized using trade date accounting.

The Group classifies financial assets as financial assets at fair value through profit or loss, financial assets at fair value through other comprehensive income, or financial assets at amortized cost on the basis of the Group's business model for managing the financial assets and the contractual cash flow characteristics of the financial assets. The Group classifies financial liabilities as financial liabilities at fair value through profit or loss, or financial liabilities at amortized cost.

At initial recognition, a financial asset or financial liability is measured at its fair value plus or minus, in the case of a financial asset or financial liability not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition or issue of the financial asset or financial liability.

(ii) Subsequent measurement

After initial recognition, financial instruments are measured at amortized cost or fair value based on classification at initial recognition.

Amortized cost

The amortized cost is the amount at which the financial asset or financial liability is measured at initial recognition minus the principal repayments, plus or minus the cumulative amortization using the effective interest method of any difference between that initial amount and the maturity amount and, for financial assets, adjusted for any loss allowance.

Fair value

Fair values, which the Group primarily uses for the measurement of financial instruments, are the published price quotations based on market prices or dealer price quotations of financial instruments traded in an active market where available. These are the best evidence of fair value. A financial instrument is regarded as quoted in an active market if quoted prices are readily and regularly available from an exchange, dealer, broker, an entity in the same industry, pricing service or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis.

If the market for a financial instrument is not active, fair value is determined either by using a valuation technique or independent third-party valuation service. Valuation techniques include using recent arm's length market transactions between knowledgeable, willing parties, if available, referencing to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models.

The Group uses valuation models that are commonly used by market participants and customized for the Group to determine fair values of common over-the-counter (OTC) derivatives such as options, interest rate swaps and currency swaps which are based on the inputs observable in markets. For more complex instruments, the Group uses internally developed models, which are usually based on valuation methods and techniques generally used within the industry, or a value measured by an independent external valuation institution as the fair values if all or some of the inputs to the valuation models are not market observable and therefore it is necessary to estimate fair value based on certain assumptions.

If the valuation technique does not reflect all factors which market participants would consider in setting a price, the fair value is adjusted to reflect those factors. Those factors include counterparty credit risk, bid-ask spread, liquidity risk and others.

The chosen valuation technique makes maximum use of market inputs and relies as little as possible on entity-specific inputs. It incorporates all factors that market participants would consider in setting a price and is consistent with economic methodologies applied for pricing financial instruments. Periodically, the Group calibrates the valuation technique and tests its validity using prices of observable current market transactions of the same instrument or based on other relevant observable market data.

(iii) Derecognition

Derecognition is the removal of a previously recognized financial asset or financial liability from the statement of financial position. The Group derecognizes a financial asset or a financial liability when, and only when:

Derecognition of financial assets

Financial assets are derecognized when the contractual rights to the cash flows from the financial assets expire or the financial assets have been transferred and substantially all the risks and rewards of ownership of the financial assets are also transferred, or all the risks and rewards of ownership of the financial assets are neither substantially transferred nor retained and the Group has not retained control. If the Group neither transfers nor disposes of substantially all the risks and rewards of ownership of the financial assets, the Group continues to recognize the financial asset to the extent of its continuing involvement in the financial asset.

If the Group transfers the contractual rights to receive the cash flows of the financial asset, but retains substantially all the risks and rewards of ownership of the financial asset, the Group continues to recognize the transferred asset in its entirety and recognize a financial liability for the consideration received.

Derecognition of financial liabilities

Financial liabilities are derecognized from the statement of financial position when the obligation specified in the contract is discharged, cancelled or expires.

(iv) Offsetting

Financial assets and liabilities are offset and the net amount reported in the 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.

(5) Cash and cash equivalents

Cash and cash equivalents comprise balances with original maturities of or less than three months' maturity from the date of acquisition that are subject to an insignificant risk of changes in their fair value, including cash on hand, deposits held at call with banks and other highly liquid short-term investments with original maturities of three months or less.

(6) Non-derivative financial assets

(i) Financial assets at fair value through profit or loss

Any non-derivative financial asset classified as held for trading or not classified as financial assets at fair value through other comprehensive income or financial assets measured at amortized cost is categorized under financial assets at fair value through profit or loss.

The Group may designate certain financial assets upon initial recognition as at fair value through profit or loss when the designation eliminates or significantly reduces a measurement or recognition inconsistency (sometimes referred to as 'an accounting mismatch') that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases.

After initial recognition, a financial asset at fair value through profit or loss is measured at fair value and gains or losses arising from a change in the fair value are recognized in profit or loss. Interest income and dividend income from financial assets at fair value through profit or loss are also recognized in the statement of comprehensive income.

(ii) Financial assets at fair value through other comprehensive income

The Group classifies financial assets as financial assets at fair value through other comprehensive income if they meet the following conditions: 1) debt instruments that are a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets, and consistent with representing solely payments of principal and interest on the principal amount outstanding or 2) equity instruments, not held for trading with the objective of generating a profit from short-term fluctuations in price or dealer's margin, designated as financial assets at fair value through other comprehensive income.

After initial recognition, a financial asset at fair value through other comprehensive income is measured at fair value. Gain and loss from changes in fair value, other than dividend income and interest income amortized using effective interest method and exchange differences arising on monetary items which are recognized directly in income as interest income or expense, are recognized as other comprehensive income in equity.

At disposal of financial assets at fair value through other comprehensive income, cumulative gain or loss is recognized as profit or loss for the reporting period. However, cumulative gain or loss of equity instrument designated as fair value through other comprehensive income are not recycled to profit or loss at disposal. Financial assets at fair value through other comprehensive income denominated in foreign currencies are translated at the closing rate. Exchange differences resulting from changes in amortized cost are recognized in profit or loss, and other changes are recognized as equity.

(iii) Financial assets measured at amortized cost

A financial asset, which are held within the business model whose objective is to hold assets in order to collect contractual cash flows and consistent with representing solely payments of principal and interest on the principal amount outstanding, are classified as a financial asset at amortized cost. Financial assets at amortized cost are subsequently measured at amortized cost using the effective interest method after initial recognition and interest income is recognized using the effective interest method.

(7) Expected Credit Loss of Financial Assets

The Group measures expected credit loss and recognizes loss allowance at the end of the reporting period for financial assets measured at amortized cost and fair value through other comprehensive income with the exception of financial asset measured at fair value through profit or loss.

The expected credit loss ("ECL") is the weighted average amount of possible outcomes within a certain range, reflecting the time value of money, estimates on the past, current and future situations, and information accessible without excessive cost of effort.

The Group uses the following three measurement techniques in accordance with K-IFRS:

- General approach: for financial assets and off-balance-sheet unused credit line that are not applied below two approaches
- Simplified approach: for receivables, contract assets and lease receivables
- Credit-impaired approach: for purchased or originated credit-impaired financial assets

The general approach is applied differently depending on the significance of the increase of the credit risk. If, at the reporting date, the credit risk on a financial instrument has not increased significantly since initial recognition, an entity shall measure the loss allowance for that financial instrument at an amount equal to 12-month expected credit losses. If the credit risk on that financial instrument has increased significantly since initial recognition, an entity shall measure the loss allowance for a financial instrument at an amount equal to the lifetime expected credit losses at each reporting date.

The Group applies the simplified approach to 1) trade receivables and contract assets that do not have a significant financing component or 2) trade receivables, contract assets and lease receivables upon determining the Group's accounting policies as the application of the simplified approach. The approach requires expected lifetime losses to be recognized from initial recognition of the financial assets. Under credit-impaired approach, the Group shall only recognize the cumulative changes in lifetime expected credit losses since initial recognition as a loss allowance for purchased or originated credit-impaired financial assets.

The following non-exhaustive list of information may be relevant in assessing changes in credit risk:

- Significant changes in internal price indicators of credit risk as a result of a change in credit risk since inception
- Other changes in the rates or terms of an existing financial instrument that would be significantly different if the instrument was newly originated or issued at the reporting date
- An actual or expected significant change in the financial instrument's external credit rating.
- An actual or expected internal credit rating downgrade for the borrower or decrease in behavioural scoring used to assess credit risk internally
- An actual or expected significant change in the operating results of the borrower
- Past due information

(i) Forward-looking information

The Group uses forward-looking information, when it determines whether the credit risk has increased significantly since initial recognition and measures expected credit losses.

The Group assumes the risk component has a certain correlation with the business cycle, and calculates the expected credit loss by reflecting the forward-looking information with macroeconomic variables on the measurement inputs.

Forward looking information used in calculation of expected credit loss is derived after comprehensive consideration of a variety of factors including scenario in management planning, worst-case scenario used for stress testing, third party forecast, and others.

(ii) Measuring expected credit losses on financial assets at amortized cost

The amount of the loss on financial assets at amortized cost is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. The Group estimates expected future cash flows for financial assets that are individually significant (individual assessment of impairment).

For financial assets that are not individually significant, the Group collectively estimates expected credit loss by grouping loans with homogeneous credit risk profile (collective assessment of impairment).

Individual assessment of impairment
Individual assessment of impairment losses are calculated using management's best estimate on present value of expected future cashflows. The Group uses all the available information including operating cash flow of the borrower and net realizable value of any collateral held.

Collective assessment of impairment
Collective assessment of loss allowance involves historical loss experience along with incorporation of forward-looking information. Such process incorporates factors such as type of collateral, product and borrowers, credit rating, size of portfolio and recovery period and applies probability of default on a group of assets and loss given default by type of recovery method. Also, the expected credit loss model involves certain assumption to determine input based on loss experience and forward-looking information. These models and assumptions are periodically reviewed to reduce gap between loss estimate and actual loss experience.

The expected credit loss for financial assets measured at amortized cost is recognized as the loss allowance, and when the financial asset is determined to be irrecoverable, the carrying amount and loss allowance are decreased. If financial assets previously written off are recovered, the loss allowance is increased and the difference is recognized in the current profit or loss.

(iii) Measuring expected credit losses on financial assets at fair value through other comprehensive income

Measuring method of expected credit losses on financial assets at fair value through other comprehensive income is equal to the method of financial assets at amortized cost, except for changes in loss allowances that are recognized as other comprehensive income. Amounts recognized in other comprehensive income for sale or repayment of financial assets at fair value through other comprehensive income are reclassified to profit or loss.

(8) Derivative financial instruments including hedge accounting

Derivative financial instruments are initially recognised at fair value upon agreement of the contract and re-estimated at fair value subsequently. The recognition of profit or loss due to changes in fair value of derivative instruments is as stated below:

(i) Hedge accounting

Derivative financial instruments are accounted differently depending on whether hedge accounting is applied, and therefore, are classified into trading purpose derivatives and hedging purpose derivatives.

Upon the transaction of hedging purpose derivatives, two different types of hedge accounting are applied; a fair value hedge, and a cash flow hedge. A fair value hedge is a hedge of the exposure to changes in fair value of a recognised asset or liability or an unrecognised firm commitment, or an identified portion of such an asset, liability or firm commitment, that is attributable to a particular risk and could affect profit or loss. A cash flow hedge is a hedge of the exposure to variability in cash flows that (i) is attributable to a particular risk associated with a recognised asset or liability (such as all or some future interest payments on variable rate debt) or a highly probable forecast transaction and (ii) could affect profit or loss.

At inception of the hedge relationship, the Group formally documents the relationship between the hedged item and the hedging instrument, including the nature of the risk, the objective and strategy for undertaking the hedge, and the method that will be used to assess the effectiveness of the hedging relationship.

Fair value hedge
For designated and qualifying fair value hedges, the change in the fair value of a hedging derivative is recognised in profit or loss in the statement of comprehensive income. Meanwhile, the change in the fair value of the hedged item, attributable to the risk hedged, is recorded as part of the carrying value of the hedged item and is also recognised in profit or loss in the statement of comprehensive income. When the hedge no longer meets the criteria for hedge accounting, the hedge relationship is terminated. For hedged item recorded at amortized cost, the difference between the carrying value of the hedged item on termination and the face value is amortized over the remaining term of the original hedge using the EIR.

Cash flow hedge

For designated and qualifying cash flow hedges, the effective portion of gain or loss on the hedging instruments is initially recognised directly in equity. The ineffective portion of the gain or loss on the hedging instrument is recognised immediately in the statement of comprehensive income. When the hedged cash flow affects the profit or loss in statement of comprehensive income, the gain or loss on the hedging instrument is recorded in the corresponding income or expense line in profit or loss in the statement of comprehensive income. When a hedge no longer meets the criteria for hedge accounting, any cumulative gain or loss existing in equity at that time remains in equity and is recognised when the hedged forecasted transaction is ultimately recognised in the statement of comprehensive income. When a forecasted transaction is no longer expected to occur, the cumulative gain and loss that was reported in equity is immediately transferred to profit or loss in the statement of comprehensive income.

Trading purpose derivatives

For trading purpose derivatives transaction, changes in the fair value of derivatives are recognised in net income.

(9) Day one profit or loss recognition

For financial instruments classified as level 3 on the fair value level hierarchy measured using assess variables not observable in the market, the difference between the fair value at initial recognition and the transaction price, which is equivalent to Day one profit or loss, is amortized by using the straight-line method over time.

(10) Lease

The classification of leases is based on the extent to which risks and rewards incidental to ownership of a leased asset lie with the lessor and the lessee.

(i) Finance lease

Leases of assets where the Group has substantially all the risks and rewards of ownership are classified as finance leases, and the Group presents them as a receivable at an amount equal to the net investment in the lease. Also, initial direct cost that includes directly and additionally incurred commission fee, legal expenses, and internal accrued costs are included in finance lease receivables. The Group accounts for lease payment by apportioning into finance lease receivables and interest revenue, and interest revenue is recognized using the EIR method on uncollected finance lease net investment.

(ii) Operating lease

A lease is classified as operating lease if it does not transfer substantially all the risks and rewards incidental to ownership, and the related asset is presented as acquisition cost less accumulated depreciation. Moreover, the minimum lease payment excluding guaranteed residual value is recognized as revenue on a straight line basis over the lease term. Initial direct costs incurred by lessors in negotiating and arranging an operating lease shall be added to the carrying amount of the leased asset and recognized as an expense over the lease term, and the depreciation policy for depreciable leased assets shall be consistent with the lessors' normal depreciation policy for similar assets.

(11) Property and equipment

The Group's property and equipment is recognized at the carrying amount as historical costs less accumulated depreciation and accumulated impairment in value. Historical costs include the expenditures directly related to the acquisition of assets.

Subsequent costs are recognized in the carrying amount of assets or, if appropriate, as separate assets if the probabilities future economic benefits associated with the assets will flow into the Group and the costs can be measured reliably; the carrying amount of the replaced part is derecognized. Furthermore, any other repairs or maintenances are charged to profit or loss as incurred.

Land is not depreciated. Depreciation on other assets is calculated using the straight line method to the amount of residual value less acquisition cost over the following estimated useful lives:

Type	Useful lives (years)
Buildings	12 ~ 60
Structure	10 ~ 51
Leasehold improvements	4
Vehicles	4
Equipment	4 ~ 8
Other properties	2 ~ 40

Property and equipment are impaired when its carrying amount exceeds the recoverable amount. The Group assesses residual value and economic life of its assets at each reporting date and makes adjustments to its useful life when necessary. Any gain or loss arising from the disposal of the asset (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is recognized in non-operating income (expense) in the consolidated statement of comprehensive income.

(12) Investment property

The Group classifies property held for the purpose of rental income or benefits from capital appreciation as investment property. Investment property is measured initially at cost, including transaction costs. Subsequent to initial recognition, the cost model is applied. Subsequent to initial recognition, an item of investment property is carried at its cost less any accumulated depreciation and any accumulated impairment loss.

Investment properties are derecognized either when they have been disposed of or when the investment property is permanently withdrawn from use and no future economic benefit is expected from its disposal. The difference between the net disposal proceeds and the carrying amount of the asset is recognized in the statement of comprehensive income in the period of de-recognition. Reclassification to or from other account is made if there is a change in use of corresponding investment property.

Depreciation of investment property is calculated using the straight line method over their estimated useful lives as follows:

Type	Useful lives (years)
Buildings	20 ~ 50
Structure	10 ~ 40

(13) Intangible assets

An intangible asset is recognized only when its cost can be measured reliably, and the probabilities future economic benefits from the asset will flow into the Group are high. Separately acquired intangible assets are recognized at the acquisition cost, and subsequently, the cost less accumulated depreciation and accumulated impairment is recognized as the carrying amount.

Intangible assets with finite lives are amortized over the 4-year to 30-year period of useful economic lives using the straight line method. At the end of each reporting period, the Group reviews intangible assets for any evidence that indicate impairment, and upon the presence of such evidence, the Group estimates the amount recoverable and recognizes the loss accordingly. Intangible assets are derecognized either when they have been disposed of or when the intangible assets are permanently withdrawn from use and no future economic benefit is expected from its disposal.

Intangible assets with indefinite useful lives are not amortized, but are tested for impairment annually. Furthermore, the Group reviews such intangible assets to determine whether it is appropriate to consider these assets to have indefinite useful lives. If in the case the Group concludes an asset is not qualified to be classified as non-finite, prospective measures are taken to consider such an asset as finite.

Expenditures on research activities, undertaken with the prospect of gaining new scientific or technical knowledge and understanding, are recognized in profit or loss as incurred. Development expenditures are capitalized only if development costs can be measured reliably, the product or process is technically and commercially feasible, future economic benefits are probable, and the Group intends to and has sufficient resources to complete development and to use or sell the asset. Other development expenditures are recognized in profit or loss as incurred.

(14) Impairment of non-financial assets

The Group tests for any evidence of impairment in assets and reviews whether the impairment has taken place by estimating the recoverable amount, at the end of each reporting period. The Group estimates the recoverable amount of each asset or a whole cash-generating unit unless it is possible to estimate the amount of the asset in that unit. The recoverable amount is the higher of the fair value less cost and value in use, of an asset. The Group recognizes the difference between the carrying amount and the recoverable amount of the asset as an impairment loss if the carrying amount exceeds the recoverable amount.

Any goodwill arising on the acquisition of a business is allocated to each cash-generating unit that is expected to gain the benefits of the synergy effect. Impairment on cash-generating unit deducts other assets in proportion to their carrying amounts after deducting the carrying amount of goodwill allocated in that unit. Impairment loss on goodwill cannot be reversed once it is recognized.

Except for impairment losses in respect of goodwill that are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. The reversal is limited so that the carrying amount of the asset does not exceed its recoverable amount, nor exceeds the carrying amount that would have been determined, net of depreciation, had no impairment loss been recognized for the asset in prior years.

(15) Assets held for sale

Non-current assets (or disposal groups) that are expected to be recovered primarily through sale rather than through continuing use, are classified as held for sale. In order to be classified as held for sale, the asset (or disposal groups) must be available for immediate sale in its present condition and its sale must be highly probable. The assets (or disposal groups) that are classified as assets held for sale are measured at the lower of their carrying amount and fair value less cost to sell.

The Group recognizes an impairment loss for any initial or subsequent write-down of an asset (or disposal groups) to fair value less costs to sell, and a gain for any subsequent increase in fair value less costs to sell, up to the cumulative impairment loss previously recognized.

Non-current assets that are classified as held for sale or part of a disposal group classified as held for sale are not depreciated (or amortized).

(16) Non-derivative financial liabilities

The Group classifies non-derivative financial liabilities into financial liabilities at fair value through profit or loss or other financial liabilities in accordance with the substance of the contractual arrangement and the definitions of financial liability. The Group recognizes these financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the financial liability.

(i) Financial liabilities at fair value through profit or loss

Financial liabilities at fair value through profit or loss in the current year include financial liabilities held for trading and financial liabilities designated at FVTPL upon initial recognition. Financial liabilities and derivatives are classified as financial instruments held for trading if they are acquired for the purpose of repurchasing in the near future. Financial liabilities are classified as financial liabilities at FVTPL upon initial recognition, if the profit or loss from the liabilities indicates to be more purpose-appropriate to be recognized as profit or loss. Financial liabilities at FVTPL are designated at fair value in subsequent measurements, and any related un-realized profit or loss is recognized as profit or loss.

(ii) Financial liabilities measured at amortized cost

Financial liabilities measured at amortized cost are recognized at fair value less cost less transaction cost upon initial recognition, and subsequently at amortized costs. The difference between the proceeds (net of transaction cost) and the redemption value is recognized in the statement of comprehensive income over the periods of the liabilities using the EIR.

Fees paid on the establishment of a loan facility are recognized as transaction costs of the loan, if the probability that some or all of the facility will be drawn down is high. The amount is deferred until the financial liability would be withdrawn. If, however, there is not enough evidence to conclude a draw-down of some or all of the facility will occur, the fee is capitalized as a prepayment for liquidity services and amortized over the period of the facility to which it relates.

(iii) De-recognition of financial liabilities

A financial liability is de-recognized when the obligation under the liability is discharged, cancelled or expires. When an existing financial liability is replaced by another from the same lender on substantially different terms, or the terms of an existing liability are substantially modified, such an exchange or modification is treated as a de-recognition of the original liability and the recognition of a new liability. The difference between the carrying value of the original financial liability and the consideration paid is recognized in profit or loss.

(17) Employee benefits

(i) Short-term employee benefits

Short-term employee benefits are employee benefits that are due to be settled wholly before 12 months after the end of the reporting period in which the employees render the related service. When an employee has rendered service to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits expected to be paid in exchange for that service.

(ii) Retirement benefits: defined contribution plans

A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate fund. The Group is no longer responsible for any foreseeable future liability after a certain amount or percentage of money is set aside for defined contribution plans. If the pension plan allows for early retirement, payments are recognized as employee benefits. 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.

(iii) Retirement benefits: defined benefit plans

The Group classifies all the pensions as defined benefit plans except defined contribution plans. The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in the current and prior periods, discounting that amount and deducting the fair value of any plan assets. The calculation of defined benefit obligations is performed annually by a qualified actuary using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds that are denominated in the currency in which the benefits will be paid, and have terms to maturity similar to the terms of the related pension liability.

Remeasurements of the net defined benefit liabilities (assets), which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (if any, excluding interest), are recognized immediately in other comprehensive income.

(18) Provisions

Provisions are recognized when the Group has a present legal or constructive obligation as a result of a past event, it is probable that an outflow of resources embodying economic benefits will be required to settle the obligation and a reliable estimate can be made of the amount of the obligation.

(19) Financial guarantees

Financial guarantee contracts are contracts that require the issuer (the Group) to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due, in accordance with the original or changed terms of a debt instrument. Financial guarantees are initially recognized in the financial statements at fair value on the date the guarantee was given. Subsequent to initial recognition, the Group's liabilities under such guarantees are measured at the higher of:

- The amount determined in accordance with K-IFRS 1109 *'Financial Instruments'* and
- The initial amount recognized, less, when appropriate, cumulative amortization recognized in accordance with K-IFRS 1115 *'Revenue from Contracts with Customers'*.

(20) Securities under resale or repurchase agreements

Securities purchased under agreements to resell are recorded as other loans and receivables and the related interest from these securities is recorded as interest income; Securities sold under agreements to repurchase are recorded as borrowings, and the related interest from these securities is recorded as interest expense.

(21) Policy reserves for insurance contracts

In accordance with the *Insurance Business Act* and related insurance standards, the Group is required to maintain policy reserves, which consist of premium reserve, unearned premium reserve, reserve for outstanding claims, reserve for participating policyholders' dividends, excess participating policyholders' dividend reserve and reserve for loss on participating insurance policies, as a liability which is measured in accordance with the *Manual for Calculation of Premium and Policy Reserves* as approved by the Financial Supervisory Commission. Details are as follows:

(i) Premium reserve

Premium reserve represents an amount calculated based on a net premium valuation, which is the greater of an amount calculated by using the standard interest rate and standard risk rate issued by the Financial Supervisory Service (FSS), and an amount calculated using an internally generated rate derived by the Group. If the reserve is at zero or less, the amount is to be recorded at nil.

(ii) Unearned premium reserve

Unearned premium reserve represents an amount allocated for certain premiums whose initial payment date falls within the current reporting period and future payments, if any, fall subsequent to the end of the reporting period.

(iii) Guaranteed benefit reserve

Guaranteed benefit reserve guarantees a certain level of the insurance claims considering expected loss in the future. The Group's guaranteed benefit reserve consists of the following:

- Guaranteed minimum accumulation benefit: reserves that guarantee financial resources for the pension benefit amount that equals to the predetermined value in the contract.
- Guaranteed minimum death benefit: reserves that guarantee death benefit amount that equals to the predetermined value in the contract.
- Guaranteed minimum withdrawal benefit: reserves that guarantee the interim withdrawals amount that equals to the predetermined value in the contract during the period for interim withdrawals.
- Guaranteed lifetime withdrawal benefit: reserves that guarantee the interim withdrawals amount that equals to the predetermined value in the contract during lifetime.
- Other guaranteed benefits: guaranteed benefit reserves other than those listed above for a guarantee of insurance proceeds in excess of a certain level.

(iv) Reserve for outstanding claims

Reserve for outstanding claims represents a reserve based on estimate of loss for insured events that have occurred prior to the reporting date but have not yet been settled or determined, including:

- Outstanding losses: losses that have been reported to the insurer but are still in the process of settlement (in cases where a claim is partially paid, the remnant is reported).
- Incurred but not reported (IBNR): an estimate of the amount based on historical information of an insurer's liability for claim-generating events that have taken place but have not yet been reported to the insurer.
- Reserve for lapsed insurance contracts: reserve for insurance cancellation refund for lapsed insurance contracts due to non-payment of insurance premium that still can be revived or deferred within a certain period.
- Outstanding claims: legitimate claims, such as compensation, refund, dividend that an insurer has not yet paid to policy holder.

(v) Reserve for participating policyholders' dividends

The reserve for participating policyholders' dividends is classified into interest dividend reserve, mortality dividend reserve, interest rate difference guarantee reserve and long-term duration dividend reserve.

(vi) Excess participating policyholders' dividend reserve

Pursuant to relevant laws and contracts, the Group may provide an excess participating policyholder dividend reserve based on the operating results of related insurance products. The reserve may be used to pay participating policyholder dividends or additional dividends.

(22) Equity

Ordinary shares are classified as equity. Incremental costs directly attributable to the issuance of ordinary shares and share options 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 loss from the purchase, 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.

Non–controlling interests refer to equity in a subsidiary not attributable, directly or indirectly, to a parent. Non- controlling interests consist of the minority interest net income calculated under K-IFRS 1103 *'Business Combinations'* at the date of the initial combination, and minority interest of changes in equity after the business combination.

(23) Government subsidy

Government subsidy without repayment obligation, which is used for the acquisition of certain assets, is accounted for as a deduction from the acquisition cost of the acquired assets. Such subsidy amount is offset against the depreciation or amortization of the acquired assets during such assets' useful life.

(24) Interest income and expense

Interest income and expense are recognized in profit or loss using the effective interest method. The effective interest method measures the amortized costs of financial instruments and allocates the interest income or expense during the related period.

Upon the calculation of the effective interest rate, the Group estimates future cash flows by taking into consideration all contractual terms of the financial instrument, but not future credit loss. The calculation also reflects any fees or points paid or received, transaction costs and any related premiums or discounts. In the case that the cash flow and expected duration of a financial instrument cannot be estimated reliably, the effective interest rate is calculated by the contractual cash flow during the contract period.

Once an impairment loss has been recognized on a financial asset or a group of similar assets, subsequent interest income is recognized on the interest rate that was used to discount future cash flow for the purpose of measuring the impairment loss.

(25) Fees and commission income

Fees and commission income and expense are classified as follows according to related regulations:

(i) Fees and commission from financial instruments

Fees and commission income and expense that are integral to the effective interest rate on a financial asset or liability are included in the measurement of the effective interest rate. It includes those related to evaluation of the borrowers' financial status, guarantee, collateral, other agreements and related evaluation as well as business transaction, rewards for activities, such as document preparation and recording and setup fees incurred during issuance of financial liabilities. However, when financial instruments are classified as financial instruments at fair value through profit or loss, fees and commission are recognized as revenue upon initial recognition.

(ii) Fees and commission from services

Fees and commission income charged in exchange for services to be performed during a certain period of time such as asset management fees, consignment fees and assurance service fees are recognized as the related services are performed. When a loan commitment is not expected to result in the draw-down of a loan and K-IFRS 1039 *'Financial Instrument: Recognition and Measurement'* is not applied for the commitment, the related loan commitment fees are recognized as revenue proportionally to time over the commitment period.

(iii) Fees and commission from significant transaction

Fees and commission from significant transactions, such as trading stocks and other securities, negotiation and mediation activities for third parties, for instance business transfer and takeover, are recognized when transactions are completed.

(26) Dividend income

Dividend income is recognized upon the establishment of the Group's right to receive the payment.

(27) Income tax expense

Income tax expense comprises current and deferred income tax. Current income tax and deferred income tax are recognized in profit or loss except to the extent that the tax arises from a transaction or event, which is recognized in other comprehensive income or directly in equity, or a business combination.

Deferred income tax assets and liabilities are measured at the tax rates that are expected to apply to the reporting period when the assets are realized or the liabilities settled, based on tax rates (and tax laws) that have been enacted or substantively enacted by the end of the reporting period. The measurement of deferred income tax assets and liabilities reflects the income tax effects that would follow from the manner in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities.

Subsidiaries calculate income tax based on their tax laws and report the amount as current income tax liability. The Group recognizes deferred income tax liabilities for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future.

The Group recognizes deferred income tax assets for all deductible temporary differences arising from investments in associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The carrying amount of a deferred income tax asset is reviewed at the end of each reporting period and reduced to the extent that it is no longer probable that sufficient taxable profit will be available to allow the benefit of part or all of that deferred income tax asset to be utilized. Deferred income tax assets and liabilities are offset only if the Group has a legally enforceable right to offset the related current income tax assets and liabilities, and the assets and liabilities relate to income tax levied by the same tax authority and are intended to be settled on a net basis.

December 31, 2018 and 2017 (In millions of won)

(28) Accounting for trust accounts

The Group, for the purpose of financial reporting, differentiates trust assets from identifiable assets according to the *Financial Investment Services and Capital Markets Act.* Furthermore, the Group receives trust fees from the application, management and disposal of trust assets, and appropriates such amounts for fees from trust accounts.

Meanwhile, in the case the fee from an unspecified principal or interests guaranteed money in trust does not meet the principal or interest amount, even after appropriating deficit with trust fees and special reserve, the Group fills in the remaining deficit in the trust account and appropriates such amounts for losses on trust accounts.

(29) Regulatory reserve for credit losses

When the total sum of allowance for possible credit losses under K-IFRS is lower than the amount prescribed in Article 29(1) of the *Regulations on supervision of Banking Business,* the Group records the difference as a regulatory reserve for credit losses at the end of each reporting period.

In the case that the existing regulatory reserve for credit losses exceeds the amount needed to be set aside at the reporting date, the surplus may be reversed. Furthermore, in the case that undisposed deficit exists, a regulatory reserve for credit losses is saved from the time the undisposed deficit is disposed.

(30) Earnings per share

The Group represents its diluted and basic earnings per common share in the consolidated statement of comprehensive income. Basic earnings per share (EPS) is calculated by dividing net profit attributable to shareholders of the Group by the weighted average number of common shares outstanding during the reporting period. Diluted earnings per share is calculated by adjusting net profit attributable to common shareholders of the Group, considering dilution effects from all potential common shares, and the weighted average number of common shares outstanding.

(31) Correction of errors

Prior period errors shall be corrected by retrospective restatement in the first set of financial statements authorised for issue after their discovery except to the extent that it is impracticable to determine either the period-specific effects or the cumulative effect of the error.

4. Cash and Due from Banks

(1) Cash and due from banks as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Cash	₩	559,610	516,380
Due from banks in Korean won:			
Due from Bank of Korea		3,375,325	2,136,005
Other due from banks in Korean won		1,288,122	2,340,959
		4,663,447	4,476,964
Due from banks in foreign currencies / off-shores		3,506,971	3,242,142
	₩	8,730,028	8,235,486

(2) Restricted due from banks as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Reserve deposit	₩	2,070,742	1,248,969
Deposit of monetary stabilization account		1,460,000	1,100,000
Reserve for payment of principal and interest on behalf of SPC		-	79,906
Others		972,978	344,347
	₩	4,503,720	2,773,222

(In millions of won)

5. Cash and Due from Banks

(1) Details of securities in financial assets at fair value through profit or loss as of December 31, 2018 are as follows:

	December 31, 2018		
	Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:			
Stocks	₩ -	1,599,836	1,433,758
Equity investments	-	1,002,650	1,046,920
Beneficiary certificates	-	5,483,266	5,337,309
Government and public bonds	579,000	583,584	590,661
Financial bonds	2,174,641	2,162,733	2,162,170
Corporate bonds	811,016	793,201	1,166,400
Commercial paper	115,000	114,549	115,879
Other	242,595	363,349	385,527
	3,922,252	12,103,168	12,238,624
Securities denominated in foreign currencies / off-shores:			
Stocks	-	2,938	2,694
Equity investments	-	23,768	34,992
Beneficiary certificates	-	285,525	511,338
Debt securities	95,818	96,598	642,658
	95,818	408,829	1,191,682
Loaned securities	60,000	60,455	60,409
	₩ 4,078,070	12,572,452	13,490,715

(2) Equity securities with disposal restrictions in financial assets at fair value through profit or loss as of December 31, 2018 are as follows:

Company	December 31, 2018		
	Number of shares	Carrying amount	Restricted period
National Happiness Fund Co., Ltd.	34,066	68,757	Undecided

December 31, 2018 and 2017 (In millions of won)

6. Financial Assets Held for Trading

(1) Financial assets held for trading as of December 31, 2017 are as follows:

		December 31, 2017
Financial assets held for trading denominated in Korean won:		
Equity securities:		
Stocks and equity investments	₩	100,631
Beneficiary certificates		509,055
		609,686
Debt securities:		
Government and public bonds		604,538
Financial bonds		54,301
Corporate bonds		196,515
		855,354
		1,465,040
Financial assets held for trading denominated in foreign currencies / off shores:		
Equity securities		15,534
Debt securities		424,075
		439,609
	₩	1,904,649

(2) Details of debt securities in financial assets held for trading as of December 31, 2017 are as follows:

	December 31, 2017			
	Face value		Acquisition cost	Fair value (Carrying amounts)
Government and public bonds in Korean won	₩	611,399	605,030	604,538
Financial bonds in Korean won		55,041	54,558	54,301
Corporate bonds in Korean won		199,343	198,715	196,515
Debt securities in foreign currencies		425,236	425,637	424,075
	₩	1,291,019	1,283,940	1,279,429

7. Financial Assets Designated at FVTPL

The financial assets designated at fair value through profit or loss as of December 31, 2017 are as follows:

		December 31, 2017
Securities designated at FVTPL denominated in Korean won	₩	100,117
Securities designated at FVTPL denominated in foreign currencies		19,902
	₩	120,019

The above financial assets designated at fair value through profit or loss consist of equity-index-linked securities, and others. Through designating embedded derivatives and host contracts as FVTPL items, changes in fair value of complex financial products are recognized in profit or loss.

(In millions of won)

8. Securities Measured at FVOCI

(1) Details of securities measured at FVOCI as of December 31, 2018 are as follows:

	December 31, 2018			
		Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:				
Stocks and equity investments	₩	-	10,114,953	10,193,423
Government and public bonds		3,673,435	3,563,031	3,562,665
Financial bonds		1,702,000	1,702,746	1,703,597
Corporate bonds		7,624,117	7,648,220	7,661,575
Others		103,839	103,120	481,954
		13,103,391	23,132,070	23,603,214
Securities denominated in foreign currencies / off-shores:				
Equity securities		-	4,241	1,844
Debt securities		6,794,405	7,737,794	6,636,516
Others		35,820	35,684	35,812
		6,830,225	7,777,719	6,674,172
	₩	19,933,616	30,909,789	30,277,386

Equity instruments that are held by acquisition due to conversion from debt instruments, investment in kind and investment in ventures and SMEs are designated as measured at FVOCI. The realized pre-tax income on disposal of equity securities for the year ended December 31, 2018 is the amount of ₩44,013 million, which is directly recognized in retained earnings.

(2) Changes in securities measured at FVOCI for the year ended December 31, 2018 are as follows:

	2018	
Beginning balanc	₩	35,092,658
Acquisition		11,362,496
Disposal		(16,274,473)
Change due to amortization		(23,479)
Change in fair value		(131,956)
Reclassification		(11,786)
Foreign exchange differences		207,705
Others (*)		56,221
Ending balance	₩	30,277,386

(*) For the year ended December 31, 2018, others represent the increase in securities measured at FVOCI including shares of STX Heavy Industries Co., Ltd., STX Engine Co., Ltd., Wooyang HC Co., Ltd. and Namkwang Engineering & Construction Co., Ltd. acquired in accordance with the rehabilitation plan under the Debtor Rehabilitation and Bankruptcy Act, shares of Ecomaister Co., Ltd., Aribio Co., Ltd. and others acquired through exercise of conversion rights of the convertible bonds, and shares of DIB Co., Ltd. acquired pursuant to debt-to-equity swap decision of the Council of Financial Creditors under the Corporate Restructuring Promotion Act.

December 31, 2018 and 2017 (In millions of won)

(3) Equity securities with disposal restrictions in securities measured at FVOCI as of December 31, 2018 are as follows:

Company	December 31, 2018			
	Number of shares	Carrying amount		Restricted period
UAMCO., Ltd.	85,050	₩	118,130	Undecided
Taihan Electric Wire Co., Ltd. (*1)	15,926,991		16,166	Undecided
EM-Tech.Co., Ltd.	81,621		1,396	Until February 7, 2019
Hanjin Heavy Industries & Construction Co., Ltd.	1,208,588		2,000	Until December 31, 2019
Pyeongsan Co., Ltd.	222,222		-	Until December 31, 2019
HMR Co., Ltd.	35,972		-	Until December 31, 2019
CREA IN Co., Ltd.	14,383		46	Until December 21, 2021
Kumho Tire Co., Inc.	21,339,320		113,312	Until July 6, 2023 (*2)
	38,914,147	₩	251,050	

(*1) For the year ended December 31, 2018, the number of shares has changed due to the decisions of disposal restriction release and so on.

(*2) From July 6, 2021, 50% of the shares may be sold every year.

(4) Changes in the loss allowance in relation to securities measured at FVOCI for the year ended December 31, 2018 are as follows:

	2018				
	12-month expected credit loss		Lifetime expected credit losses		Total
			Non credit- impaired	Credit- impaired	
Beginning balance	₩	5,988	8,096	107,010	121,094
Transfer to 12-month expected credit loss		40	(40)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired debt securities		(2,111)	2,111	-	-
Provision (reversal) for loss allowance		4,448	(7,261)	17,559	14,746
Write-offs		-	-	(4,848)	(4,848)
Disposal		(1,556)	(5)	-	(1,561)
Debt-to-equity swap		-	-	(30,950)	(30,950)
Foreign currency translation		160	2	476	638
Others		(1,294)	(585)	(19,112)	(20,991)
Ending balance	₩	5,675	2,318	70,135	78,128

December 31, 2018 and 2017 (In millions of won)

9. Available-for-Sale Financial Assets

(1) Available-for-sale financial assets as of December 31, 2017 are as follows:

		December 31, 2017
Available-for-sale financial assets denominated in Korean won:		
Equity securities:		
Stocks and equity investments	₩	12,579,035
Beneficiary certificates		2,380,828
Others		377,339
		15,337,202
Debt securities:		
Government and public bonds		3,746,731
Financial bonds		4,827,814
Corporate bonds		9,240,628
		17,815,173
		33,152,375
Available-for-sale financial assets denominated in foreign currencies/off shores:		
Equity securities		347,999
Debt securities		6,093,552
		6,441,551
	₩	39,593,926

Equity securities with no quoted market prices in active markets and for which the fair value cannot be measured reliably are recorded at cost in the amount of ₩10,062,034 million as of December 31, 2017.

(2) Changes in available-for-sale financial assets for the year ended December 31, 2017 are as follows:

		2017
Beginning balance	₩	43,810,626
Acquisition		18,214,038
Disposal		(21,695,219)
Change due to amortization		(46,260)
Change in fair value		162,531
Impairment loss		(225,227)
Reversal of impairment loss		2,297
Reclassification		(11,118)
Foreign exchange differences		(698,621)
Others (*)		80,879
Ending balance	₩	39,593,926

(*) For the year ended December 31, 2017, others represent the increase in available-for-sale equity securities including shares of STX Heavy Industries Co., Ltd. acquired in accordance with the rehabilitation plan under the *Debtor Rehabilitation and Bankruptcy Act,* shares of Chinhung International Inc. acquired pursuant to debt-to-equity swap decision of the Council of Financial Creditors under the *Corporate Restructuring Promotion Act,* and shares of Phoenix Materials Co., Ltd. and others acquired through exercise of conversion rights of the convertible bonds.

December 31, 2018 and 2017 (In millions of won)

(3) Equity securities with disposal restrictions in available-for-sale financial assets as of December 31, 2017 are as follows:

Company	December 31, 2017			
	Number of shares	Carrying amount		Restricted period
Kumho Tire Co., Inc.	21,339,320	₩	94,426	Undecided
Taihan Electric Wire Co., Ltd. (*1)	16,476,369		18,536	Undecided
Ajin P & P Co., Ltd.	516,270		5,321	Undecided
National Happiness Fund	34,066		56,710	Undecided
Jaeyoung Solutec Co., Ltd.	1,962,000		3,532	Until May 18, 2018
Chinhung International Inc. (*2)	11,118,952		21,293	Until December 31, 2018
Hanjin Heavy Industries & Construction Co., Ltd.	1,208,588		4,000	Until December 31, 2018
CREA IN Co., Ltd.	14,383		46	Until December 21, 2021
	52,669,948	₩	203,864	

(*1) For the year ended December 31, 2017, some shares have been disposed of in accordance with the decision of the council consisted of major shareholders, etc.
(*2) The number of shares has changed after the decision of capital reduction and debt-to-equity swap for the year ended December 31, 2017.

(4) Details of debt securities in available-for-sale financial assets as of December 31, 2017 are as follows:

	December 31, 2017			
	Face Value		Acquisition cost	Fair value (Carrying amounts)
Government and public bonds in Korean won	₩	3,789,401	3,847,479	3,746,731
Financial bonds in Korean won		4,838,000	4,834,248	4,827,814
Corporate bonds in Korean won		9,419,047	9,442,867	9,240,628
Debt securities denominated in foreign currencies / off shores		6,221,072	7,265,949	6,093,552
	₩	24,267,520	25,390,543	23,908,725

10. Securities Measured at Amortized Cost

(1) Securities measured at amortized cost as of December 31, 2018 are as follows:

	December 31, 2018		
	Amortized cost		Fair value
Securities denominated in Korean won:			
Government and public bonds	₩	1,684,759	1,689,794
Financial bonds		1,281,169	1,281,452
Corporate bonds		1,306,067	1,334,464
Others		104	104
		4,272,099	4,305,814
Securities denominated in foreign currencies:			
Corporate bonds		1,422,345	1,307,909
		5,694,444	5,613,723
Less:			
Loss allowance		(2,828)	-
	₩	5,691,616	5,613,723

December 31, 2018 and 2017 (In millions of won)

(2) Changes in available-for-sale financial assets for the year ended December 31, 2018 are as follows:

		2018
Beginning balance	₩	3,784,622
Acquisition		2,246,392
Redemption		(389,465)
Change due to amortization		8,007
Impairment loss		(1,296)
Foreign exchange differences		43,356
Ending balance	₩	5,691,616

11. Held-to-Maturity Financial Assets

(1) Held-to-maturity financial assets as of December 31, 2017 are as follows:

	December 31, 2017		
		Amortized cost	Fair value
Held-to-maturity financial assets in Korean won:			
Government and public bonds	₩	2,701,517	2,525,474
Corporate bonds		1,979,046	1,903,232
Others		103	103
		4,680,666	4,428,809
Held-to-maturity financial assets in foreign currencies / off-shores:			
Debt Securities		1,359,975	1,323,970
	₩	6,040,641	5,752,779

(2) Changes in held-to-maturity financial assets for the year ended December 31, 2017 are as follows:

		2017
Beginning balance	₩	5,446,948
Acquisition		857,249
Redemption		(76,713)
Change due to amortization		(25,641)
Reclassification		(561)
Foreign exchange differences		(160,641)
Ending balance	₩	6,040,641

12. Loans Measured at FVTPL

(1) Loans measured at FVTPL as of December 31, 2018 are as follows:

	December 31, 2018		
		Amortized cost	Fair value
Loans in Korean won:			
Loans for facility development	₩	1,639	1,620
Privately placed corporate bonds		794,682	777,264
Others		866	636
	₩	797,187	779,520

December 31, 2018 and 2017 (In millions of won)

(2) Gains (losses) related to loans measured at FVTPL for the year ended December 31, 2018 are as follows:

		December 31, 2018
Transaction gains (losses) on loans measured at FVTPL		
Transaction gains	₩	17,507
Transaction losses		(29,456)
		(11,949)
Valuation gains (losses) on loans measured at FVTPL		
Valuation gains		80,637
Valuation losses		(48,410)
		32,227
	₩	20,278

13. Loans Measured at Amortized Cost

(1) Loans measured at amortized cost and allowance for loan losses as of December 31, 2018 are as follows:

	December 31, 2018		
		Amortized cost	Fair value
Loans in Korean won:			
Loans for working capital	₩	50,817,833	51,209,468
Loans for facility development		49,318,944	50,062,006
Loans for households		1,938,506	1,938,735
Inter-bank loans		2,335,704	2,233,284
Other		19,544	17,800
		104,430,531	105,461,293
Loans in foreign currencies:			
Loans		14,331,909	15,697,934
Inter-bank loans		2,359,674	2,783,581
Loans borrowed from overseas financial institutions		139,186	142,882
Off-shore loans		11,321,258	12,042,473
		28,152,027	30,666,870
Other loans:			
Bills bought in foreign currency		1,364,594	1,351,344
Advances for customers on acceptances and guarantees		93,009	7,595
Privately placed corporate bonds		1,882,546	1,595,981
Credit card loans		129,975	129,417
Others		8,927,518	7,927,060
		12,397,642	11,011,397
		144,980,200	147,139,560
Less:			
Allowance for loan losses		(2,821,778)	
Present value discount		(6,749)	
Deferred loan origination costs and fees		4,821	
	₩	142,156,494	

(In millions of won)

(2) Changes in allowance for loan losses during the year ended December 31, 2018 are as follows:

	2018				
	12-month expected credit loss		Lifetime expected credit losses		Total
			Non credit-impaired	Credit-impaired	
Beginning balance	₩	307,032	755,784	1,982,609	3,045,425
Transfer to 12-month expected credit loss		5,345	(5,330)	(15)	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired loans		(68,534)	535,953	(467,419)	-
Transfer to credit-impaired loans		(110,508)	(92,961)	203,469	-
Provision for (reversal of) loss allowance		99,888	(88,558)	161,356	172,686
Write-offs		-	-	(238,338)	(238,338)
Recovery		-	-	72,894	72,894
Sale		(215)	-	(114,954)	(115,169)
Debt-to-equity swap		-	-	(120,236)	(120,236)
Foreign currency translation		1,123	26,306	6,794	34,223
Other		(42,574)	(4,076)	16,943	(29,707)
Ending balance	₩	191,557	1,127,118	1,503,103	2,821,778

(3) Losses related to loans measured at amortized cost for the year ended December 31, 2018 are as follows:

	2018	
Provision for loan losses	₩	(172,686)
Losses on disposal of loan		(101,146)
	₩	(273,832)

(4) Changes in net deferred loan origination costs and fees for the year ended December 31, 2018 are as follows:

	2018	
Beginning balance	₩	(2,921)
New deferrals		14,065
Amortization		(6,323)
Ending balance	₩	4,821

December 31, 2018 and 2017 (In millions of won)

14. Loans and Allowance for Loan Losses

(1) Loans and allowance for loan losses as of December 31, 2017 are as follows:

	December 31, 2017		
	Amortized cost		Fair value
Loans in Korean won:			
Loans for working capital	₩	48,286,948	47,122,419
Loans for facility development		51,511,474	51,077,636
Loans for households		2,788,599	2,790,563
Inter-bank loans		2,133,208	1,922,782
Others		46,344	44,600
		104,766,573	102,958,000
Loans in foreign currencies:			
Loans		13,606,255	14,012,041
Inter-bank loans		1,343,701	1,345,326
Loans from foreign borrowings		154,063	158,332
Off-shore loans		10,760,842	11,166,776
		25,864,861	26,682,475
Other loans:			
Bills bought in foreign currency		2,303,336	2,241,469
Advances for customers on acceptances and guarantees		113,412	33,272
Privately placed corporate bonds		3,063,881	2,607,572
Credit card loans		100,872	100,052
Others		10,235,953	10,132,122
		15,817,454	15,114,487
		146,448,888	144,754,962
Less:			
Allowance for loan losses		(3,006,128)	
Present value discount		(215,857)	
Deferred loan origination costs and fees		(2,787)	
	₩	143,224,116	

(In millions of won)

(2) Changes in allowance for loan losses for the year ended December 31, 2017 are as follows:

	2017						
	Loans in Korean won			Loans in foreign currencies	Other loans		Total
	Loans for working capital	Loans for facility development	Others		Privately placed corporate bonds	Others	
Beginning balance	₩ 1,002,761	543,495	154,562	464,849	529,527	368,477	3,063,671
Provision for loan losses	523,213	252,312	62	(6,317)	36,472	171,219	976,961
Write-offs	(49,090)	(47,074)	(2,471)	(19,926)	-	(2,919)	(121,480)
Foreign exchange differences	-	-	-	(70,332)	(23)	(38,482)	(108,837)
Others	(319,512)	(226,592)	(18)	(26,853)	(67,635)	(163,577)	(804,187)
Ending balance	₩ 1,157,372	522,141	152,135	341,421	498,341	334,718	3,006,128

(3) Losses related to loans for the year ended December 31, 2017 are as follows:

		2017
Provision for loan losses	₩	(976,961)
Losses on disposal of loan		(83,011)
	₩	(1,059,972)

(4) Changes in deferred loan origination costs and fees for the year ended December 31, 2017 are as follows:

		2017
Beginning balance	₩	(6,323)
New deferrals		13,284
Amortization		(9,748)
Ending balance	₩	(2,787)

15. Derivative Financial Instruments

The Group's derivative financial instruments consist of trading derivatives and hedging derivatives, depending on the nature of each transaction. The Group enters into hedging derivative transactions mainly for the purpose of hedging risk related to changes in fair values of the underlying assets and liabilities and future cash flows.

The Group enters into trading derivative transactions such as futures, forwards, swaps and options for arbitrage transactions by speculating on the future value of the underlying asset. Trading derivative transactions include contracts with the Group's clients and its liquidation position.

For the purpose of hedging the exposure to the variability of fair values and future cash flows of funds in Korean won by changes in interest rate, the Group mainly uses interest swaps or currency swaps. The main counterparties are foreign financial institutions and local banks. In addition, to hedge the exposure to the variability of fair values of bonds in foreign currencies by changes in interest rate or foreign exchange rate, the Group mainly uses interest swaps or currency swaps.

(In millions of won)

(1) The notional amounts outstanding for derivative contracts and the carrying amounts of the derivative financial instruments as of December 31, 2018 and 2017 are as follows:

	December 31, 2018			
	Notional amounts		Carrying amounts	
	Buy	Sell	Asset	Liability
Trading purpose derivative financial instruments:				
Interest rate				
Futures	₩ -	689,556	-	-
Swaps	224,625,012	224,267,154	1,023,098	768,141
Options	3,522,037	9,170,743	78,355	143,062
	228,147,049	234,127,453	1,101,453	911,203
Currency				
Futures	16,772	-	-	-
Forwards	58,264,628	55,296,313	722,550	729,166
Swaps	45,384,061	49,880,825	1,199,601	1,135,874
Options	185,957	80,891	771	1,643
	103,851,418	105,258,029	1,922,922	1,866,683
Stock				
Futures	1,515	-	-	-
Forwards	-	500,000	128,063	-
Options	182,777	335,551	19,701	763
	184,292	835,551	147,764	763
Other	866	-	-	-
Allowance and other adjustments	-	-	(4,149)	(489)
	332,183,625	340,221,033	3,167,990	2,778,160
Hedging purpose derivative financial instruments:				
Interest rate (*)				
Futures	-	26,834	-	-
Swaps	24,581,227	24,581,227	613,658	160,246
	24,581,227	24,608,061	613,658	160,246
Currency				
Forwards	2,965	2,475,914	45,553	15,726
Swaps	7,065,363	8,106,884	99,158	280,193
	7,068,328	10,582,798	144,711	295,919
Allowance and other adjustments	-	-	(854)	(5,221)
	31,649,555	35,190,859	757,515	450,944
	₩ 363,833,180	375,411,892	3,925,505	3,229,104

(*) The expected maximum period for which derivative contracts, applied the cash flow hedge accounting, are exposed to risk of cash flow fluctuation is until September 11, 2020.

(In millions of won)

	December 31, 2017				
	Notional amounts		Carrying amounts		
		Buy	Sell	Asset	Liability
Trading purpose derivative financial instruments:					
Interest rate	₩	263,055,552	269,217,941	1,091,959	1,049,139
Currency		90,936,025	94,628,525	4,415,882	4,185,092
Stock		788,851	1,782,106	11,482	3,058
Commodities		1,232	1,232	375	375
Embedded derivatives		663,564	250,000	145,091	4,503
Allowance and other adjustments		-	-	(6,313)	(570)
		355,445,224	365,879,804	5,658,476	5,241,597
Hedging purpose derivative financial instruments:					
Interest rate		17,494,445	17,512,016	506,903	209,428
Currency		7,651,056	9,780,795	217,588	378,547
Allowance and other adjustments		-	-	(388)	(5,581)
		25,145,501	27,292,811	724,103	582,394
	₩	380,590,725	393,172,615	6,382,579	5,823,991

(2) The notional amounts outstanding for the hedging instruments by period as of December 31, 2018 are as follows:

	December 31, 2018						
		Within 1 month	1~3 months	3~12 months	1~5years	Over 5 years	Total
Interest rate:							
Notional amounts outstanding	₩	152,871	1,158,547	2,161,580	12,041,881	9,066,348	24,581,227
Currency:							
Notional amounts outstanding		-	53,711	1,777,382	4,821,900	412,370	7,065,363

(3) Details of the balances of the hedging instruments by risk type as of December 31, 2018 are as follows:

	December 31, 2018					
	Notional amounts		Balances			Changes in fair value for 2018
		Buy	Sell	Assets	Liabilities	
Cash flow hedge accounting:						
Interest rate risk						
Swaps	₩	1,250,000	1,250,000	65	3,831	4,393
Fair value hedge accounting:						
Interest rate risk						
Futures		-	26,834	-	-	-
Swaps		23,331,227	23,331,227	613,593	156,415	78,475
		23,331,227	23,358,061	613,593	156,415	78,475
Currency risk						
Forwards		2,965	2,475,914	45,553	15,726	166,944
Swaps		7,065,363	8,106,884	99,158	280,193	(219,736)
		7,068,328	10,582,798	144,711	295,919	(52,792)
		30,399,555	33,940,859	758,304	452,334	25,683
	₩	31,649,555	35,190,859	758,369	456,165	30,076

(In millions of won)

(4) Details of the balances of the hedged items by risk type as of December 31, 2018 are as follows:

	December 31, 2018					
	Carrying amounts		Adjustments from fair value hedge accounting		Changes in fair value for 2018	Other comprehensive income for cash flow hedge
	Assets	Liabilities	Assets	Liabilities		
Cash flow hedge accounting:						
Interest rate risk						
Debt debentures	₩ -	1,250,000	-	-	-	(744)
Fair value hedge accounting:						
Interest rate risk						
Securities measured at FVOCI	2,022,991	-	(11,308)	-	(2,001)	-
Debt debentures	-	22,750,065	-	(238,234)	(74,840)	-
Other liabilities (Deposits, etc.)	-	105,611	-	(6,199)	4,386	-
	2,022,991	22,855,676	(11,308)	(244,433)	(72,455)	-
Currency risk (*)						
Securities denominated in foreign currencies	3,518,929	-	(34,540)	-	(24,824)	-
Debt debentures	-	7,184,750	-	(227,240)	236,445	-
	3,518,929	7,184,750	(34,540)	(227,240)	211,621	-
	5,541,920	30,040,426	(45,848)	(471,673)	139,166	-
	₩ 5,541,920	31,290,426	(45,848)	(471,673)	139,166	(744)

(*) The case that firm commitments, etc. are designated as hedged items is excluded.

(5) Details of hedge ineffectiveness recognized in profit or loss from derivatives for the year ended December 31, 2018 is as follows:

	2018
	Hedge ineffectiveness recognized in profit or loss
Interest rate risk	₩ 6,020
Currency risk (*)	5,364
	₩ 11,384

(*) The case that firm commitments, etc. are designated as hedged items is excluded.

(6) The summary of the amounts that have affected the statement of comprehensive income as a result of applying cash flow hedge accounting for the year ended December 31, 2018 is as follows:

	2018		
	Change in the value of the hedging instrument recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss (*)	Amount reclassified from other comprehensive income to profit or loss (*)
Interest rate risk	₩ 4,284	109	468

(*) Recognized in gains or losses related to hedging purpose derivatives.

December 31, 2018 and 2017 (In millions of won)

16. Investments in Associates

(1) Investments in associates as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Korea Electric Power Co., Ltd.	₩ 22,948,911	23,586,443
Korea Tourism Organization	341,233	340,605
Korea Infrastructure Fund II	233,806	234,167
Hyundai Merchant Marine Co., Ltd.	-	117,532
GM Korea Company	22,681	-
Korea Ocean Business Corporation	134,307	-
Others	4,271,392	3,775,810
	₩ 27,952,330	28,054,557

(2) The market value of marketable investments in associates as of December 31, 2018 and 2017 are as follows:

	Market value		Carrying amounts	
	December 31, 2018	December 31, 2017	December 31, 2018	December 31, 2017
Korea Electric Power Co., Ltd.	₩ 6,991,887	8,058,625	22,948,911	23,586,443
Hyundai Merchant Marine Co., Ltd.	152,231	206,820	-	117,532
Dongbu Steel Co., Ltd.	68,880	69,229	32,028	60,698

(3) Changes in investments in associates for the years ended December 31, 2018 and 2017 are as follows:

	2018								
	January 1, 2018	Acquisition/ transfer	Disposal/ transfer	Share of profit (loss)	Impairment loss (*)	Share of other comprehensive income (loss)	Dividends	Others	December 31, 2018
Korea Electric Power Co., Ltd.	₩ 23,586,443	-	-	(432,552)	-	(38,104)	(166,876)	-	22,948,911
Korea Tourism Organization	340,605	-	-	12,778	-	(10,298)	(1,852)	-	341,233
Hyundai Merchant Marine Co., Ltd.	117,532	-	-	(106,485)	-	(88,725)	-	77,678	-
GM Korea Company	-	809,025	-	(486,340)	(303,222)	-	-	3,218	22,681
Korea Infrastructure Fund II	234,167	-	(618)	8,477	-	-	(8,220)	-	233,806
Korea Ocean Business Corporation	-	134,307	-	-	-	-	-	-	134,307
Others	3,777,383	1,101,944	(841,455)	554,648	(44,095)	16,201	(257,808)	(35,426)	4,271,392
	₩ 28,056,130	2,045,276	(842,073)	(449,474)	(347,317)	(120,926)	(434,756)	45,470	27,952,330

(*) The Group recognized ₩347,317 million as impairment losses considering the decrease in fair values of cash-generating units due to the decline in expected cash flows as indications of impairment for GM Korea Company and 21 others for the year ended December 31, 2018. Recoverable amount is ₩380,877 million as of December 31, 2018.

(In millions of won)

	2017								
	January 1, 2017	Acquisition/ transfer	Disposal/ transfer	Share of profit (loss)	Impairment loss	Share of other comprehensive income (loss)	Dividends	Others	December 31, 2017
Korea Electric Power Co., Ltd.	₩ 23,600,344	-	-	427,338	-	(22,993)	(418,246)	-	23,586,443
Korea Tourism Organization	333,029	-	-	9,124	-	(1,548)	-	-	340,605
Hyundai Merchant Marine Co., Ltd.	138,047	78,809	-	(169,319)	-	68,110	-	1,885	117,532
Korea Infrastructure Fund II	233,676	1,632	(861)	12,166	-	-	(12,446)	-	234,167
Others (*)	3,206,812	1,369,465	(654,168)	21,420	(27,379)	84,551	(166,347)	(58,544)	3,775,810
	₩ 27,511,908	1,449,906	(655,029)	300,729	(27,379)	128,120	(597,039)	(56,659)	28,054,557

(*) The Group recognized ₩27,379 million as impairment losses considering the decrease in fair values of cash-generating units due to the decline in expected cash flows as objective evidence of impairment for Troika Resources Investment PEF and 10 others for the year ended December 31, 2017. The recoverable amount was the value in use of ₩155,732 million as of December 31, 2017.

(4) The key financial information of associates invested and ownership ratios as of and for the year ended December 31, 2018 and 2017 are as follows:

	December 31, 2018									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Profit (loss) for the year	Total comprehensive income (loss)	Owner-ship (%)
Korea Electric Power Co., Ltd.	Korea	December	Electricity Generation	₩ 185,249,061	114,156,299	71,092,762	60,627,610	(1,314,567)	(1,426,477)	32.90
Korea Tourism Organization	Korea	December	Culture and Tourism administration	1,428,674	370,333	1,058,341	738,061	9,053	5,690	43.58
Hyundai Merchant Marine Co., Ltd. (*1)	Korea	December	Shipping	4,121,440	3,081,769	1,039,671	5,222,124	(790,739)	(807,995)	13.05
GM Korea Company (*2)	Korea	December	Manufacturing	6,128,492	3,862,366	2,266,126	9,341,988	(833,987)	(828,248)	17.02
Korea Infrastructure Fund II	Korea	December	Financial investment	850,334	32,069	818,265	61,021	54,008	54,008	26.67
Korea Ocean Business Corporation (*3)	Korea	December	Financial investment	2,715,960	344,344	2,371,616	30,663	(195,474)	(200,715)	4.62

	December 31, 2017									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Profit (loss) for the year	Total comprehensive income (loss)	Owner-ship (%)
Korea Electric Power Co., Ltd.	Korea	December	Electricity Generation	₩ 181,788,915	108,824,274	72,964,641	59,814,862	1,298,720	1,230,194	32.90
Korea Tourism Organization	Korea	December	Culture and Tourism administration	1,402,083	359,898	1,042,185	732,967	20,934	17,383	43.58
Hyundai Merchant Marine Co., Ltd. (*1)	Korea	December	Shipping	3,602,418	2,705,498	896,920	5,028,016	(1,218,503)	(1,325,963)	13.13
GM Korea Company (*2)	Korea	December	Manufacturing	6,008,278	7,626,156	(1,617,878)	10,913,237	(1,626,576)	(1,629,680)	17.02
Korea Infrastructure Fund II	Korea	December	Financial investment	829,503	9,885	819,618	29,627	43,704	43,704	26.67

(*1) Although the Group's shareholding in Hyundai Merchant Marine Co., Ltd. is less than 20%, the equity method is applied as the Group is considered to have significant influence over Hyundai Merchant Marine Co., Ltd. as a principal creditor bank of Council of Financial Creditors.

(*2) Equity method is applied to GM Korea Company, even though the Group's shareholding is less than 20%, because the Group is considered to have significant influence over GM Korea Company by exercising rights to elect board of directors.

(*3) Although the Bank's shareholding in Korea Ocean Business Corporation is less than 20%, the Bank is considered to have significant influence.

December 31, 2018 and 2017 (In millions of won)

17. Property and Equipment

Changes in property and equipment for the years ended December 31, 2018 and 2017 are as follows:

	2018						
	January 1, 2018	Acquisition/ depreciation	Disposal	Reclassifi-cation	Foreign exchange differences	Others	December 31, 2018
Acquisition cost:							
Land	₩ 2,603,869	2,716	(7,871)	56,138	38	(37,215)	2,617,675
Buildings and structures	3,666,906	28,614	(258,121)	(1,210)	202	23,959	3,460,350
Leasehold improvements	44,643	4,938	(4,231)	(38)	(65)	-	45,247
Vehicles	356,136	17,041	(61,441)	-	2	(6,421)	305,317
Equipment	821,996	32,590	(7,486)	(158)	(17)	17,344	864,269
Construction in progress	621,394	111,363	(781)	(79,304)	-	(9,281)	643,391
Others	2,240,615	99,703	(92,557)	166	(2)	2,484	2,250,409
	10,355,559	296,965	(432,488)	(24,406)	158	(9,130)	10,186,658
Accumulated depreciation: (*)							
Buildings and structures	1,258,571	96,580	(90,513)	(355)	1,588	(16,879)	1,248,992
Leasehold improvements	35,762	4,262	(3,888)	-	(145)	-	35,991
Vehicles	243,462	19,101	(22,506)	-	8	-	240,065
Equipment	607,175	37,382	(5,519)	-	12	(874)	638,176
Construction in progress	2,810	-	-	-	-	-	2,810
Others	1,389,278	118,998	(62,656)	-	13	(25,848)	1,419,785
	3,537,058	276,323	(185,082)	(355)	1,476	(43,601)	3,585,819
Accumulated impairment losses:							
Land	98,111	(9)	(2,178)	-	-	-	95,924
Buildings and structures	289,946	(5,426)	(86,098)	-	21	-	198,443
Vehicles	38,669	1	(7,405)	-	-	-	31,265
Equipment	153,424	182	(162)	-	-	-	153,444
Construction in progress	24,762	2,379	(781)	-	-	-	26,360
Others	186,678	1,653	(4,892)	-	-	(39,876)	143,563
	791,590	(1,220)	(101,516)	-	21	(39,876)	648,999
	₩ 6,026,911	21,862	(145,890)	(24,051)	(1,339)	74,347	5,951,840

(*) The amounts include government grants.

(In millions of won)

	2017						
	January 1, 2017	Acquisition/ depreciation	Disposal	Reclassifi-cation	Foreign exchange differences	Others	December 31, 2017
Acquisition cost:							
Land	₩ 2,611,240	99,046	(3,973)	828	(21)	(103,251)	2,603,869
Buildings and structures	3,486,528	202,150	(986)	(1,461)	(11,741)	(7,584)	3,666,906
Leasehold improvements	46,412	2,676	(2,912)	-	(1,272)	(261)	44,643
Vehicles	375,429	8,630	(1,089)	-	(5,308)	(21,526)	356,136
Equipment	806,399	50,454	(5,911)	934	(5,402)	(24,478)	821,996
Construction in progress	671,815	170,453	(17,734)	(2,493)	(8,673)	(191,974)	621,394
Others	2,170,876	184,435	(4,913)	(5,867)	(25,202)	(78,714)	2,240,615
	10,168,699	717,844	(37,518)	(8,059)	(57,619)	(427,788)	10,355,559
Accumulated depreciation: (*)							
Buildings and structures	1,140,183	66,365	(198)	(987)	(2,708)	55,916	1,258,571
Leasehold improvements	33,995	4,893	(2,398)	-	(1,026)	298	35,762
Vehicles	240,144	16,686	(526)	-	(291)	(12,551)	243,462
Equipment	599,693	(4,091)	(4,266)	-	(2,561)	18,400	607,175
Construction in progress	-	2,810	-	-	-	-	2,810
Others	1,254,646	179,954	(254)	(2,416)	(146)	(42,506)	1,389,278
	3,268,661	266,617	(7,642)	(3,403)	(6,732)	19,557	3,537,058
Accumulated impairment losses:							
Land	3,191	95,069	-	(158)	-	9	98,111
Buildings and structures	182,514	63,355	(44)	(21)	-	44,142	289,946
Leasehold improvements	298	-	-	-	-	(298)	-
Vehicles	15,485	22,875	-	-	-	308	38,668
Equipment	3,608	146,234	(15)	-	-	3,598	153,425
Construction in progress	83,002	(66,583)	-	-	-	8,343	24,762
Others	33,957	179,594	(14)	(2,290)	-	(24,569)	186,678
	322,055	440,544	(73)	(2,469)	-	31,533	791,590
	₩ 6,577,983	10,683	(29,803)	(2,187)	(50,887)	(478,878)	6,026,911

(*) The amounts include government grants.

(In millions of won)

18. Investment Property

Changes in investment property for the years ended December 31, 2018 and 2017 are as follows:

	2018					
		January 1, 2018	Acquisition/ depreciation/ impairment	Reclassification	Others	December 31, 2018
Acquisition cost:						
Land	₩	278,635	-	(17,604)	-	261,031
Buildings and structures		236,856	1,908	(4,959)	-	233,805
		515,491	1,908	(22,563)	-	494,836
Accumulated depreciation:						
Buildings and structures		96,808	6,083	355	(1,602)	101,644
Accumulated impairment losses:						
Land		2,966	18,182	(1,660)	-	19,488
Buildings and structures		3,131	3,302	-	-	6,433
		6,097	21,484	(1,660)	-	25,921
	₩	412,586	(25,659)	(21,258)	1,602	367,271

	2017					
		January 1, 2017	Acquisition/ depreciation/ impairment	Reclassification	Others	December 31, 2017
Acquisition cost:						
Land	₩	279,455	-	(820)	-	278,635
Buildings and structures		234,532	460	2,677	(813)	236,856
		513,987	460	1,857	(813)	515,491
Accumulated depreciation:						
Buildings and structures		89,440	6,301	976	91	96,808
Accumulated impairment losses:						
Land		2,808	-	158	-	2,966
Buildings and structures		1,820	1,353	(42)	-	3,131
		4,628	1,353	116	-	6,097
	₩	419,919	(7,194)	765	(904)	412,586

The fair value of the Group's investment property, as determined on the basis of valuation by an independent appraiser, amounts to ₩391,734 million and ₩435,669 million as of December 31, 2018 and 2017, respectively. Additionally, fair value of investment in property is classified as level 3 according to the fair value hierarchy in Note 58.

December 31, 2018 and 2017 (In millions of won)

19. Intangible Assets

Changes in intangible assets for the years ended December 31, 2018 and 2017 are as follows:

	2018								
	January 1, 2018	Acquisition	Disposal	Reclassifi-cation	Amortization	Impairment loss	Foreign exchange differences	Others	December 31, 2018
Goodwill	₩ 107,361	-	-	-	-	(101,826)	2	-	5,537
Customers related	328,200	-	-	-	(61,501)	(43,783)	-	-	222,916
Membership	37,661	-	(1,846)	33	(1,243)	(14)	4	(493)	34,102
Others	819,204	106,810	(12,271)	-	(151,667)	(73,809)	(40)	(10,998)	677,229
	₩ 1,292,426	106,810	(14,117)	33	(214,411)	(219,432)	(34)	(11,491)	939,784

	2017								
	January 1, 2017	Acquisition	Disposal	Reclassifi-cation	Amortization	Impairment loss	Foreign exchange differences	Others	December 31, 2017
Goodwill	₩ 584,870	28,469	-	-	-	(498,296)	(28)	(7,654)	107,361
Customers related	389,701	-	-	-	(61,501)	-	-	-	328,200
Membership	40,901	1,124	(2,617)	138	(1,697)	(318)	(10)	140	37,661
Others	946,410	62,954	(6,797)	(1,148)	(155,539)	(29,416)	(883)	3,623	819,204
	₩ 1,961,882	92,547	(9,414)	(1,010)	(218,737)	(528,030)	(921)	(3,891)	1,292,426

20. Other Assets

Other assets as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Accounts receivable	₩ 3,709,630	6,438,011
Domestic exchange receivables	1,741,236	2,144,474
Accrued income	748,108	713,022
Guarantee deposits	596,576	494,707
Trade accounts receivables	8,671,984	9,524,417
Inventories	2,261,047	1,493,496
Prepaid expenses	249,888	464,478
Advance payments	949,739	1,305,758
Deferred acquisition cost	485,150	559,491
Separate account assets	636,853	784,526
Financial guarantee asset	22,638	23,371
Others	187,053	181,575
	20,259,902	24,127,326
Allowance for credit losses	(1,595,571)	(2,860,413)
Present value discount	(3,915)	(2,874)
	₩ 18,660,416	21,264,039

The carrying amounts of financial assets included in other assets above amounted to ₩15,490,171 million and ₩19,338,002 million as of December 31, 2018 and 2017, respectively, and their fair value amounted to ₩15,405,204 million and ₩19,117,731 million as of December 31, 2018 and 2017, respectively.

December 31, 2018 and 2017 (In millions of won)

21. Assets and Liabilities Held for Sale

Assets and liabilities held for sale as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Assets held for sale			
Assets for disposal group (*1)	₩	-	2,606
Property and equipment (*2)		127,427	184,489
Others (*2)		14,711	77,199
		142,138	264,294
Liabilities held for sale			
Liabilities for disposal group (*1)	₩	-	18,954

(*1) The assets and liabilities were held by subsidiaries of Daewoo Shipbuilding & Marine Engineering Co., Ltd. and were sold in 2018.

(*2) These amounts consist of property and equipment, investments in associates and others planned to be sold by Daewoo Engineering & Construction Co., Ltd., Daewoo Shipbuilding & Marine Engineering Co., Ltd. and so on.

22. Financial Liabilities Measured at FVTPL

(1) Financial liabilities designated at fair value through profit or loss as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Borrowings (*1)	₩	-	42,472
Debentures (*2)		2,164,538	1,583,713
	₩	2,164,538	1,626,185

(*1) Daewoo Shipbuilding & Marine Engineering Co., Ltd. has designated ₩51,252 million as the financial liability at FVTPL as of December 31, 2017, which is expected to change the terms of the debt guarantee for the subsidiaries and affiliated companies.

(*2) Changes in fair value of structured debentures which hedge accounting are applied, are recognized in profit or loss, but structured debentures with no hedge accounting applied to, are measured at amortized costs. Therefore, such structured debentures, not applied to hedge accounting, have been designated at FVTPL in order to eliminate mismatch in measurements of accounting profit and loss.

(2) The difference between the carrying amount and contractual cash flow amount of financial liabilities designated at fair value through profit or loss as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Carrying amount	₩	2,164,538	1,626,185
Contractual cash flow amount		2,040,344	1,583,494
Difference	₩	124,194	42,691

December 31, 2018 and 2017 (In millions of won)

23. Deposits

Deposits as of December 31, 2018 and 2017 are as follows:

	December 31, 2018		December 31, 2017	
	Amortized cost	Fair value	Amortized cost	Fair value
Deposits in Korean won:				
Demand deposits	₩ 96,884	96,884	88,750	88,750
Time and savings deposits	24,991,770	25,005,060	24,536,856	24,522,865
Certificates of deposit	52,457	52,481	1,510,344	1,510,198
	25,141,111	25,154,425	26,135,950	26,121,813
Deposits in foreign currencies:				
Demand deposits	1,634,268	1,634,268	2,164,426	2,164,426
Time and savings deposits	2,587,657	2,527,790	2,762,094	2,762,127
Certificates of deposit	4,024,479	3,219,921	2,857,274	2,857,056
	8,246,404	7,381,979	7,783,794	7,783,609
Off-shore deposits in foreign currencies:				
Demand deposits	561,660	561,660	380,345	380,345
	₩ 33,949,175	33,098,064	34,300,089	34,285,767

24. Borrowings

(1) Borrowings as of December 31, 2018 and 2017 are as follows:

	December 31, 2018			
	Minimum interest rate (%)	Maximum interest rate (%)	Amortized cost	Fair value
Borrowings in Korean won	-	3.28	₩ 6,673,377	6,654,888
Borrowings in foreign currencies	0.05	5.45	13,796,993	13,838,257
Off-shore borrowings in foreign currencies	1.46	4.32	1,178,016	1,180,969
Share capital repayable on demand	-	-	1,683,381	1,683,381
Others	0.15	5.30	3,119,668	3,180,971
			26,451,435	26,538,466
Present value discount			(71,396)	
Deferred borrowing costs			(500)	
			₩ 26,379,539	

	December 31, 2017			
	Minimum interest rate (%)	Maximum interest rate (%)	Amortized cost	Fair value
Borrowings in Korean won	-	3.28	₩ 9,205,358	9,204,510
Borrowings in foreign currencies	0.05	5.50	11,971,452	11,997,609
Off-shore borrowings in foreign currencies	0.69	4.32	1,353,241	1,355,070
Share capital repayable on demand	-	-	1,679,986	1,679,986
Others	0.01	5.30	4,556,273	4,556,108
			28,766,310	28,793,283
Present value discount			(72,297)	
Deferred borrowing costs			(1,298)	
			₩ 28,692,715	

(In millions of won)

(2) Borrowings in Korean won before adjusting for deferred borrowing costs as of December 31, 2018 and 2017 are as follows:

Lender	Classification	Annual interest rate (%)	December 31, 2018	December 31, 2017
The Bank of Korea	Borrowings from Bank of Korea	0.50 ~ 0.75	₩ 113,825	871,314
Ministry of Strategy and Finance	Borrowings from government fund (*)	1.48 ~ 1.98	193,790	248,829
Industrial Bank of Korea	Borrowings from IT industry promotion fund	0.10 ~ 1.00	920	3,183
Small & Medium Business Corp.	Borrowings from small and medium enterprise promotion fund	0.70 ~ 3.04	87,023	104,161
Ministry of Culture and Tourism	Borrowings from tourism promotion fund	0.02 ~ 2.50	2,665,403	2,563,235
Korea Energy Management Corporation	Borrowings from fund for rational use of energy	0.25 ~ 3.10	551,411	648,512
Local governments	Borrowings from local small and medium enterprise promotion fund	0.00 ~ 3.28	53,420	64,056
Others	Borrowings from petroleum enterprise fund	0.00 ~ 3.15	3,007,585	4,702,068
			₩ 6,673,377	9,205,358

(*) Borrowings from government fund are subordinated borrowings.

(3) Borrowings and off-shore borrowings in foreign currencies before adjusting for deferred borrowing costs as of December 31, 2018 and 2017 are as follows:

Lender	Classification	Annual interest rate (%)	December 31, 2018	December 31, 2017
Japan Bank for International Cooperation (JBIC)	Borrowings from JBIC	1.73 ~ 2.16	₩ 139,187	154,063
Mizuho and others	Bank loans from foreign funds	3M Libor + 0.25 ~ 3M Libor + 0.78	1,118,100	1,285,680
Ministry of Strategy and Finance	Exchange equalization fund borrowings in foreign currencies	3M Libor + 0.22 ~ 3M Libor + 0.74	910,878	1,809,558
Central Bank of the Republic Uzbekistan and others	Off-shore short term borrowings	1.46 ~ 2.57	721,081	1,069,868
HSBC and others	Off-shore long term borrowings	3M Libor + 0.50 ~ 3M Libor + 0.62	444,159	214,280
JBIC	Off-shore borrowings from JBIC	4.27 ~ 4.32	12,776	18,364
Others	Short term borrowings in foreign currencies	0.05 ~ 5.45	10,185,337	7,173,705
	Long term borrowings in foreign currencies	0.12 ~ 3.21	1,443,491	1,599,175
			₩ 14,975,009	13,324,693

December 31, 2018 and 2017 (In millions of won)

25. Debentures

Debentures as of December 31, 2018 and 2017 are as follows:

	December 31, 2018				
	Minimum interest rate (%)	Maximum interest rate (%)		Amortized cost	Fair value
Debentures in Korean won:					
Debentures	1.30	6.90	₩	99,390,926	99,964,005
Discount on debentures				(220,847)	
Premium on debentures				114	
Valuation adjustment for fair value hedges				(35,014)	
				99,135,179	
Debentures in foreign currencies:					
Debentures	0.02	6.97		13,908,908	13,712,548
Discount on debentures				(29,947)	
Valuation adjustment for fair value hedges				(160,260)	
				13,718,701	
Off-shore debentures:					
Debentures	-	7.73		10,617,785	10,349,626
Discount on debentures				(26,037)	
Valuation adjustment for fair value hedges				(270,181)	
				10,321,567	
			₩	123,175,447	124,026,179

	December 31, 2017				
	Minimum interest rate (%)	Maximum interest rate (%)		Amortized cost	Fair value
Debentures in Korean won:					
Debentures	1.29	6.90	₩	97,802,120	97,711,691
Discount on debentures				(259,028)	
Premium on debentures				203	
Valuation adjustment for fair value hedges				(227,991)	
				97,315,304	
Debentures in foreign currencies:					
Debentures	0.16	8.20		12,997,100	12,663,817
Discount on debentures				(34,155)	
Valuation adjustment for fair value hedges				(345,603)	
				12,617,342	
Off-shore debentures:					
Debentures	-	7.73		10,628,444	10,331,998
Discount on debentures				(24,660)	
Valuation adjustment for fair value hedges				(308,425)	
				10,295,359	
			₩	120,228,005	120,707,506

(In millions of won)

26. Policy Reserves

Details of policy reserves categorized by insurance type as of December 31, 2018 and 2017 are as follows:

	Classification	December 31, 2018	December 31, 2017
Premium reserve	Pure endowment	₩ 5,118,313	4,892,633
	Death	5,583,240	5,146,633
	Endowment	4,597,906	4,613,106
	Group	31,239	32,371
		15,330,698	14,684,743
Unearned premium reserve	Pure endowment	1	1
	Death	197	221
	Group	1,377	1,870
		1,575	2,092
Reserve for outstanding claims	Pure endowment	105,956	101,816
	Death	295,475	293,714
	Endowment	490,689	406,593
	Group	6,064	6,530
		898,184	808,653
Reserve for participating policyholders' dividends	Pure endowment	34,770	32,758
	Death	3,809	4,220
	Endowment	1,966	2,115
	Group	10	15
		40,555	39,108
Excess participating policyholders' dividend reserve		11,340	20,082
Reserve for losses on participating insurance		7,158	-
Guaranteed benefit reserve		35,824	32,160
		₩ 16,325,334	15,586,838

27. Defined Benefit Liabilities

(1) Details of defined benefit liabilities as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Present value of defined benefit obligation	₩ 1,322,447	1,229,449
Fair value of plan assets (*)	(900,151)	(853,367)
Net defined benefit liabilities	422,296	376,082
Liabilities for other long-term employment benefits	24,820	27,010
	₩ 447,116	403,092

(*) The plan assets are in trusts with Kookmin Bank, Samsung Life Insurance Co., Ltd., etc.

(In millions of won)

(2) Changes in defined benefit liabilities for the years ended December 31, 2018 and 2017 are as follows:

	2018				
		Present value of defined benefit obligation	Fair value of plan assets	Defined benefit liabilities	Liabilities for other long-term employment benefits
Beginning balance	₩	1,229,449	(853,367)	376,082	27,010
Current service costs		140,219	-	140,219	-
Interest expense (income)		36,145	(13,276)	22,869	-
Remeasurements of defined benefit liabilities:					
Demographic assumption		(4,679)	-	(4,679)	-
Financial assumption		47,940	4,349	52,289	-
Return on plan assets		-	5,820	5,820	-
		43,261	10,169	53,430	-
Payments from the plan		(136,507)	70,829	(65,678)	-
Contribution to the plan		-	(105,382)	(105,382)	-
Others		9,880	(9,124)	756	(2,190)
Ending balance	₩	1,322,447	(900,151)	422,296	24,820

	2017				
		Present value of defined benefit obligation	Fair value of plan assets	Defined benefit liabilities	Liabilities for other long-term employment benefits
Beginning balance	₩	1,201,376	(812,823)	388,553	32,044
Current service costs		148,343	-	148,343	-
Past service costs		14	-	14	-
Interest expense (income)		24,441	(11,368)	13,073	-
Remeasurements of defined benefit liabilities:					
Demographic assumption		650	-	650	-
Financial assumption		(23,710)	-	(23,710)	-
Return on plan assets		-	10,706	10,706	-
		(23,060)	10,706	(12,354)	-
Payments from the plan		(91,462)	27,273	(64,189)	-
Others		(30,203)	(67,155)	(97,358)	(5,034)
Ending balance	₩	1,229,449	(853,367)	376,082	27,010

(3) Fair value of plan assets for each type as of December 31, 2018 and 2017 are as follows:

	December 31, 2018			December 31, 2017	
		Quoted market prices	Unquoted market prices	Quoted market prices	Unquoted market prices
Equity securities	₩	633	-	4,511	-
Debt securities		12,176	-	6,229	-
Due from banks		538,728	348,127	518,904	321,910
Others		487	-	1,813	-
	₩	552,024	348,127	531,457	321,910

December 31, 2018 and 2017 (In millions of won)

(4) Defined benefit costs recognized in profit or loss for the year ended December 31, 2018 and 2017 are as follows:

	2018	2017
Current service costs	₩ 140,219	148,343
Past service costs	-	14
Interest expense, net	22,869	13,073
	₩ 163,088	161,430

(5) The principal actuarial assumptions used as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Discount rate (%)	2.20 ~ 2.77	1.70 ~ 3.25
Future salary increasing rate (%)	2.00 ~ 6.23	1.90 ~ 6.50

(6) The present value sensitivity of defined benefit liabilities as changes in principal actuarial assumptions as of December 31, 2018 is as follows:

	Sensitivity	
	1% increase in assumption	1% decrease in assumption
Discount rate	9.44% decrease	11.19% increase
Future salary increasing rate	10.48% increase	9.04% decrease

28. Provisions

(1) Provisions as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Provision for payment guarantees	₩ 520,726	420,011
Provision for unused commitments	72,037	62,420
Financial guarantee provision	111,661	136,792
Lawsuit provision	589,499	645,313
Restoration liability	1,389	2,073
Other provision	861,808	420,657
	₩ 2,157,120	1,687,266

(2) Changes in provision for payment guarantees during the year ended December 31, 2018 are as follows:

	2018			
	12-month expected credit loss	Lifetime expected credit losses		Total
		Non credit-impaired	Credit-impaired	
Beginning balance	₩ 9,597	213,519	205,761	428,877
Transfer to 12-month expected credit loss	71,411	(71,411)	-	-
Transfer to lifetime expected credit losses:				
Transfer to non credit-impaired exposures	(421)	1,171	(750)	-
Transfer to credit-impaired exposures	(12,804)	(23,216)	36,020	-
Provision for (reversal of) unused commitments	153,089	(76,840)	(6,480)	69,769
Foreign currency translation	3,081	10,098	8,836	22,015
Others	65	-	-	65
Ending balance	₩ 224,018	53,321	243,387	520,726

December 31, 2018 and 2017 (In millions of won)

(3) Changes in provision for unused commitments during the year ended December 31, 2018 are as follows:

	2018				
	12-month expected credit loss		Lifetime expected credit losses		Total
			Non credit-impaired	Credit-impaired	
Beginning balance	₩	16,676	55,904	19	72,599
Transfer to 12-month expected credit loss		212,697	(212,697)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(2,899)	2,899	-	-
Transfer to credit-impaired exposures		-	-	-	-
Provision for (reversal of) unused commitments		(204,266)	188,369	(19)	(15,916)
Foreign currency translation		14,513	777	-	15,290
Others		64	-	-	64
Ending balance	₩	36,785	35,252	-	72,037

(4) Changes of financial guarantee provision during the year ended December 31, 2018 are as follows:

	2018				
	12-month expected credit loss		Lifetime expected credit losses		Total
			Non credit-impaired	Credit-impaired	
Beginning balance	₩	3,236	72,267	73,458	148,961
Transfer to 12-month expected credit loss		75	(7)	(68)	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(443)	493	(50)	-
Transfer to credit-impaired exposures		(474)	(3,343)	3,817	-
Provision for (reversal of) unused commitments		(520)	(49)	(39,256)	(39,825)
Foreign currency translation		7	2,185	333	2,525
Ending balance	₩	1,881	71,546	38,234	111,661

(5) Changes of lawsuit provision and other provision during the year ended December 31, 2018 are as follows:

	2018			
	Lawsuit provision		Restoration liability	Other provision
Beginning balance	₩	645,313	2,073	859,751
Increase (reversal) of provision		10,458	(430)	73,687
Provision used		(123,251)	(217)	(251,285)
Foreign currency translation		(29)	-	(5)
Others		57,008	(37)	179,660
Ending balance	₩	589,499	1,389	861,808

December 31, 2018 and 2017 (In millions of won)

(6) Changes in provisions for the year ended December 31, 2017 are as follows:

	2017							
	Provision for payment guarantees		Provision for unused commitments	Financial guarantee provision	Lawsuit provision	Restoration liability	Other provision	Total
Beginning balance	₩	510,090	20,409	125,607	293,161	3,728	632,657	1,585,652
Increase (reversal) of provision		(10,312)	59,186	83,412	355,894	(615)	14,034	501,599
Utilization for the year		-	-	-	(26,115)	(1,242)	(141,156)	(168,513)
Capitalized restoration expenses		-	-	-	-	466	-	466
Foreign exchange differences		(79,767)	(17,175)	6,526	(4)	-	(10)	(90,430)
Others		-	-	(78,753)	22,377	(264)	(84,868)	(141,508)
Ending balance	₩	420,011	62,420	136,792	645,313	2,073	420,657	1,687,266

(7) Provision for payment guarantees and financial guarantee provision

Confirmed acceptances and guarantees, unconfirmed acceptances and guarantees and bills endorsed are not recognized on the statement of financial position, but are disclosed as off-statement of financial position items in the notes to the financial statements. The Group provides a provision for such off-statement of financial position items, applying a Credit Conversion Factor (CCF) and provision rates under the Group's expected credit loss model, and records the provision as a reserve for expected credit losses on acceptances and guarantees.

In the case of financial guarantee contracts, when the amount calculated using the same method as above is greater than the initial amount less amortization of fees recognized, the difference is recorded as a financial guarantee provision.

(8) Provision for unused commitments

The Group records a provision for a certain portion of unused credit lines which is calculated using a CCF as provision for unused commitments applying provision rates under the Group's expected credit loss model.

(9) Provision for possible losses from lawsuits

As of December 31, 2018, the Group is involved in 257 lawsuits as a plaintiff and 328 lawsuits as a defendant. The aggregate amounts of claims as a plaintiff and a defendant amounted to ₩1,691,334 million and ₩1,928,754 million, respectively. The Group provided a provision against contingent loss from pending lawsuits as of December 31, 2018 and additional losses may be incurred depending on the final result of pending lawsuits.

Some investors who bought the DSME's shares, corporate bonds and commercial papers sued the DSME, certain accounting firm and others for damage claims asserting that they had misled by false audit report, business report, registration of securities, prospectus, etc. and these lawsuits are included in the Group's lawsuits as a defendant.

(In millions of won)

Major lawsuits in progress as of December 31, 2018 and 2017 are as follows:

	December 31, 2018		
	Contents	Amounts	Status of lawsuit
Plaintiff:			
Korea Trade Insurance Corporation and one other	Claim for guarantee insurance	₩ 136,538	1st trial ruled against the Group; 2nd trial in progress
Korea Credit Guarantee Fund.	Claim for damages	60,100	1st trial ruled against the Group; 2nd trial in progress
Gyeonggi Urban Innovation Corp.	Claim for refund of investments	160,293	1st, 2nd trial ruled partially in favor of the Group; 3rd trial in progress
KAMCO 1th JV Securitization Specialty Co., Ltd.	Transfer of claim	8,792	1st trial in progress
Plaza Rakyat	Claim for construction cost due to termination of contractor contract	244,750	1st trial in progress
Defendant:			
Shinhan Bank and one other	Claim for damages	58,474	1st trial in progress
Defense Acquisition Program Administration	Claim for guaranteed debt	56,977	1st trial ruled partially against the Group; 2nd trial in progress
Dongbu Corporation	Claim for nullity of table of rehabilitation creditor	33,997	1st, trial ruled in favor of the Group; 2nd trial in progress
Dongbu Corporation	Claim for objection of request (participation to support)	19,658	1st trial in progress
KAMCO 8th JV Securitization Specialty Co., Ltd.	Claim for refund of impairment sale payment	13,898	1st trial ruled partially against the Group, 2nd trial in progress
Korea Gas Corporation	Claim for damages	308,000	1st trial in progress

	December 31, 2017		
	Contents	Amounts	Status of lawsuit
Plaintiff:			
Korea Trade Insurance Corporation and one other	Guarantee insurance	₩ 136,538	1st trial in progress
Korea Credit Guarantee Fund.	Claim for damages	60,100	1st trial ruled against the Group; 2nd trial in progress
Korea Trade Insurance Corporation	Short-term export credit insurance	34,209	1st trial ruled against the Group; 2nd trial in progress
Hyundai Engineering & Construction Co., Ltd. and two others	Claim for refund of special agreement settlement	27,180	1st trial ruled in favor of the Group; 2nd trial in progress
Gyeonggi Urban Innovation Corp.	Claim for refund of investments	19,100	1st and 2nd trial ruled partially in favor of the Group; 3rd trial in progress
Gyeongsangnam-do Hadong-gun	Claim for refund of presale price	123,284	1st trial ruled partially in favor of the Group; 2nd trial in progress
Defense Acquisition Program Administration	Claim for debt absence	100,708	1st trial ruled partially in favor of the Group; 2nd trial in progress
Defendant:			
Hanhwa Chemical Co., Ltd.	Performance guarantee	322,593	Retrial in progress after quashing
Shinhan Bank and one other	Claim for damages	58,474	1st trial in progress
Defense Acquisition Program Administration	Claim for guaranteed debt	56,977	1st trial in progress
Dongbu Corporation	Claim for nullity of table of rehabilitation creditors	33,997	1st trial in progress
KAMCO 8th JV Securitization Specialty Co., Ltd.	Claim for refund of impairment sale payment	13,898	1st trial ruled partially against the Group; 2nd trial in progress

December 31, 2018 and 2017 (In millions of won)

(10) Other provision

The Group recognized other provision as a reserve for other miscellaneous purpose.

29. Other Liabilities

Other liabilities as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Accounts payable	₩	3,088,043	5,794,177
Accrued expense		3,016,865	2,570,418
Domestic exchange payable		312,911	238,958
Borrowing from trust accounts		751,885	1,022,130
Advance receipts		3,885,929	4,377,996
Guarantee money received		680,849	900,128
Trade payable		1,040,178	1,228,370
Unearned income		310,414	324,195
Deposits withholding tax		51,148	51,720
Foreign exchanges payable		10,960	77,245
Separate account liabilities		645,171	832,518
Financial guarantee liability		54,853	57,705
Contractor equity adjustments		41,884	45,230
Others		315,953	491,031
		14,207,043	18,011,821
Present value discount		(21,396)	(20,513)
	₩	14,185,647	17,991,308

The carrying amount of financial liabilities included in other liabilities above amounted to ₩8,965,058 million and ₩11,930,654 million as of December 31, 2018 and 2017, respectively, and their fair value amounted to ₩9,202,084 million and ₩11,927,048 million as of December 31, 2018 and 2017, respectively.

30. Equity

(1) Issued capital

The Group is authorized to issue up to 6,000 million shares of common stock and has 3,621,619,768 shares and 3,587,619,768 shares issued as of December 31, 2018 and 2017, respectively, and outstanding with a total par value of ₩18,108,099 million ₩17,938,099 million as of December 31, 2018 and 2017, respectively. Due to the Group's paid-capital increase, total number and par value of the shares increased in 2018.

(2) Capital surplus

Capital surplus as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Paid-in capital in excess of par value	₩	62,309	63,133
Surplus from capital reduction		47,973	47,973
Share of capital surplus of associates		122,810	121,146
Other capital surplus		580,728	826,122
	₩	813,820	1,058,374

December 31, 2018 and 2017 (In millions of won)

(3) Capital adjustments

Capital adjustments as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Share of capital adjustment of associates	₩	220,605	220,605
Other capital adjustment		95,824	103,991
	₩	316,429	324,596

(4) Accumulated other comprehensive income

(i) Accumulated other comprehensive income as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Net gain (loss) on securities measured at FVOCI:			
Valuation gain (loss) on securities measured at FVOCI (before tax)	₩	(237,065)	-
Loss allowance for securities measured at FVOCI (before tax)		78,128	-
Income tax effect		44,622	-
		(114,315)	-
Valuation gain on available-for-sale financial assets:			
Valuation gain on available-for-sale financial assets (before tax)		-	567,735
Income tax effect		-	(146,794)
		-	420,941
Share of other comprehensive income of associates:			
Share of other comprehensive income of associates (before tax)		428,035	607,597
Income tax effect		12,653	15,266
		440,688	622,863
Exchange differences on translation of foreign operations:			
Exchange differences on translation of foreign operations (before tax)		(395,785)	(521,115)
Income tax effect		107,534	165,639
		(288,251)	(355,476)
Valuation loss on cash flow hedge:			
Valuation loss on cash flow hedge (before tax)		(744)	(5,496)
Income tax effect		305	1,287
		(439)	(4,209)
Remeasurements of defined benefit liabilities:			
Remeasurements of defined benefit liabilities (before tax)		(23,793)	8,894
Income tax effect		5,233	(2,068)
		(18,560)	6,826
Fair value changes on financial liabilities designated at fair value due to credit risk:			
Valuation gain (loss) on financial liabilities designated at fair value due to credit risk (before tax)		4,383	-
Income tax effect		(1,205)	-
		3,178	-
Others:			
Others (before tax)		882	1,288
Income tax effect		1,527	2,314
		2,409	3,602
	₩	24,710	694,547

December 31, 2018 and 2017 (In millions of won)

(ii) Changes in accumulated other comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

	2018			
	January 1, 2018	Increase (Decrease)	Tax Effect	December 31, 2018
Gain on Securities Measured at FVOCI	₩ 29,855	(172,922)	28,752	(114,315)
Share of other comprehensive income of associates	579,838	(119,004)	(20,146)	440,688
Exchange differences on translation of foreign operations	(302,941)	72,629	(57,939)	(288,251)
Valuation loss on cash flow hedge	(4,209)	4,752	(982)	(439)
Remeasurements of defined benefit liabilities	6,826	(32,687)	7,301	(18,560)
Fair value changes on financial liabilities designated at fair value due to credit risk	9,520	(8,748)	2,406	3,178
Others	3,535	363	(1,489)	2,409
	₩ 322,424	(255,617)	(42,097)	24,710

	2017			
	January 1, 2017	Increase (Decrease)	Tax Effect	December 31, 2017
Valuation gain on available-for-sale financial assets	₩ 298,738	166,131	(43,928)	420,941
Share of other comprehensive income of associates	412,960	128,120	81,783	622,863
Exchange differences on translation of foreign operations	(123,258)	(304,797)	72,579	(355,476)
Valuation loss on cash flow hedge	(11,946)	9,928	(2,191)	(4,209)
Remeasurements of defined benefit liabilities	7,263	(345)	(92)	6,826
Others	(1,217)	6,797	(1,978)	3,602
	₩ 582,540	5,834	106,173	694,547

(5) Retained earnings

In accordance with the *Korea Development Bank Act,* the Group is required to appropriate at least 40% of net income as a legal reserve. This reserve can be transferred to paid-in capital or offset an accumulated deficit.

In accordance with the *Korea Development Bank Act,* the Group offsets an accumulated deficit with reserves. If the reserve is insufficient to offset the accumulated deficit, the Korean government is responsible for the deficit.

(i) Retained earnings as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Legal reserve	₩ 173,913	-
Voluntary reserve		
Regulatory reserve for credit losses (*)	1,372,030	1,308,500
Unappropriated retained earnings	8,972,946	8,518,595
	₩ 10,518,889	9,827,095

(*) This amount is regulatory reserve for credit losses recognized by the Bank, controlling company, in the separate financial statements according to the Article 29(1) and (2) of the *Regulation on Supervision of Banking Business.*

(ii) Changes in legal reserve for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Beginning balance	₩ -	3,578,770
Transfer from retained earnings	173,913	-
Coverage of deficits	-	(3,578,770)
Ending balance	₩ 173,913	-

December 31, 2018 and 2017 (In millions of won)

(iii) Changes in unappropriated retained earnings for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Beginning balance	₩	8,518,595	4,384,085
Changes in accounting policy		274,862	-
Profit for the year		529,266	493,412
Transfer from (contribution to) legal reserve		(173,913)	3,578,770
Dividends		(147,092)	-
Reclassification of valuation gain or loss on equity securities measured at FVOCI		34,758	-
Transfer from (contribution to) regulatory reserve for credit losses		(58,231)	72,134
Others		(5,299)	(9,806)
Ending balance	₩	8,972,946	8,518,595

(6) Regulatory reserve for credit losses

The Group is required to provide regulatory reserve for credit losses in accordance with *Regulation on Supervision of Banking Business 29(1) and (2).* The details of regulatory reserve for credit losses are as follows:

(i) Regulatory reserve for credit losses as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Beginning balance	₩	1,405,853	1,347,622
Planned provision for (reversal of) regulatory reserve for credit losses		(148,180)	58,231
Ending balance	₩	1,257,673	1,405,853

(ii) Obligated amount of provision for regulatory reserve for loan losses and profit after adjusting regulatory reserve for loan losses for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Profit for the year	₩	705,980	563,372
Obligated amount of provision for regulatory reserve for loan losses		148,180	(58,231)
Profit after adjusting regulatory reserve for loan losses	₩	854,160	505,141
Earnings per share after adjusting regulatory reserve for loan losses (in won)	₩	237	143

December 31, 2018 and 2017 (In millions of won)

31. Net Interest Income

Net interest income for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Interest income:			
Due from banks	₩	166,265	78,220
Securities measured at FVTPL		150,985	-
Financial assets held for trading		-	62,602
Financial assets designated at fair value through profit or loss		-	15,251
Securities measured at FVOCI		594,410	-
Available-for-sale financial assets		-	600,827
Securities measured at amortized cost		130,878	-
Held-to-maturity financial assets		-	151,892
Loans measured at FVTPL		38,161	-
Loans measured at amortized cost		5,031,495	-
Loans		-	4,845,029
		6,112,194	5,753,821
Interest expense:			
Financial liabilities designated at fair value through profit or loss		(79,695)	(68,190)
Deposits		(525,350)	(486,849)
Borrowings		(612,115)	(339,885)
Debentures		(2,813,875)	(2,604,631)
		(4,031,035)	(3,499,555)
	₩	2,081,159	2,254,266

32. Net Fees and Commission Income

Net fees and commission income for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Fees and commission income:			
Loan commissions	₩	144,379	152,002
Underwriting and investment consulting commissions		116,611	144,734
Brokerage and agency commissions		6,769	7,340
Trust and retirement pension plan commissions		30,553	26,105
Fees on asset management		2,870	2,326
Other fees		159,386	190,719
		460,568	523,226
Fees and commission expenses:			
Brokerage and agency fees		(11,525)	(12,982)
Other fees		(14,042)	(31,570)
		(25,567)	(44,552)
	₩	435,001	478,674

December 31, 2018 and 2017 (In millions of won)

33. Dividend Income

Dividend income for the years ended December 31, 2018 and 2017 are as follows:

	2018		2017
Securities measured at FVTPL	₩	134,410	-
Financial assets held for trading		-	7,343
Securities measured at FVOCI		140,324	-
Available-for-sale financial assets		-	252,804
	₩	274,734	260,147

34. Net Loss on Securities Measured at FVTPL

Net loss related to securities measured at FVTPL for the year ended December 31, 2018 are as follows:

	2018	
Gains on securities measured at FVTPL:		
Gains on redemption	₩	12,490
Gains on sale		115,809
Gains on valuation		274,900
		403,199
Losses on securities measured at FVTPL:		
Losses on redemption		(6,120)
Losses on sale		(74,208)
Losses on valuation		(330,417)
Purchase related expense		(472)
		(411,217)
	₩	(8,018)

35. Net Loss on Financial Assets Held for Trading

Net loss related to financial instruments held for trading for the year ended December 31, 2017 are as follows:

	2017	
Gains on financial instruments held for trading:		
Gains on redemption	₩	1
Gains on sale		22,700
Gains on valuation		2,781
		25,482
Losses on financial instruments held for trading:		
Losses on redemption		(326)
Losses on sale		(41,446)
Losses on valuation		(10,774)
Expense related with purchase		(247)
		(52,793)
	₩	(27,311)

December 31, 2018 and 2017 (In millions of won)

36. Net Gain (Loss) on Financial Instruments Designated at FVTPL

Net gain (loss) related to financial instruments designated at fair value through profit or loss for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Gains on financial instruments designated at FVTPL:		
Gains on redemption	₩ -	2,714
Gains on sale	4	-
Gains on valuation	15,443	80,431
	15,447	83,145
Losses on financial instruments designated at FVTPL:		
Losses on redemption	-	(353)
Losses on sale	(10,041)	(8,284)
Losses on valuation	(69,633)	(1,056)
	(79,674)	(9,693)
	₩ (64,227)	73,452

37. Net Gain on Securities Measured at FVOCI

Net gain related to securities measured at FVOCI for the year ended December 31, 2018 are as follows:

	2018
Gains on securities measured at FVOCI:	
Gains on redemption	₩ 154
Gains on sale	97,832
Reversal of impairment losses	8,439
	106,425
Losses on securities measured at FVOCI:	
Losses on redemption	(746)
Losses on sale	(41,303)
Impairment losses	(23,185)
	(65,234)
	₩ 41,191

December 31, 2018 and 2017 (In millions of won)

38. Net Loss on Available-for-Sale Financial Assets

Net loss on available-for-sale financial assets for the year ended December 31, 2017 are as follows:

		2017
Gains on available-for-sale financial assets:		
Gains on redemption	₩	9,650
Gains on sale		124,958
Reversal of impairment losses		2,297
		136,905
Losses on available-for-sale financial assets:		
Losses on redemption		(211)
Losses on sale		(66,545)
Impairment losses		(225,227)
		(291,983)
	₩	(155,078)

39. Net Loss on Securities Measured at Amortized Cost

Net loss related to securities measured at amortized cost for the year ended December 31, 2018 are as follows:

		2018
Gains on securities measured at amortized cost:		
Gains on redemption	₩	1,160
Gains on sale		122
		1,282
Losses on securities measured at amortized cost:		
Losses on sale		(2)
Impairment losses		(1,296)
		(1,298)
	₩	(16)

40. Net Gain on Held-to-Maturity Financial Assets

Net gain on held-to-maturity financial assets for the year ended December 31, 2017 are as follows:

		2017
Gains on held-to-maturity financial assets:		
Gains on redemption	₩	235
Gains on sale		36
		271
Losses on held-to-maturity financial assets:		
Losses on sale		(78)
	₩	193

December 31, 2018 and 2017 (In millions of won)

41. Net Gain on Derivatives

Net gain on derivatives for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Net gain on trading purpose derivatives:			
Gains on trading purpose derivatives:			
Interest rate	₩	2,224,802	2,153,676
Currency		6,556,061	11,230,209
Stock		187,382	35,211
Commodities		743	6,774
Embedded derivatives		638	51,288
Gains on adjustment of derivatives		11,091	46,774
		8,980,717	13,523,932
Losses on trading purpose derivatives:			
Interest rate		(2,084,586)	(2,156,725)
Currency		(6,483,494)	(10,933,361)
Stock		(69,545)	(34,437)
Commodities		(743)	(6,774)
Embedded derivatives		-	(45,794)
Losses on adjustment of derivatives		(12,948)	(11,027)
		(8,651,316)	(13,188,118)
		329,401	335,814
Net gain (loss) on hedging purpose derivatives:			
Gains on hedging purpose derivatives:			
Interest rate		228,251	28,374
Currency		460,891	1,120,100
Gains on adjustment of derivatives		139	5,671
		689,281	1,154,145
Losses on hedging purpose derivatives:			
Interest rate		(156,655)	(290,350)
Currency		(805,437)	(763,466)
Losses on adjustment of derivatives		(966)	(372)
		(963,058)	(1,054,188)
		(273,777)	99,957
Net gain (loss) on fair value hedged items:			
Gains on fair value hedged items:			
Gains on valuation		288,431	618,299
Gains on redemption		301,620	171,505
		590,051	789,804
Losses on fair value hedged items:			
Losses on valuation		(292,057)	(26,521)
Losses on redemption		(334,375)	(140,965)
		(626,432)	(167,486)
		(36,381)	622,318
	₩	19,243	1,058,089

Related with cash flow hedge, the Group recognized ₩109 million of gain and ₩172 million of loss in the consolidated statement of comprehensive income as the ineffective portion for the year ended December 31, 2018 and 2017, respectively.

December 31, 2018 and 2017 (In millions of won)

42. Net Foreign Currency Transaction Gain (Loss)

Net foreign currency transaction gain (loss) for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Net gain on foreign exchange transactions:			
Gains on foreign exchange transactions	₩	966,797	1,158,787
Losses on foreign exchange transactions		(902,143)	(1,098,530)
		64,654	60,257
Net gain (loss) on foreign exchange translations:			
Gains on foreign exchange translations		1,853,050	3,753,162
Losses on foreign exchange translations		(1,677,531)	(4,568,198)
		175,519	(815,036)
	₩	240,173	(754,779)

43. Other Operating Income, net

Other operating income and expense for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Other operating income:			
Insurance gains	₩	2,914,527	3,264,990
Gains on sale of investments in associates		287,082	42,252
Gains on sale of loans		46,883	177,001
Gains on demand equity redemption		12,942	16,484
Reversal of provisions		10,780	54,611
Gains on bargain purchase		-	219
Income from construction business		10,883,341	11,794,957
Gains on redemption of debentures		13	260
Others		10,471,738	11,205,726
		24,627,306	26,556,500
Other operating expense:			
Insurance losses		(3,513,491)	(3,929,972)
Losses on sale of investments in associates		(572,269)	(170,270)
Losses on sale of loans		(148,029)	(260,012)
Losses on demand equity redemption		(119,340)	(124,033)
Increase of provisions		(94,924)	(424,538)
Cost of construction business		(9,858,506)	(10,960,589)
Losses on redemption of debentures		(5)	(138)
Others		(9,736,611)	(9,945,145)
		(24,043,175)	(25,814,697)
	₩	584,131	741,803

December 31, 2018 and 2017 (In millions of won)

44. Provision for (Reversal of) Credit Losses

Provision for (reversal of) credit losses for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Provision for (reversal of) loss allowance	₩	172,686	976,961
Provision for (reversal of) other manufacturing-related assets		(435,385)	339,113
Provision for (reversal of) other assets		(123,650)	(76,476)
Provision for due from banks		45	-
Provision for (reversal of) unused commitments		(15,916)	59,186
Provision for (reversal of) financial guarantees		(39,825)	83,413
Provision for (reversal of) payment guarantees		69,769	(10,312)
	₩	(372,276)	1,371,885

45. General and Administrative Expenses

General and administrative expenses for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Payroll costs:			
Short-term employee benefits	₩	635,092	607,172
Defined benefit costs		66,611	67,241
Defined contribution costs		5,482	3,804
		707,185	678,217
Depreciation and amortization:			
Depreciation of property and equipment		179,317	44,567
Amortization of intangible assets		212,620	216,619
		391,937	261,186
Other:			
Employee welfare benefits		91,770	86,104
Rent expenses		67,156	71,960
Taxes and dues		41,298	110,290
Advertising expenses		25,066	26,128
Others		385,154	556,384
		610,444	850,866
	₩	1,709,566	1,790,269

December 31, 2018 and 2017 (In millions of won)

46. Other Non-Operating Income and Expense

Other non-operating income and expense for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Other non-operating income:			
Gain on exemption of debt (*)	₩	10	1,425,562
Interest income of non-financial business		39,505	32,296
Gain on assets held for sale		58,264	24,771
Gain on disposal of property and equipment		5,520	5,189
Impairment gain of property and equipment		9,690	69,403
Rental income on investment property		4,940	4,805
Gain on disposal of intangible assets		143	197
Impairment gain of intangible assets		67	245
Others		132,806	187,493
		250,945	1,749,961
Other non-operating expense:			
Interest expense of non-financial business		(132,554)	(91,832)
Loss on assets held for sale		(84,386)	(2,472)
Loss on disposal of property and equipment		(2,664)	(2,804)
Impairment loss of property and equipment		(8,469)	(509,947)
Impairment loss of investment property		(21,484)	(1,353)
Depreciation of investment property		(6,083)	(3,650)
Loss on disposal of intangible assets		(43)	(84)
Impairment loss of intangible assets		(219,499)	(528,275)
Donations		(13,583)	(6,838)
Others		(52,703)	(97,665)
		(541,468)	(1,244,920)
	₩	(290,523)	505,041

(*) The DSME, the Group's subsidiary, agreed to the debt restructuring that includes the debt-for-equity swap, maturity extension and interest rate changes for unsecured bonds held by financial institutions, unsecured and bearer bonds (4-2, 5-2, 6-1, 6-2 and 7th) and commercial paper (CP). This debt restructuring agreement was made based on mutual consent of creditor financial institutions, resolution of the bondholders' meeting and amended CP contract. Accordingly, the Group recognized ₩1,422,602 million of gain on exemption of debts in Other Non-Operating Income and Expense for the year ended December 31, 2017 due to the debt-for-equity swap and debt restructuring of the DSME, the Group's subsidiary.

47. Income Tax Expenses

(1) Income tax expenses for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Current income tax	₩	134,422	454,572
Changes in deferred income taxes on temporary differences (*)		390,153	420,263
Income tax recognized directly to equity:			
Other comprehensive income (owners of the parent)		(42,097)	102,243
Other comprehensive income (non-controlling interests)		3,118	5,243
Retained earnings (including non-controlling interests)		(12,809)	-
Income tax expenses:	₩	472,787	982,321

(*) The deferred tax liabilities as of January 1, 2018 decreased by ₩193,313 million due to changes in accounting policy compared to those as of December 31, 2017. Based on this decrease, the changes in deferred income taxes on temporary differences were calculated.

December 31, 2018 and 2017 (In millions of won)

(2) Profit before income taxes and income tax expenses for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Profit before income taxes	₩	1,178,767	1,545,693
Income taxes calculated using enacted tax rates		324,163	374,059
Adjustments:			
Non-deductible losses and tax-free gains		(33,833)	(40,179)
Net adjustments for prior years		(476,741)	344,558
Net adjustments for prior years		29,897	(50,019)
Consolidation adjustments		(115,750)	63,387
Others		745,051	290,515
		148,624	608,262
Income tax expenses	₩	472,787	982,321
Effective tax rate		40.11%	63.55%

(3) Changes in deferred income taxes recognized directly to equity for the years ended December 31, 2018 and 2017 are as follows:

		2018				
		December 31, 2018		January 1, 2018		Changes in tax effect
		Amounts before tax	Tax effect	Amounts before tax	Tax effect	
Net gain (loss) on securities measured at FVOCI	₩	(158,937)	44,622	13,985	15,870	28,752
Share of other comprehensive income (loss) of associates		428,035	12,653	547,039	32,799	(20,146)
Exchange differences on translation of foreign operations		(395,785)	107,534	(468,414)	165,473	(57,939)
Losses on valuation of cash flow hedge		(744)	305	(5,496)	1,287	(982)
Remeasurements of defined benefit liabilities		(23,793)	5,233	8,894	(2,068)	7,301
Fair value changes on financial liabilities designated at fair value due to credit risk		4,383	(1,205)	13,131	(3,611)	2,406
Others		882	1,527	519	3,016	(1,489)
	₩	(145,959)	170,669	109,658	212,766	(42,097)

		2017				
		December 31, 2017		January 1, 2017		Changes in deferred tax assets (liabilities)
		Before tax	Deferred tax assets (liabilities)	Before tax	Deferred tax assets (liabilities)	
Gains on available-for-sale financial assets	₩	567,735	(146,794)	399,336	(100,598)	(46,196)
Shares of other comprehensive income of associates		607,597	15,266	479,477	(66,517)	81,783
Exchange differences on translation of foreign operations		(521,115)	165,639	(220,248)	96,990	68,649
Losses on valuation of cash flow hedge		(5,496)	1,287	(15,424)	3,478	(2,191)
Remeasurements of defined benefit liabilities		8,894	(2,068)	9,239	(1,976)	(92)
Others		1,288	2,314	(3,241)	2,024	290
	₩	658,903	35,644	649,139	(66,599)	102,243

December 31, 2018 and 2017 (In millions of won)

(4) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2018 and 2017 are as follows:

	2018			
	January 1, 2018	Increase/decrease	December 31, 2018	Deferred tax assets (liabilities)
Temporary differences from recognized deferred tax assets and liabilities:				
Derivatives	₩ (113,946)	(215,865)	(329,811)	(90,748)
Investments in associates	(6,292,226)	(2,451,653)	(8,743,879)	(2,371,699)
Securities measured at FVOCI	(158,946)	(44,962)	(203,908)	(14,099)
Impairment losses on debt securities	251,823	(185,890)	65,933	18,132
Impairment losses on equity securities	587,443	(396,286)	191,157	48,303
Others	80,859	(758,945)	(678,086)	(566,034)
	(5,644,993)	(4,053,601)	(9,698,594)	(2,976,145)
Temporary differences from unrecognized deferred tax assets and liabilities:				
Investments in associates	4,271,656	(2,313,659)	1,957,997	-
Undisposed accumulated deficit by deferred corporate taxes:				
Undisposed accumulated deficit	625,660	148,633	774,293	187,379
	₩ (747,677)	(6,218,627)	(6,966,304)	(2,788,766)

	2017			
	January 1, 2017	Increase/decrease	December 31, 2017	Deferred tax assets (liabilities)
Temporary differences from recognized deferred tax assets and liabilities:				
Derivatives	₩ 242,305	(356,251)	(113,946)	(31,335)
Investments in associates	(8,179,959)	1,887,733	(6,292,226)	(2,440,218)
Available-for-sale financial assets	(192,736)	33,790	(158,946)	(3,275)
Impairment losses on debt securities	284,615	(32,792)	251,823	69,251
Impairment losses on equity securities	803,178	(215,735)	587,443	157,144
Others	1,349,083	(1,268,224)	80,859	(434,488)
	(5,693,514)	48,521	(5,644,993)	(2,682,921)
Temporary differences from unrecognized deferred tax assets and liabilities:				
Investments in associates	3,441,383	830,273	4,271,656	-
Undisposed accumulated deficit by deferred corporate taxes:				
Undisposed accumulated deficit	153,492	472,168	625,660	90,995
	₩ (2,098,639)	1,350,962	(747,677)	(2,591,926)

(5) Deferred income tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current income tax liabilities and assets, and they relate to income tax levied by the same tax authority and they intend to settle current income tax liabilities and assets on a net basis.

December 31, 2018 and 2017 (In millions of won)

48. Earnings per Share

(1) Basic earnings per share

The Group’s basic earnings per share for the years ended December 31, 2018 and 2017 are computed as follows:

(i) Basic earnings per share

	2018	2017
Profit for the year (in won)	₩ 705,980,417,334	563,372,196,477
Profit attributable to non-controlling interests (in won)	176,714,165,283	69,959,746,922
Profit attributable to ordinary shareholders of the Group (A) (in won)	529,266,252,051	493,412,449,555
Weighted-average number of ordinary shares outstanding (B)	3,605,597,850	3,543,630,727
Basic earnings per share (A/B) (in won)	₩ 147	139

(ii) Weighted-average number of ordinary shares outstanding

	2018		
	Number of ordinary shares	Days	Cumulative shares
Number of ordinary shares outstanding at the beginning of the year (A)	3,587,619,768	365	1,309,481,215,320
Increased paid-in capital (B)	34,000,000	193	6,562,000,000
Cumulative shares (C = A+B)			1,316,043,215,320
Weighted-average number of ordinary shares outstanding (C/365)			3,605,597,850

	2017		
	Number of ordinary shares	Days	Cumulative shares
Number of ordinary shares outstanding at the beginning of the year (A)	3,508,619,768	365	1,280,646,215,320
Increased paid-in capital (B)	50,000,000	222	11,100,000,000
Increased paid-in capital (C)	16,000,000	96	1,536,000,000
Increased paid-in capital (D)	13,000,000	11	143,000,000
Cumulative shares (E=A+B+C+D)			1,293,425,215,320
Weighted average number of ordinary shares outstanding (E/365)			3,543,630,727

(2) Diluted earnings per share

Diluted and basic earnings per share for the years ended December 31, 2018 and 2017 are equal because there is no potential dilutive instrument.

December 31, 2018 and 2017 (In millions of won)

49. Pledged Assets

Assets pledged by the Group as collateral as of December 31, 2018 and 2017 are as follows:

	December 31, 2018		December 31, 2017	
	Pledged assets	Related liabilities	Pledged assets	Related liabilities
Cash and due from banks (*1)	₩ 249,652	247,179	97,194	95,524
Securities (*2)	7,545,914	8,351,152	9,793,642	9,659,978
Others (*3)	6,290,357	3,554,103	6,229,335	3,985,507
	₩ 14,085,923	12,152,434	16,120,171	13,741,009

(*1) Pledged as collateral for bidding deposits and others.

(*2) Pledged as collateral for bonds sold under repurchase agreements, BOK loans and back overdrafts.

(*3) Property and equipment, etc. are pledged as collateral for borrowings and new business.

50. Guarantees and Commitments

Guarantees and commitments as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Confirmed acceptances and guarantees:		
Acceptances in foreign currency	₩ 645,360	413,812
Guarantees for bond issuance	2,069,094	1,817,983
Guarantees for loans	408,907	664,148
Letter of guarantee	51,129	37,105
Guarantees for on-lending debt	17,910	28,272
Others	3,376,346	4,316,920
	6,568,746	7,278,240
Unconfirmed acceptances and guarantees:		
Letter of credit	1,782,372	1,981,439
Others	757,132	598,746
	2,539,504	2,580,185
Commitments:		
Commitments on loans	28,127,786	4,457,877
Commitments on purchase of securities	2,101,154	2,121,277
Others	155,198	160,197
	30,384,138	6,739,351
Bills endorsed:		
With recourse	7,469	3,028
	₩ 39,499,857	16,600,804

(In millions of won)

51. Leases

(1) Finance lease

Details of finance lease receivables of the Group as lessor as of December 31, 2018 and 2017 are as follows:

	December 31, 2018		
	Finance lease receivables in Korean won	Finance lease receivables in foreign currency	Total
Within 1 year	₩ 374,558	37,359	411,917
Over 1 year through 5 years	720,078	57,892	777,970
Gross investment in the lease	1,094,636	95,251	1,189,887
Unearned finance income	(120,445)	-	(120,445)
Net investment in the lease (*)	₩ 974,191	95,251	1,069,442
Contingent rent recognized in the current profit or loss	₩ (293)	-	(293)

(*) Finance lease receivables are included in loans measured at amortized cost on the consolidated statements of financial position.

	December 31, 2017		
	Finance lease receivables in Korean won	Finance lease receivables in foreign currency	Total
Within 1 year	₩ 395,292	35,104	430,396
Over 1 year through 5 years	691,444	49,822	741,266
Gross investment in the lease	1,086,736	84,926	1,171,662
Unearned finance income	(119,432)	(100)	(119,532)
Net investment in the lease (*)	₩ 967,304	84,826	1,052,130
Contingent rent recognized in the current profit or loss	₩ 207	-	207

(*) Finance lease receivables are included in loans on the consolidated statements of financial position.

(2) Operating lease

Future minimum lease payments under non-cancellable operating leases as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Within 1 year	₩ 6,034	17,365
Over 1 year through 5 years	194	7,153
	₩ 6,228	24,518
Contingent rent recognized in the current loss	₩ (47)	(95)

(3) Cancellable lease

Cancellable lease as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Acquisition cost	₩ 4,176	3,009

(4) Advanced payment for leased assets

The amount of capital paid for a new lease that the Group enters into before the commencement of lease term as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Advanced payment for leased assets	₩ 8,526	12,774
Allowance for credit losses	(54)	(96)
	₩ 8,472	12,678

December 31, 2018 and 2017 (In millions of won)

(5) Leasehold deposits

The Group withholds collateral money received from the lessees as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Leasehold deposits	₩	283,383	276,044

52. Day One Profit or Loss

Changes in deferred day one profit or loss for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Beginning balance	₩	5,538	1,155
New deferrals		-	5,796
Amortization		(389)	(259)
Others (end of transaction, etc.)		-	(1,154)
Ending balance	₩	5,149	5,538

The deferred day one profit or loss arose from derivative financial instruments at level 3 on the fair value hierarchy.

53. Trust Accounts

(1) Trust accounts as of December 31, 2018 and 2017 are as follows:

		December 31, 2018	December 31, 2017
Accrued trust fees	₩	6,360	9,023
Deposits		9,082	13,625
Borrowings from trust accounts		702,862	981,648
Accrued interest on deposits		1,190	1,383

(2) Transactions with trust accounts for the years ended December 31, 2018 and 2017 are as follows:

		2018	2017
Fees on trust accounts	₩	27,198	25,229
Interest expenses on deposits		300	984
Interest expenses of borrowings from trust accounts		14,887	12,787

54. Related Party Transactions

(1) The Group's related parties as of December 31, 2018 are as follows:

Classification	Corporate name
Associates	Korea Electric Power Co., Ltd., Korea Tourism Organization, Korea Appraisal Board, Korea Ocean Business Corporation, GM Korea Company, Hyundai Merchant Marine Co., Ltd. and 75 others, Troika Resources Investment PEF and 97 others, KIP Overseas Expansion Platform Fund and 106 others
Others	Key management personnel

December 31, 2018 and 2017 (In millions of won)

(2) Significant outstanding balances with related parties as of December 31, 2018 and 2017 are as follows:

	Account		2018	2017
Associates:				
Korea Electric Power Co., Ltd.	Securities	₩	29,484	59,643
	Loans		151,947	134,792
	Allowances for loan losses		(2,769)	(27)
	Derivative financial assets		37,760	39,790
	Other assets		65	122
	Deposits		36,148	497,312
	Borrowings		4,355	15,129
	Derivative financial liabilities		36,277	290
	Other liabilities		-	282
	Other provisions		14	8
Dongbu Steel Co., Ltd.	Loans		978,743	1,046,630
	Allowances for loan losses		(454,726)	(229,291)
	Deposits		10,391	43,035
	Other liabilities		261	62
	Other provisions		47,451	12,183
Hyundai Merchant Marine Co., Ltd.	Securities		363,615	-
	Loans		500,156	584,021
	Allowances for loan losses		(35,423)	(175,062)
	Deposits		561,979	200,000
	Other liabilities		-	144
Others	Securities		6,139	186
	Loans		1,049,129	1,185,523
	Allowances for loan losses		(769,269)	(746,685)
	Other assets		152,478	150,011
	Deposits		704,376	721,013
	Other liabilities		-	2,222
	Other provisions		121,468	123,661

(3) Significant profit or loss from transactions with related parties for the years ended December 31, 2018 and 2017 are as follows:

	Account		2018	2017
Associates:				
Korea Electric Power Co., Ltd.	Interest income	₩	4,860	4,476
	Reversal of allowance for loan losses		-	14
	Fees and commission income, other income		13,179	56,944
	Interest expenses		(4,984)	(2,002)
	Provision for loan losses		(2,738)	-
	Other operating expenses		(54,992)	(6,672)
Others	Interest income		78,582	213,068
	Fees and commission income, other income		50,167	205,906
	Interest expenses		(10,691)	(8,244)
	Provision for loan losses		(227,827)	(108,725)
	Other operating expenses		(74,595)	(23,790)
		₩	(229,039)	330,975

December 31, 2018 and 2017 (In millions of won)

(4) Details of guarantees and commitments to the related parties as of December 31, 2018 and 2017 are as follows:

	Account	December 31,2018	December 31, 2017
Associates:			
Korea Electric Power Co., Ltd.	Confirmed acceptances and guarantees	₩ 178,752	140,759
	Unconfirmed acceptances and guarantees	32,411	24,696
Others	Confirmed acceptances and guarantees	128,836	176,062
	Unconfirmed acceptances and guarantees	124,797	90,741
	Loan commitments	18,591	8,243
		₩ 483,387	440,501

(5) Details of compensation to key management personnel for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Short-term employee benefits	₩ 3,568	4,014
Post-employment benefits	204	416
	₩ 3,772	4,430

55. Disclosure of Interests in Other Entities

(1) Commitments of financial support for consolidated structured entities

The contractual commitments offered by the Group to the consolidated structured entities as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Associates:		
U-BEST 4th Securitization Specialty Co., Ltd. (*1)	₩ 64,000	80,000
K-Five 5th Securitization Specialty Co., Ltd. (*1)	-	100,000
K-Five 6th Securitization Specialty Co., Ltd. (*1)	40,000	40,000
K-Five 7th Securitization Specialty Co., Ltd. (*1)	50,000	-
Sinoker SF 1st Co., Ltd. (*1)	-	43,400
KDB Mirae Seongjang ABCP 1st Inc. (*1)	52,100	52,100
KDBC IP Investment Fund 2 (*2)	3,000	3,000
KDBC Food Industry Investment Fund 1 (*2)	1,280	1,280
	₩ 210,380	319,780

(*1) The Group made a commitment on loans for consolidated structured entities. According to the commitment, the Group guarantees loan to a subsidiary when the subsidiary has insufficient working capital.

(*2) KDB Capital Corporation made a loss compensation commitment for some funds as their general partner.

(In millions of won)

(2) Nature and scope of interests in unconsolidated structured entities

Details of unconsolidated structured entities as of December 31, 2018 and 2017 are as follows:

Type	Characteristics and objective	Financing method
Investment funds and investment trusts (*1)	Investment and distribution	Equity investment and fund operations, etc.
Real estate finance (*2)	Real estate development and infrastructure investment, etc.	Equity investment and credit reinforcement, etc.
Asset-backed securitization	Securitization of underlying assets	Issuance of ABL and ABCP, etc.
Shipping and acquisition finance	Providing funds for acquisition of corporate or ships	Equity investment and fund operations, etc.

(*1) PEF, investment association, beneficiary certificate, etc.
(*2) SPC, PF, SOC, etc.

(3) Nature of related risks

The carrying amount of and maximum exposure to loss from interests in unconsolidated structured entities as of December 31, 2018 and 2017 are as follows:

	December 31, 2018					
	Investment funds and investment trusts	Real estate finance	Asset-backed securitization	Shipping and acquisition finance	Others	Total
Assets:						
Securities	₩ 7,012,791	366,585	30,983	5,000	-	7,415,359
Loans	756,468	6,544,250	1,037,851	2,276,171	2,934,997	13,549,737
Derivatives	-	7,405	268	8,282	408	16,363
Others	4,551	14,889	2,531	5,184	10,607	37,762
	7,773,810	6,933,129	1,071,633	2,294,637	2,946,012	21,019,221
Liabilities:						
Provisions	-	94	40	6	562	702
Financial guarantees	-	-	52,051	-	692	52,743
Derivatives	-	-	-	169	1,956	2,125
Others	923	5	-	-	-	928
	923	99	52,091	175	3,210	56,498
Granting of credit and other commitments	359,082	489,761	1,274,354	2,532	552,049	2,677,778
Maximum exposure to loss (*)	₩ 8,132,892	7,422,890	2,345,987	2,297,169	3,498,061	23,696,999

(In millions of won)

	December 31, 2017					
	Investment funds and investment trusts	Real estate finance	Asset-backed securitization	Shipping and acquisition finance	Others	Total
Assets:						
Securities	₩ 4,424,689	20,637	51,576	4,660	314,932	4,816,494
Loans	813,619	4,352,301	1,489,258	3,983,990	4,423,958	15,063,126
Derivatives	-	-	-	14,113	13,502	27,615
Others	6,817	4,539	5,357	14,397	16,185	47,295
	5,245,125	4,377,477	1,546,191	4,017,160	4,768,577	19,954,530
Liabilities:						
Provisions	-	19	623	621	68	1,331
Financial guarantees	-	-	19,431	1,401	-	20,832
Derivatives	-	47	10,942	1,200	-	12,189
Others	991	48	-	-	-	1,039
	991	114	30,996	3,222	68	35,391
Granting of credit and other commitments	201,837	311,179	2,024,291	1,101,648	92,638	3,731,593
Maximum exposure to loss (*)	₩ 5,446,962	4,688,656	3,570,482	5,118,808	4,861,215	23,686,123

(*) Maximum exposure to loss is calculated by summarizing related assets (after adjusting impairment loss on securities, allowance for loan losses, etc.), granting of credit and other commitments.

(4) Significant non-controlling interests

Details of significant non-controlling interests and summary of financial information as of December 31, 2018 and 2017 are as follows:

- Non-controlling interests:

	December 31, 2018			
	Non-controlling interests ownership (%)	Profit (loss) on non-controlling interests	Non-controlling interests	Dividend to non-controlling interests
Daewoo Engineering & Construction Co., Ltd.	48.66	₩ 35,705	1,370,640	-
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	44.28	127,325	3,000,260	-

	December 31, 2017			
	Non-controlling interests ownership (%)	Profit (loss) on non-controlling interests	Non-controlling interests	Dividend to non-controlling interests
Daewoo Engineering & Construction Co., Ltd.	48.66	₩ 69,264	1,459,461	-
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	43.99	(28,584)	2,222,369	15,007

- Summary of financial information:

	December 31, 2018							
	Assets	Liabilities	Operating revenue	Profit for the year	Total comprehensive income	Cash flows from operating activities	Cash flows from investing activities	Cash flows from financing activities
Daewoo Engineering & Construction Co., Ltd.	₩ 8,733,846	6,416,124	10,605,494	298,686	271,952	176,191	(152,822)	167,473
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	11,918,522	8,078,300	9,644,384	344,722	332,469	725,141	(13,221)	(565,892)

(In millions of won)

	December 31, 2017							
	Assets	Liabilities	Operating revenue	Profit for the year	Total comprehensive income	Cash flows from operating activities	Cash flows from investing activities	Cash flows from financing activities
Daewoo Engineering & Construction Co., Ltd.	₩ 8,776,332	6,498,263	11,766,840	258,937	210,982	337,413	84,899	(721,127)
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	11,446,753	8,456,091	11,101,818	621,492	527,133	(1,019,899)	22,724	987,889

56. Statements of Cash Flows

(1) Cash and cash equivalents in the consolidated statements of cash flows as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Continuing operations:		
Cash and due from banks:		
Cash and foreign currencies	₩ 559,610	516,380
Due from banks in Korean won	4,663,447	4,476,964
Due from banks in foreign currencies / off-shores	3,506,971	3,242,142
	8,730,028	8,235,486
Less: Restricted due from banks, others	(3,897,497)	(2,583,506)
Add: Financial instruments reaching maturity within three months from date of acquisition		
Government and public bonds	218,981	444,643
Call loans	3,081,090	4,087,060
Inter-bank loans	908,806	151,307
	4,208,877	4,683,010
Cash and cash equivalents	₩ 9,041,408	10,334,990

(2) Significant transactions not involving cash flows for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Decrease in loans due to write-offs	₩ 238,338	121,480
Increase in securities measured at FVOCI due to debt-to-equity swap and others	56,221	-
Increase in available-for-sale financial assets due to debt-to-equity swap and others	-	80,879
Decrease in accumulated other comprehensive income due to securities valuation	129,956	166,131
Reclassification of investments in associates to securities measured at FVOCI	2,050	-
Reclassification of investments in associates to available-for-sale financial assets	-	6,638
Reclassification of investments in associates to securities measured at FVTPL	1,700	-
Reclassification of available-for-sale financial assets to investments in associates	-	18,318
Transfer from investment property to property and equipment	7,905	-
Transfer from property and equipment to investment property	7,524	-
Increase of available-for-sale financial assets due to the contribution from the government	-	250,000
Reclassification to assets held for sale	75,169	113,796
Increase of non-controlling interests due to debt-to-equity swap of the Group's subsidiary	9,803	527,621
Increase of non-controlling interests due to reclassification of debts to hybrid bonds of the Group's subsidiary	-	1,284,775

December 31, 2018 and 2017 (In millions of won)

57. Transfers of Financial Instruments

Details of financial assets and liabilities related to repurchase agreements and loaned securities sold and loaned debt securities that do not qualify for derecognition as of December 31, 2018 and 2017 are as follows:

Characteristics of transactions	December 31, 2018		December 31, 2017	
	Carrying amounts for transferred assets	Carrying amounts for related liabilities	Carrying amounts for transferred assets	Carrying amounts for related liabilities
Repurchase agreements	₩ 4,702,089	2,207,434	4,662,825	3,522,261
Loaned securities	60,409	-	-	-
	₩ 4,762,498	2,207,434	4,662,825	3,522,261

58. Fair Value of Financial Assets and Liabilities

The Group classifies and discloses fair value of the financial instruments into the following three-level hierarchy:

- Level 1: Financial instruments measured at quoted prices from active markets are classified as level 1.
- Level 2: Financial instruments measured using valuation techniques where all significant inputs are observable market data are classified as level 2.
- Level 3: Financial instruments measured using valuation techniques where one or more significant inputs are not based on observable market data are classified as level 3.

(1) Fair value hierarchy of financial instruments measured at fair value

(i) The fair value hierarchy of financial instruments measured at fair value as of December 31, 2018 and 2017 are as follows:

	December 31, 2018			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Securities measured at FVTPL	₩ 739,563	4,956,048	7,795,104	13,490,715
Securities measured at FVOCI	4,497,585	15,448,497	10,331,304	30,277,386
Loans measured at FVTPL	-	-	779,520	779,520
Derivative financial assets	₩ 275	3,782,740	142,490	3,925,505
	5,237,423	24,187,285	19,048,418	48,473,126
Financial liabilities:				
Financial liabilities designated at FVTPL	₩ -	2,164,538	-	2,164,538
Derivative financial liabilities	364	3,225,498	3,242	3,229,104
	₩ 364	5,390,036	3,242	5,393,642

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets held for trading	₩ 605,540	1,299,109	-	1,904,649
Financial assets designated at FVTPL	-	-	120,019	120,019
Available-for-sale financial assets	4,311,470	20,140,294	15,142,162	39,593,926
Derivative financial assets	372	6,224,595	157,612	6,382,579
	₩ 4,917,382	27,663,998	15,419,793	48,001,173
Financial liabilities:				
Financial liabilities designated at FVTPL	₩ -	1,583,713	42,472	1,626,185
Derivative financial liabilities	1,497	5,808,766	13,728	5,823,991
	₩ 1,497	7,392,479	56,200	7,450,176

(In millions of won)

(ii) Changes in the fair value of level 3 financial instruments for the years ended December 31, 2018 and 2017 are as follows:

	2018						
	January 1, 2018	Profit or loss	Other comprehensive loss	Acquisition / Issue	Sale / Settlement	Others	December 31, 2018
Financial assets:							
Securities measured at FVTPL	₩ 6,679,027	(118,675)	-	1,938,969	(695,171)	(9,046)	7,795,104
Securities measured at FVOCI	9,997,243	(15,837)	(188,679)	669,576	(107,368)	(23,631)	10,331,304
Loans measured at FVTPL	1,132,689	-	-	-	(353,169)	-	779,520
Derivatives financial assets	4,489	139,258	-	-	-	(1,257)	142,490
	₩ 17,813,448	4,746	(188,679)	2,608,545	(1,155,708)	(33,934)	19,048,418
Financial liabilities:							
Derivatives financial liabilities	₩ 8,602	(2,286)	-	-	(3,975)	901	3,242

	2017							
	January 1, 2017	Profit or loss	Other comprehensive income	Acquisition / Issue	Sale / Settlement	Acquisition or disposal of subsidiary	Others	December 31, 2017
Financial assets:								
Financial assets designated at FVTPL	₩ 341,303	(516)	-	100,000	(318,231)	-	(2,537)	120,019
Available-for-sale financial assets	12,979,229	(95,864)	179,105	2,670,470	(487,140)	(72,907)	(30,731)	15,142,162
Derivatives financial assets	174,186	(10,902)	-	28,544	(33,771)	-	(445)	157,612
	₩ 13,494,718	(107,282)	179,105	2,799,014	(839,142)	(72,907)	(33,713)	15,419,793
Financial liabilities:								
Financial liabilities designated at FVTPL	₩ -	42,472	-	-	-	-	-	42,472
Derivatives financial liabilities	66,976	(16,420)	-	(16,489)	(5,329)	-	(15,010)	13,728
	₩ 66,976	26,052	-	(16,489)	(5,329)	-	(15,010)	56,200

(iii) Details of valuation technique and inputs used in the fair value measurement categorized within level 2 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2018 and 2017 are as follows:

	Valuation technique	Input
Securities measured at FVTPL and financial assets held for trading:		
Equity securities	Net asset value approach	Underlying asset price
Debt securities	Discounted cash flow method	Discount rate
Securities measured at FVOCI and available-for-sale financial assets:		
Equity securities	Net asset value approach	Underlying asset price
Debt securities	Discounted cash flow method	Discount rate
Derivatives financial assets:		
Interest rate swaps	Discounted cash flow method, Black-Scholes model, Modified Black model, Formula model	Discount rate, exchange rate, volatility, commodity index, etc.
Currency forwards and swaps		
Currency options		
Commodities options		
Financial liabilities measured at FVTPL:		
Debentures	Discounted cash flow method	Discount rate

December 31, 2018 and 2017 (In millions of won)

(iv) Details of valuation technique and quantitative information about unobservable inputs used in the fair value measurement categorized within level 3 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2018 and 2017 are as follows:

	December 31, 2018		
	Valuation technique	Unobservable input	Range (%)
Securities measured at FVTPL:			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	4.03 ~ 18.22
		Rate of increase in liquidation value	-
		Rate of increase in property disposal price	-
		Volatility	20.54 ~ 40.70
Securities measured at FVTPL:			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	3.87 ~ 18.36
		Growth rate	-
		Rate of increase in liquidation value	-
		Rate of increase in property disposal price	-
		Volatility	21.51 ~ 38.07
Loans measured at FVTPL			
Convertible bonds, etc.	Binomial model	Volatility	17.79 ~ 48.97
Derivatives financial assets:			
Interest rate swaps	Discounted cash flow method	Volatility	17.80 ~ 24.20
		Correlation coefficient	0.81 ~ 0.92
Interest rate options	Modified Black model	Volatility	17.80 ~ 24.20
Stock index options	Black-Scholes model	Volatility	14.70 ~ 26.50
Equity options	Discounted cash flow method and others	Volatility	24.11 ~ 25.29
Equity forward	Discounted cash flow method and others	Volatility	21.93

	December 31, 2017		
	Valuation technique	Unobservable input	Range (%)
Available-for-sale financial assets:			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	3.70 ~ 20.26
		Growth rate	-
		Rate of increase in liquidation value	-
		Rate of increase in property disposal price	-
		Discount rate of rent cash flow	7.66 ~ 9.31
		Volatility	11.45 ~ 25.79
Derivatives financial assets:			
Interest rate swaps	Discounted cash flow method	Volatility	19.20 ~ 23.60
		Correlation coefficient	(-)0.42 ~ 0.95
Interest rate options	Modified Black model	Volatility	19.20 ~ 23.60
Stock index options	Black-Scholes model	Volatility	11.00 ~ 21.00
Equity options	Finite difference method	Volatility	16.62 ~ 57.31
		Correlation coefficient	(-)0.11 ~ 0.75

December 31, 2018 and 2017 (In millions of won)

(2) Fair value hierarchy of financial instruments disclosed by fair value

(i) The Group's policies for measuring fair value of financial instruments at amortized costs are as follows:

- Cash and due from banks: Fair value of cash is considered equivalent to the carrying amount. In the case of due from banks on demand, which do not have a set maturity and can be realized instantly, the carrying amount is a close estimate of the fair value and is assumed so. In the case of other ordinary due from banks, the cash flow discount method is used to estimate the fair value.
- Loans measured at amortized cost: The fair value of loans measured at amortized cost is the expected future cash flows, reflecting premature redemption ratio, discounted by the market interest rate, adjusted by a spread sheet considering the probability of default. Exceptions to this method include loans with credit line facilities, loans with a maturity of three months or less left and impaired loans, which the Group assumes the carrying amount as the fair value.
- Securities measured at amortized cost: The fair value of securities measured at amortized cost is computed by widely-accepted appraisal agencies upon request.
- Deposits: The fair value of deposits is computed using the discounted cash flow method. However, for deposits, whose cash flows cannot be estimated reasonably, the Bank assumes the carrying amount as the fair value.
- Borrowings: For borrowings in Korean won, the fair value is computed using the discounted cash flow method. For borrowings in foreign currency, the fair value is computed by widely-accepted appraisal agencies upon request. However, for borrowings including call money whose contractual maturity is three months or less, the Group assumes the carrying amount as the fair value.
- Debentures: The fair value of industrial financial debentures in Korean won, except structured debentures in Korean won, is computed using the discounted cash flow method. For structured industrial financial debentures in Korean won and industrial financial debentures in foreign currency, the fair value is computed by widely-accepted appraisal agencies upon request.
- Other financial assets and liabilities: The fair value of other financial assets and liabilities is computed using the discounted cash flow method. However, in cases cash flow cannot be estimated reasonably, the Group assumes the carrying amount as the fair value.

(ii) The fair value hierarchy of financial instruments disclosed by fair value as of December 31, 2018 and 2017 are as follows:

	December 31, 2018			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Cash and due from banks (*)	₩ 4,832,531	3,897,497	-	8,730,028
Securities measured at amortized cost	1,689,794	3,923,929	-	5,613,723
Loans measured at amortized cost (*)	-	3,081,090	144,058,470	147,139,560
Other financial assets (*)	-	3,547,775	11,857,429	15,405,204
	₩ 6,522,325	14,450,291	155,915,899	176,888,515
Financial liabilities:				
Deposits (*)	₩ -	2,292,812	30,805,252	33,098,064
Borrowings (*)	-	726,764	25,811,702	26,538,466
Debentures	-	124,026,179	-	124,026,179
Other financial liabilities (*)	-	2,119,990	7,082,094	9,202,084
	₩ -	129,165,745	63,699,048	192,864,793

(In millions of won)

		December 31, 2017			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Cash and due from banks (*)	₩	5,651,980	2,583,506	-	8,235,486
Held-to-maturity financial assets		2,525,474	3,227,305	-	5,752,779
Loans (*)		-	4,087,061	140,667,901	144,754,962
Other financial assets (*)		-	6,632,670	12,485,061	19,117,731
	₩	8,177,454	16,530,542	153,152,962	177,860,958
Financial liabilities:					
Deposits (*)	₩	-	2,633,521	31,652,246	34,285,767
Borrowings (*)		-	795,973	27,997,310	28,793,283
Debentures		-	120,707,506	-	120,707,506
Other financial liabilities (*)		-	4,726,695	7,200,353	11,927,048
	₩	-	128,863,695	66,849,909	195,713,604

(*) For financial instruments categorized as level 2, the carrying amount is considered as a reasonable approximation of the fair value and is thus, disclosed by fair value.

(iii) Details of valuation technique and inputs used in the fair value measurement categorized within level 2 and level 3 of the fair value hierarchy of financial instruments measured at amortized cost as of December 31, 2018 and December 31, 2017 are as follows:

	Valuation technique	Input
Level 2		
Financial assets:		
Securities measured at amortized cost and Held-to-maturity financial assets	Discounted cash flow method	Discount rate
Financial liabilities:		
Debentures	Discounted cash flow method	Discount rate
Level 3		
Financial assets:		
Loans measured at amortized cost and Loans	Discounted cash flow method	Credit spread, Other spread, Prepayment rate
Other financial assets	Discounted cash flow method	Other spread
Financial liabilities:		
Deposits	Discounted cash flow method	Other spread, Prepayment rate
Borrowings	Discounted cash flow method	Other spread
Other financial liabilities	Discounted cash flow method	Other spread

December 31, 2018 and 2017 (In millions of won)

59. Categories of Financial Assets and Liabilities

Categories of financial assets and liabilities as of December 31, 2018 and 2017 are as follows:

	December 31, 2018						
	Cash and cash equivalents	Financial instruments measured at FVTPL	Financial instruments designated at FVTPL	Financial instruments measured at FVOCI	Financial instruments measured at amortized cost	Hedging purpose derivative instruments	Total
Financial assets:							
Cash and due from banks	₩ 4,832,531	-	-	-	3,897,497	-	8,730,028
Securities measured at FVTPL	218,981	13,271,734	-	-	-	-	13,490,715
Securities measured at FVOCI	-	-	-	30,277,386	-	-	30,277,386
Securities measured at amortized cost	-	-	-	-	5,691,616	-	5,691,616
Loans measured at FVTPL	-	779,520	-	-	-	-	779,520
Loans measured at amortized cost	3,989,896	-	-	-	138,166,598	-	142,156,494
Derivative financial assets	-	3,167,990	-	-	-	757,515	3,925,505
Other financial assets	-	-	-	-	15,490,171	-	15,490,171
	₩ 9,041,408	17,219,244	-	30,277,386	163,245,882	757,515	220,541,435
Financial liabilities:							
Financial liabilities measured at FVTPL	₩ -	-	2,164,538	-	-	-	2,164,538
Deposits	-	-	-	-	33,949,175	-	33,949,175
Borrowings	-	-	-	-	26,379,539	-	26,379,539
Debentures	-	-	-	-	123,175,447	-	123,175,447
Derivative financial liabilities	-	2,778,160	-	-	-	450,944	3,229,104
Other financial liabilities	-	-	-	-	8,965,058	-	8,965,058
	₩ -	2,778,160	2,164,538	-	192,469,219	450,944	197,862,861

(In millions of won)

	December 31, 2017								
	Cash and cash equivalents	Financial instruments held for trading	Financial instruments designated at FVTPL	Available-for-sale financial instruments	Held-to-maturity financial instruments	Loans and receivables	Financial liabilities measured at amortized cost	Hedging purpose derivative instruments	Total
Financial assets:									
Cash and due from banks	₩ 5,651,980	-	-	-	-	2,583,506	-	-	8,235,486
Financial assets held for trading	444,643	1,460,006	-	-	-	-	-	-	1,904,649
Financial assets designated at FVTPL	-	-	120,019	-	-	-	-	-	120,019
Available-for- sale financial assets	-	-	-	39,593,926	-	-	-	-	39,593,926
Held-to-maturity financial assets	-	-	-	-	6,040,641	-	-	-	6,040,641
Loans	4,238,367	-	-	-	-	138,985,749	-	-	143,224,116
Derivative financial assets	-	5,658,476	-	-	-	-	-	724,103	6,382,579
Other financial assets	-	-	-	-	-	19,338,002	-	-	19,338,002
	₩ 10,334,990	7,118,482	120,019	39,593,926	6,040,641	160,907,257	-	724,103	224,839,418
Financial liabilities:									
Financial liabilities designated at FVTPL	₩ -	-	1,626,185	-	-	-	-	-	1,626,185
Deposits	-	-	-	-	-	-	34,300,089	-	34,300,089
Borrowings	-	-	-	-	-	-	28,692,715	-	28,692,715
Debentures	-	-	-	-	-	-	120,228,005	-	120,228,005
Derivative financial liabilities	-	5,241,597	-	-	-	-	-	582,394	5,823,991
Other financial liabilities	-	-	-	-	-	-	11,930,654	-	11,930,654
	₩ -	5,241,597	1,626,185	-	-	-	195,151,463	582,394	202,601,639

December 31, 2018 and 2017 (In millions of won)

60. Offsetting of Financial Assets and Liabilities

Details of financial instruments subject to offsetting, enforceable master netting agreements or similar agreements as of December 31, 2018 and 2017 are as follows:

	December 31, 2018					
	Gross amounts of recognized financial asset	Gross amounts of recognized financial liabilities set off in the statement of financial position	Net amounts of financial assets presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral received	
Derivative financial assets (*)	₩ 3,925,505	-	3,925,505	2,581,531	38,581	1,305,393
Unsettled spot exchange receivables (*)	1,806,540	-	1,806,540	1,806,156	-	384
Unsettled domestic exchange receivables	2,911,679	1,170,443	1,741,236	-	-	1,741,236
Security pledged as collateral for repurchase agreements	4,702,089	-	4,702,089	2,207,434	-	2,494,655
Reverse repurchase agreements	1,357,596	-	1,357,596	1,357,596	-	-
Loaned securities	60,409	-	60,409	60,409	-	-
Receivables from securities transaction	37	-	37	37	-	-
Reinsurance receivables	30,962	-	30,962	30,374	-	588
	₩ 14,794,817	1,170,443	13,624,374	8,043,537	38,581	5,542,256

	December 31, 2018					
	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the statement of financial position	Net amounts of financial liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral pledged	
Derivative financial liabilities (*)	₩ 3,229,104	-	3,229,104	2,511,809	7,849	709,446
Unsettled spot exchange payables (*)	1,807,079	-	1,807,079	1,806,156	-	923
Unsettled domestic exchange payables	1,483,354	1,170,443	312,911	-	-	312,911
Repurchase agreements	2,207,434	-	2,207,434	2,207,434	-	-
Payables from securities transaction	1,054	-	1,054	1,054	-	-
Reinsurance payables	31,053	-	31,053	30,374	-	679
	₩ 8,759,078	1,170,443	7,588,635	6,556,827	7,849	1,023,959

	December 31, 2017					
	Gross amounts of recognized financial asset	Gross amounts of recognized financial liabilities set off in the statement of financial position	Net amounts of financial assets presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral received	
Derivative financial assets (*)	₩ 6,382,579	-	6,382,579	3,869,802	271,589	2,241,188
Unsettled spot exchange receivables (*)	4,488,196	-	4,488,196	4,485,735	-	2,461
Unsettled domestic exchange receivables	3,658,339	1,513,865	2,144,474	-	-	2,144,474
Security pledged as collateral for repurchase agreements	4,662,825	-	4,662,825	3,522,261	-	1,140,564
Reverse repurchase agreements	1,586,855	-	1,586,855	1,586,855	-	-
Receivables from securities transaction	16,721	-	16,721	16,721	-	-
Reinsurance receivables	31,098	-	31,098	18,782	-	12,316
	₩ 20,826,613	1,513,865	19,312,748	13,500,156	271,589	5,541,003

(In millions of won)

	December 31, 2017					
	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the statement of financial position	Net amounts of financial liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amounts
				Financial instruments	Cash collateral pledged	
Derivative financial liabilities (*)	₩ 5,823,991	-	5,823,991	3,694,166	-	2,129,825
Unsettled spot exchange payables (*)	4,487,737	-	4,487,737	4,485,735	-	2,002
Unsettled domestic exchange payables	1,752,823	1,513,865	238,958	-	-	238,958
Repurchase agreements	3,522,261	-	3,522,261	3,522,261	-	-
Payables from securities transaction	18,254	-	18,254	18,254	-	-
Reinsurance payables	32,020	-	32,020	18,782	-	13,238
	₩ 15,637,086	1,513,865	14,123,221	11,739,198	-	2,384,023

(*) For the derivatives covered by the ISDA derivative contracts, all contracts are settled and the net amount of derivative contracts is measured and paid based on the liquidation value if the counterparty files for bankruptcy or has any credit issues.

61. Operating Segments

(1) The Group has seven reportable segments, as described below, which are the Group's strategic business units. They are managed separately because each business requires different technology and marketing strategies. The following summary describes general information about each of the Group's reportable segments:

Segments		General information
Bank industry	Corporate finance	Provides trading services and loans to corporate customers
	Investment finance	Provides consulting services to corporate such as capital finance, restructuring, etc.
	Asset management	Provides asset management services to individual and corporate customers
	Others	Any other segment not mentioned above
Insurance		Subsidiaries that conduct insurance business (KDB Life Insurance Co., Ltd.)
Overseas		Subsidiaries located in foreign countries
Other subsidiaries		Subsidiaries except for overseas subsidiaries and subsidiaries conducting insurance business

(2) Operating income (loss) from external customers and among operating segments for the years ended December 31, 2018 and 2017 are as follows:

	2018								
	Bank industry				Insurance	Overseas	Other subsidiaries	Adjustment	Total
	Corporate finance	Investment finance	Asset management	Others					
Operating income (loss) from external customers	₩ 1,002,624	(387,553)	42,633	619,944	28,737	29,449	930,247	-	2,266,081
Operating income (loss) from intersegment transactions	36,046	309,935	-	(112,569)	81,719	33,881	84,160	(433,172)	-
	₩ 1,038,670	(77,618)	42,633	507,375	110,456	63,330	1,014,407	(433,172)	2,266,081

(In millions of won)

	2017								
	Bank industry				Insurance	Overseas	Other subsidiaries	Adjustment	Total
	Corporate finance	Investment finance	Asset management	Others					
Operating income (loss) from external customers	₩ (617,123)	(56,987)	34,930	486,582	257,596	102,542	559,762	-	767,302
Operating income (loss) from intersegment transactions	1,481,713	118,403	-	27,232	(159,628)	18,592	82,217	(1,568,529)	-
	₩ 864,590	61,416	34,930	513,814	97,968	121,134	641,979	(1,568,529)	767,302

(3) Details of segment results for the Group's reportable segments for the years ended December 31, 2018 and 2017 are as follows:

	2018								
	Bank industry				Insurance	Overseas	Other subsidiaries	Adjustment	Total
	Corporate finance	Investment finance	Asset management	Others					
Net interest income (expense)	₩ 1,515,000	(669,023)	20,715	516,095	464,022	73,701	160,513	136	2,081,159
Non-interest income (expense)									
Income (expense) related to securities (*1)	85,091	(106,628)	-	27,692	(3,345)	2,851	64,291	(36,795)	33,157
Other non-interest income (expense)	202,058	1,144,553	32,358	(26,583)	(461,140)	(17,243)	1,434,856	(664,055)	1,644,804
	287,149	1,037,925	32,358	1,109	(464,485)	(14,392)	1,499,147	(700,850)	1,677,961
Provision for loan losses and others (*2)	(205,849)	(348,368)	-	(365)	120,166	46,572	336,830	267,541	216,527
General and administrative expenses	(557,630)	(98,152)	(10,440)	(9,464)	(9,247)	(42,551)	(982,083)	1	(1,709,566)
Operating income (loss)	₩ 1,038,670	(77,618)	42,633	507,375	110,456	63,330	1,014,407	(433,172)	2,266,081

	2017								
	Bank industry				Insurance	Overseas	Other subsidiaries	Adjustment	Total
	Corporate finance	Investment finance	Asset management	Others					
Net interest income (expense)	₩ 1,584,329	(397,111)	19,451	279,701	436,175	86,386	260,804	(15,469)	2,254,266
Non-interest income (expense)									
Income (expense) related to securities (*1)	13,068	788,838	-	61,003	42,437	8,365	(12,548)	(1,083,359)	(182,196)
Other non-interest income (expense)	220,479	902,685	25,406	172,505	(544,927)	66,408	2,195,744	(769,022)	2,269,278
	233,547	1,691,523	25,406	233,508	(502,490)	74,773	2,183,196	(1,852,381)	2,087,082
Provision for loan losses and others (*2)	(406,467)	(1,132,006)	-	4,165	174,288	10,679	(733,757)	299,321	(1,783,777)
General and administrative expenses	(546,819)	(100,990)	(9,927)	(3,560)	(10,005)	(50,704)	(1,068,264)	-	(1,790,269)
Operating income (loss)	₩ 864,590	61,416	34,930	513,814	97,968	121,134	641,979	(1,568,529)	767,302

(*1) Income related to securities is composed of net gain (loss) on securities measured at FVTPL (financial assets held for trading for the year ended December 31, 2017), securities measured at FVOCI (available-for-sale financial assets for the year ended December 31, 2017) and securities measured at amortized cost (held-to maturity financial assets for the year ended December 31, 2017).

(*2) Provision for loan losses and others comprises provision for loan losses, provision for derivative credit risks, gains (losses) on sales of loans, and increase (reversal) of provision.

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(4) Geographical revenue information for the years ended December 31, 2018 and 2017 and the geographical non-current asset information as of December 31, 2018 and 2017 are as follows:

	Revenues (*1)		Non-current assets (*2)	
	2018	2017	December 31, 2018	December 31, 2017
Domestic	₩ 44,441,959	52,183,877	35,192,841	35,770,155
Overseas	1,177,596	1,023,517	18,384	16,325
	₩ 45,619,555	53,207,394	35,211,225	35,786,480

(*1) Revenues consist of interest income, fees and commission income, dividend income, income related to securities, foreign currency transaction gain, gain on derivative, other operating income and provision for loan losses.
(*2) Non-current assets consist of investments in associates, property and equipment, investment properties and intangible assets.

62. Risk Management

(1) Introduction

(i) Objectives and principles

The Group's risk management aims to maintain financial soundness and effectively manage various risks pertinent to the nature of the Group's business. The Group has set up and fulfilled policies to manage risks timely and effectively. Pursuant to the policies, the Group's risks shall be

- managed comprehensively and independently,
- recognized timely, evaluated exactly and managed effectively,
- maintained to the extent that the risks balance with profit,
- diversified appropriately to avoid concentration on specific segments,
- managed to prevent excessive exposure by the setting up and managing of tolerance limits and guidelines.

(ii) Risk management strategy and process

The Group's risk management business is separated into two different stages; the 'metrification stage,' in which risks are estimated and monitored, and the 'integration stage,' in which information gained during the risk management process is integrated and used in management strategies. Risk management is recognized as a key component of the Group's management, and seeks to change from its previously adaptive and limited role to more leading and comprehensive role.

Furthermore, the Group focuses on consistent communication among different departments in order to establish a progressive consensus on risk management.

(iii) Risk management governance

Risk Management Committee
The Group's Risk Management Committee (the "Committee") is composed of the President of the committee (an outside director), and five other commissioners including the CEO of the Bank. The Committee functions to establish policies of risk management, evaluate the capital adequacy of the Group, discuss material issues relating to risk management, and present preliminary decisions on such matters.

The CEO of the Bank and the head of Risk Management Segment
The CEO of the Bank, according to the policies of risk management, performs his or her role to manage and direct risk management in order to sustain efficiency and internal control. The head of the Risk Management Segment is responsible for supervising the overall administration of the Group's risk management business and providing risk-related information to members of the board of directors and the Group's management.

Risk Management Policy Committee and Risk Management Practice Committee

The Group's Risk Management Policy Committee is composed of the leaders of all business segments, and exercises its role to decide important matters relating to the Group's portfolio including allocating internal capital limits by segment and setting exposure limits by industry within the scope that Risk Management Committee regulated.

The Group's Risk Management Practice Committee is composed of the planning department's leaders of main business segments. The Risk Management Practice Committee decides the guidelines of review and approval on retail loan and exercises its role to preliminarily review matters for main decision of the Risk Management Committee.

(iv) Performance of risk management committee

The Risk Management Committee performs comprehensive reviews of all the affairs related to risk management and deliberates the decisions of the board of directors. For the year ended December 31, 2017, the key activities of the Risk Management Committee are as follows:

- Major decision
  · Risk management plan for 2018
  · Setting and managing exposure limits by country for 2018
  · Contingency funding plan for 2018
  · Adjustment of exposure limits for Vietnam in 2018
  · Change in the standard of managing exposure by country
  · Change in estimation criteria of risk components to calculate the IFRS 9 loss allowance
- Major considerations
  · Amendment of risk management by laws
- Major reporting
  · Management plan of credit portfolio for 2018
  · Integrated crisis analysis in the second half of 2017 and the first half of 2018
  · The result of assessment of suitability for internal capital in 2017
  · Resolution of Credit Committee on a quarterly basis
  · The result of the verification on suitability of Credit Rating System, PD and internal purpose risk components
  · The plan of internal capital allocation for 2018
  · Change in management plan of credit portfolio
  · Appointment of locum tenens in case of absence of chairman of risk management committee
  · The result of the annual corporate credit rating for 2018
  · The plan of emergency response of BIS ratio

(v) Improvement of risk management system

For the continuous improvement of risk management, financial soundness and capital adequacy, the Group performs the following:

- Continuous improvement of Basel
  · Improvements in the internal capital adequacy assessment system, in line with the guidelines set by the Financial Supervisory Service (FSS) in 2008, to manage capital adequacy more effectively
  · Improvements in the credit assessment system on Low Default Portfolio (LDP)
  · Elaboration of risk measuring criteria including credit risk parameters and measurement logics
  · Establishment of system for timely calculation of LCR and NSFR
  · Redevelopment and application of Corporate Credit Rating System (approved by Financial Supervisory Service on October 26, 2017)
  · Establishment of the system to calculate Basel Interest Rate Risk in the Banking Book coming to domestic in 2019 on September 2018
- Expansion of risk management infrastructure to the global IB level
  · Establishment of the RAPM system in order to reflect risks to the Bank's business and support decision-making upon management, and application of performance assessment at the branch level since 2010
  · Enforcement of risk management related to irregular compound derivatives and validation of the derivative pricing model developed by the Bank's Front Office
  · Establishment of IFRS 9 accounting system to calculate a loan loss allowances under IFRS 9 in March 2017 and, since then, parallel run of IFRS 9 accounting system with the current IAS 39 accounting system for mandatory implementation of IFRS 9 in January 2018

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(vi) Risk management reporting and measuring system

The Group endeavours consistently to objectively and rationally measure and manage all significant risks considering the characteristics of operational areas, assets and risks. In relation to reporting and measurement, the Group has developed application systems as follows:

Application system	Approach	Completion date	Major function
Corporate Credit Rating System	Logit Model	Jun. 2004	Calculate corporate credit rating
		Mar. 2008	
		Mar. 2010	
		Mar. 2012	Corporate credit rating system build-up based on K-IFRS
		Oct. 2017	Rebuilding the Corporate Credit Rating System
Credit Risk Measurement System	Credit Risk+ Credit Metrics	Jul. 2003	Summarize exposures, manage exposure limits and calculate Credit VaR
		Nov. 2007	
Market Risk Management System	Risk Watch	Jun. 2002	Summarize position, manage exposure limits and calculate Market VaR
	RS Model	Sep. 2012	Calculate regulatory capital (SA)
	Murex M/O	Apr. 2013	Supplement Risk Watch in calculating VaR
Interest/Liquidity Risk Management System	OFSA	Feb. 2006	Calculate repricing gap, duration gap, VaR and EaR
	Fermat	Mar. 2014	Improve system, Establish responding system for Basel III liquidity regulatory
Operational Risk Management System	Standardized Approach	May. 2006	Manage process and calculate CSA, KRI and OPVaR
	AMA	May. 2009	Pre-operate the AMA
BIS Capital Ratio Calculation System	Fermat	Sep. 2006	Calculate equity and credit risk-weighted assets
	RaY	Dec. 2013	
Loan Loss Allowance Calculation System	IAS 39	Jan. 2011	Incurred loss model
	IFRS 9	Mar. 2017	Expected credit loss model (Implemented in 2018)

(vii) Response to Basel

The Korean financial authorities have implemented Basel II since January 2008, and adopted the Standardized Approach and the Foundation Internal Ratings-Based Approach.

In conformity with the implementation roadmap of Basel II, the Group obtained the approval to use the Foundation Internal Ratings-Based Approach on credit risk from the FSS in July 2008 and has applied the approach since late June 2008. The Group applies the Standardized Approach on market risks and operational risks.

The Group completed the Basel III standard risk management system in preparation of the adoption of the Basel III regulations announced on December 1, 2013. Starting from 2013 year-end, the BIS capital adequacy ratio has been measured in accordance to the Basel III regulations.

Responding to the requirement of the financial authorities, the Group recognizes interest rate risk, liquidity risk, credit bias risk and reputational risk as well as Pillar I risks (credit risk, market risk and operational risk). Since 2015, the Group has responded to Pillar II regulations including additional capital requirements based on comprehensive assessment on bank risk management level. Since the end of 2015, the Group has applied the uniform standards for the public announcement of financial business for Basel compliance.

Furthermore, the Group is in the process of preparing revised standards such as capital requirements for banks' investments in funds, which will take effect in 2017, and the Standardised Approach for measuring counterparty credit risk (SA-CCR), which will take effect in 2019.

(viii) Internal capital adequacy assessment process

Internal capital adequacy assessment process is defined as the process that the Group aggregates significant risks, calculates its internal capital, compares the internal capital with the available capital and assesses its internal capital adequacy.

- Internal capital adequacy assessment
  For the purpose of the internal capital adequacy assessment, the Group calculates its aggregated internal capital by evaluating all significant risks and available capital taking into account the quality and components of capital, and then assesses the internal capital adequacy by comparing the aggregated internal capital with the available capital. In addition, the Group conducts periodic stress tests more than once every six months to assess potential weakness in crisis situations and uses its results to assess the internal capital adequacy. The Group assumes the macroeconomic situation as four stages of 'normal-aggravation-pessimistic-serious' and is preparing countermeasures such as checking the adequacy of capital by each stage.

- Goal setting of internal capital management
  The Group sets up and manages an internal capital limit on an annual basis, through the approval of the Risk Management Committee, in order to maintain internal capital adequacy by managing internal capital (integrated risks) within the extent of available capital.

The prior year's internal capital, analysis of domestic and foreign environment changes in the current year, and the direction and size of operations are all reflected in the goal setting of internal capital management to calculate the integrated internal capital scale. Moreover, Bank for International Settlements("BIS") capital adequacy ratio and risk appetite are taken into consideration in the goal setting of internal capital management

- Allocation of internal capital
  The Group's entire internal capital is allocated to each segment and department, according to the extent of possible risk faced and size of operations, after the Risk Management Committee's deliberation and the board of directors' approval. The allocated internal capital is monitored regularly and managed using various management methods. The results of monitoring and managing the allocated internal capital are reported to the Risk Management Committee. In case of any material changes in the Group's business plan or risk operation strategy, the Group adjusts the allocations elastically.

- Composition of internal capital
  Internal capital comprises all the significant risks of the Group and is composed of quantifiable and non-quantifiable risks. Quantifiable risks are composed of credit risk, market risk, interest rate risk, operational risk and credit concentration risk, foreign currency settlement risk, and are risks measured quantitatively by applying reasonable methodology using objective data. Non-quantifiable risks are composed of strategy risk, reputation risk, residual risk on asset securitization and furthermore. Non-quantifiable risks are those risks that cannot be measured quantitatively because of lack of data or the absence of appropriate measuring methodologies.

(2) Credit Risk

(i) Concept

Credit risk can be defined as potential loss resulting from the refusal to perform obligations or default of counterparties. More generally, it is used to refer to the possibility of loss from engaged bonds that cannot be redeemed properly or from substitute payments.

(ii) Approach to credit risk management

Summary of credit risk management
The Group regards credit risk as the most significant risk area in its business operations, and accordingly, closely monitors its credit risk exposure. The Group manages both credit risks at portfolio level and at individual credit level. At portfolio level, the Group reduces credit concentration and restructures the portfolio in such a way to maximize profitability considering the risk level. To avoid credit concentration on a particular sector, the Group manages credit limits by client, group, and industry. The Group also resets exposure management directives for each industry by conducting an industry credit evaluation twice a year.

At the individual credit level, the relationship manager (RM), the credit officer (CO) and the Credit Review Committee manage each borrower's credit risk.

Post management and insolvent borrower management
The Group monitors the borrower's credit rating from the date of the loan to the date of the final collection of debt consistently, and inspects the borrower's status regularly and frequently in order to prevent the generation of new bad debts and to stabilize the number of debt recoveries.

In addition, an early warning system is operated to spot borrowers that are highly likely to be insolvent. The early warning system provides financial information, financial transaction information, public information and market information of the borrower, and such information is used by the RM and the CO to monitor and manage changes in the borrower's credit rating.

Under the early warning system, a borrower that is highly likely to be insolvent is classified as an early warning borrower or a precautionary borrower The Group sets up a specific and applicable stabilization plan for such a borrower considering the borrower's characteristics. Furthermore, sub-standard borrowers are classified as insolvent borrowers, and are managed intensively by the Group, which takes legal proceedings, disposals or corporate turnaround measures if necessary.

December 31, 2018 and 2017 (In millions of won)

Classification of asset soundness and provision of allowance for loss

Classification of asset soundness is fulfilled by the analysis and assessment of credit risk. The classification is used in order to provision an appropriate allowance, prevent further occurrences of insolvent assets and promote the normalization of existing insolvent assets to enhance the stabilization of asset operations.

Based on the Financial Supervisory Regulations of the Republic of Korea, the Group has established standards and guidelines on the classification of asset soundness, according to the Forward-Looking Criteria (FLC), which reflects not only the borrower's past records of repayment but also their future debt repayment capability.

In conformity with these standards, the Group classifies the soundness of its assets as "normal", "precautionary", "substandard", "doubtful", or "estimated loss" and differentiates the coverage ratio by the level of classification.

Details of loans by credit rating as of December 31, 2018 are as follows:

< Corporate >

	December 31, 2018				
	Carrying amounts		12-month expected credit loss	Lifetime expected credit losses	
				Non credit-impaired loans	Credit-impaired loans
AAA ~ BBB1	₩	108,686,323	106,581,514	2,087,024	17,785
BBB2 ~ CCC		29,903,840	20,194,996	9,558,249	150,595
Below CC		3,656,335	89	1,340,420	2,315,826
	₩	142,246,498	126,776,599	12,985,693	2,484,206

< Non-corporate >

	December 31, 2018				
	Carrying amounts		12-month expected credit loss	Lifetime expected credit losses	
				Non credit-impaired loans	Credit-impaired loans
Grade 1~ Grade 6	₩	1,673,476	1,609,425	62,783	1,268
Grade 7~ Grade 8		1,053,090	1,035,778	16,603	709
Grade 9~ Grade 10		7,136	202	2,161	4,773
	₩	2,733,702	2,645,405	81,547	6,750

Details of payment guarantees (including financial guarantees) and unused commitments by credit rating as of December 31, 2018 are as follows:

< Corporate >

	December 31, 2018				
	Exposures		12-month expected credit loss	Lifetime expected credit losses	
				Non credit-impaired exposures	Credit-impaired exposures
Unused commitments:					
AAA ~ BBB1	₩	24,683,364	24,481,108	202,256	-
BBB2 ~ CCC		3,285,773	1,301,270	1,984,503	-
Below CC		199,900	88,527	110,388	985
	₩	28,169,037	25,870,905	2,297,147	985

(In millions of won)

		December 31, 2018			
		Exposures	12-month expected credit loss	Lifetime expected credit losses: Non credit-impaired exposures	Lifetime expected credit losses: Credit-impaired exposures
Payment guarantees (including financial guarantees):					
AAA ~ BBB1	₩	5,950,586	5,915,072	35,436	78
BBB2 ~ CCC		2,110,565	1,747,200	363,365	-
Below CC		1,054,569	344,111	213,861	496,597
	₩	9,115,720	8,006,383	612,662	496,675

< Non-corporate >

		December 31, 2018			
		Exposures	12-month expected credit loss	Lifetime expected credit losses: Non credit-impaired exposures	Lifetime expected credit losses: Credit-impaired exposures
Unused commitments:					
Grade 1~ Grade 6	₩	113,913	111,678	2,235	-
Grade 7~ Grade 8		31	-	31	-
Grade 9~ Grade 10		3	3	-	-
	₩	113,947	111,681	2,266	-

Details of loans as of December 31, 2017 are as follows:

		December 31, 2017
Neither past due nor impaired	₩	140,126,306
Past due but not impaired		98,607
Impaired		6,223,975
		146,448,888
Allowance for loan losses		(3,006,128)
Present value discount		(215,857)
Deferred loan origination costs and fees		(2,787)
Net value	₩	143,224,116
Ratio of allowance for loan losses to total loans		2.05%

Loans that are neither past due nor impaired as of December 31, 2017 are as follows:

	December 31, 2017							
	Loans in Korean won				Other loans			
		Loans for working capital	Loans for facility development	Others	Loans in foreign currencies	Privately placed corporate bonds	Others	Total
AAA ~ B-	₩	43,754,524	48,998,878	4,944,916	23,649,450	2,132,220	12,009,054	135,489,042
CCC		1,925,945	119,860	1,785	1,369,865	122,498	149,679	3,689,632
CC		378,016	164,281	-	200,848	-	204,487	947,632
C		-	-	-	-	-	-	-
D		-	-	-	-	-	-	-
	₩	46,058,485	49,283,019	4,946,701	25,220,163	2,254,718	12,363,220	140,126,306

December 31, 2018 and 2017 (In millions of won)

Loans that are past due but not impaired as of December 31, 2017 are as follows:

	December 31, 2017						
	Loans in Korean won			Loans in foreign currencies	Other loans		Total
	Loans for working capital	Loans for facility development	Others		Privately placed corporate bonds	Others	
Within 30 days	₩ 12,918	22,267	10,230	19,172	1,000	22,322	87,909
30 ~ 60 days	62	1,242	1,250	-	-	1,082	3,636
60 ~ 90 days	511	5,849	56	-	-	646	7,062
	₩ 13,491	29,358	11,536	19,172	1,000	24,050	98,607

Impaired loans as of December 31, 2017 are as follows:

	December 31, 2017						
	Loans in Korean won			Loans in foreign currencies	Other loans		Total
	Loans for working capital	Loans for facility development	Others		Privately placed corporate bonds	Others	
Individual assessment	₩ 2,129,377	2,147,827	1,868	562,122	790,686	352,567	5,984,447
Collective assessment	85,596	51,270	8,045	63,404	17,477	13,736	239,528
	₩ 2,214,973	2,199,097	9,913	625,526	808,163	366,303	6,223,975

(iii) Measurement methodology of credit risk

Pursuant to Basel II, the Group selects the measurement methodology of credit risk considering the complexity of measurement, measurement factors, estimating methods and others. Measurement approaches are divided into Standardized Approach and Internal Ratings-Based Approach.

Standardized Approach (SA)

In the case of the Standardized Approach, the risk weights are applied according to the credit rating assessed by External Credit Assessment Institution (ECAI). Risk weights in each credit rating are as follows:

Credit rating	Corporate	Country	Bank
AAA ~ AA-	20.00%	0.00%	20.00%
A+ ~ A-	50.00%	20.00%	50.00%
BBB+ ~ BBB-	100.00%	50.00%	100.00%
BB+ ~ BB-	100.00%	100.00%	100.00%
B+ ~ B-	150.00%	100.00%	100.00%
Below B-	150.00%	150.00%	150.00%
Unrated	100.00%	100.00%	100.00%

The OECD, S&P, Moody's and Fitch are designated as foreign ECAI and Korea Investors Service Co., Ltd., NICE Investors Services Co., Ltd. and the Korea Ratings Co., Ltd. are designated as domestic ECAI.

The Group applies the credit rating based on the corresponding loan and same borrower's unsecured senior loans. In the case the borrower's risk weight is higher than the unrated exposure's risk weight (100%), the higher weight is applied. In the case the borrower has more than one rating, the higher weight of the two lowest weights (Second Best Criteria) is applied.

Internal Ratings-Based Approach (IRB)

To use the Internal Ratings-Based Approach, a bank must be approved by the FSS and should also meet the requirement pre-set by the FSS.

In relation to Basel II that has been adopted domestically as of January 2008, the Group gained approval from the FSS to use the Foundation Internal Ratings-Based Approach in July 2008. The Group has calculated credit risk-weighted assets using the approach since late June 2008.

December 31, 2018 and 2017 (In millions of won)

Measurement method of credit risk-weighted asset

The Group calculates credit risk-weighted assets of corporate exposures and asset securitization exposures using the Foundation Internal Ratings-Based Approach as of December 31, 2018.

The Standard Approach is applied to special finance, non-residents, non-banking financial institutions currently, and will be replaced by the Internal Ratings-Based Approach in the future.

The Standardized Approach is applied to country exposures, public institution exposures and bank exposures permanently and applied to overseas subsidiary and the Bank's branch pursuant to prior consultation with the FSS.

<Approved measurement method>

Measurement method		Exposure
Standardized Approach	Permanent SA	- Countries, public institutions and banks
	SA	- Overseas subsidiaries and branches, other assets, retail, residential property, commercial real estate, overdue loans (limited in loans for households)
Foundation Internal Ratings-Based Approach		- Corporate, small and medium enterprises, asset securitization and equity
Application of IRB by phase		- Special lending, non-residence, non-bank financial institutions

The mitigated effect of credit risks reflects the related policies which consider eligible collateral and guarantees. The Group calculates the credit risk-weighted assets using the capital adequacy ratio.

Upon the calculation of credit risk-weighted assets for derivatives, the Group takes into consideration the set-off effects of transactions under legally enforceable rights to set-off to calculate exposures.

Exposure after credit risk mitigation by asset type as of December 31, 2018 and 2017 are as follows:

	December 31, 2018		
	Exposure	Credit risk mitigation	Exposure after credit risk mitigation
Government	₩ 13,230,661	-	13,230,661
Bank	19,505,950	-	19,505,950
Corporate	131,020,852	(265,704)	130,755,148
Stock	32,967,228	-	32,967,228
Indirect investments	10,478,914	(2,548,734)	7,930,180
Asset securitization	2,551,803	-	2,551,803
Over-the-counter derivatives	9,938,599	(4,341,666)	5,596,933
Retail assets	672,748	(25,407)	647,341
Others	45,038,289	(129,125)	44,909,164
	₩ 265,405,044	(7,310,636)	258,094,408

	December 31, 2017		
	Exposure	Credit risk mitigation	Exposure after credit risk mitigation
Government	₩ 15,492,552	-	15,492,552
Bank	19,519,149	-	19,519,149
Corporate	129,607,364	(298,540)	129,308,824
Stock	29,785,368	-	29,785,368
Indirect investments	7,672,509	(1,645,991)	6,026,518
Asset securitization	4,366,731	-	4,366,731
Over-the-counter derivatives	11,620,076	(5,036,913)	6,583,163
Retail assets	1,525,960	(26,260)	1,499,700
Others	46,602,601	(460,376)	46,142,225
	₩ 266,192,310	(7,468,080)	258,724,230

December 31, 2018 and 2017 (In millions of won)

Credit rating model
The results of credit rating are presented as grades through an assessment of the debt repayment capacity that the principal and interest of debt securities or loans are redeemed while complying with contractual redemption schedule.

Using the Group's internal credit rating model, the Group classifies debtors' credit rating into 14 grades (AAA~D). To distinguish the difference between credits in the same grade, the Group uses 20 stages as auxiliaries to 14 grades.

The Group's regular credit rating process is carried out once a year and in the case of the change of debtor's credit condition, the credit rating is frequently adjusted as necessary to retain the adequacy of credit rating.

The results of credit rating are applied to various areas such as discrimination of loan processes, loan limit, loan interest rate, post loan management standard process, credit risk measurement, and allowance for loan losses assessment.

Credit rating process control structure
According to the Principle of Checks and Balances, the Group has established the credit rating process control structure by which the credit rating system operates appropriately.

- Independent assessment of credit rating: The Bank's business segment (RM) and credit rating assessment segment (Credit Rating Officer) are independently operated.
- Independent control of credit rating system: The control of credit rating system including the development of credit rating model is independently implemented by the Bank's Risk Management Department.
- Independent verification of credit rating system: Credit rating system is independently verified by Risk Validation Team of the Financial Planning Department.
- Internal audit of credit rating process: Credit rating process is audited by the Bank's internal audit department.
- Role of the Board of Directors and the Bank's management: Major issues relating to credit rating process are approved by the Board of Directors and are regularly monitored by the Bank's top management.

The Group reviews debt serviceability based on a credit analysis when handling loans. Depending on the results, credit loan preservation is adjusted as necessary using such methods as interest rate preservation due to credit risk.

The Group evaluates the value of the collateral, performing ability and legal validity of the guarantee at the initial acquisition. The Group re-evaluates the provided collateral and guarantees regularly for them to be reasonably preserved.

For guarantees, the Group demands a corresponding written guarantee according to loan handling standards and the guarantor's credit rating is independently calculated when in conformance with the credit rating endowment method.

The quantification of the extent to which collateral and other credit enhancements mitigate credit risk of impaired financial assets as of December 31, 2018 are as follows:

	December 31, 2018	
Securities measured at FVTPL	₩	2,310
Securities measured at FVOCI		70,845
Loans measured at amortized cost		2,156,459
Other assets		175,075

(In millions of won)

(iv) Credit exposure

Geographical information of credit exposure as of December 31, 2018 and 2017 are as follows:

	December 31, 2018									
	Korea	Hong Kong	Ireland	Uzbekistan	Brazil	Hungary	UK	US	Others	Total
Due from banks (excluding due from BOK)	₩ 3,203,211	5,857	43	10,390	86	57,516	64,253	374,891	677,334	4,393,581
Securities measured at FVTPL:										
Bonds (excluding government bonds)	30,000	-	-	-	-	-	-	-	-	30,000
Securities measured at FVOCI:										
Bonds (excluding government bonds)	11,233,011	58,289	16,585	-	-	124,606	797,230	654,888	863,091	13,747,700
Securities measured at amortized cost:										
Bonds (excluding government bonds)	2,643,586	-	-	-	3,695	-	-	-	-	2,647,281
Loans	132,246,986	22,341	6,358	71,891	57,436	198,211	1,018,257	842,797	6,061,253	140,525,530
Derivative financial assets	718,383	-	-	-	-	-	5,405	646	3,296	727,730
Other financial assets	8,800,005	227	346	1,374	486	5,906	69,225	22,048	127,924	9,027,541
	158,875,182	86,714	23,332	83,655	61,703	386,239	1,954,370	1,895,270	7,732,898	171,099,363
Guarantees	8,959,277	-	-	20,265	6,469	15,999	-	81,371	24,869	9,108,250
Commitments	29,260,804	-	-	7,811	-	32,099	268,393	105,588	709,443	30,384,138
	38,220,081	-	-	28,076	6,469	48,098	268,393	186,959	734,312	39,492,388
	₩197,095,263	86,714	23,332	111,731	68,172	434,337	2,222,763	2,082,229	8,467,210	210,591,751

(In millions of won)

	December 31, 2017									
	Korea	Hong Kong	Ireland	Uzbekistan	Brazil	Hungary	UK	US	Others	Total
Due from banks (excluding due from BOK)	₩ 3,894,261	44,135	117	18,241	2	104,032	105,686	266,275	915,280	5,348,029
Financial assets designated at FVTPL:										
Bonds (excluding government bonds)	118,970	-	-	-	-	-	-	-	-	118,970
Available-for-sale financial assets:										
Bonds (excluding government bonds)	12,181,230	34,984	-	-	-	100,014	688,195	608,602	708,512	14,321,537
Held-to-maturity financial assets:										
Bonds (excluding government bonds)	3,183,155	-	-	-	1,164	-	-	-	10,726	3,195,045
Loans	136,168,144	30,654	22,476	48,018	154,313	183,920	829,683	746,788	5,335,402	143,519,398
Derivative financial assets	706,678	-	-	-	-	-	4,912	452	3,244	715,286
Other financial assets	12,412,428	472	109	816	719	6,684	22,707	17,556	66,750	12,528,241
	168,664,866	110,245	22,702	67,075	156,198	394,650	1,651,183	1,639,673	7,039,914	179,746,506
Guarantees	11,016,765	72	-	27,599	-	14,451	-	130,885	136,130	11,325,902
Commitments	5,954,942	-	-	5,298	10,351	30,863	59,319	73,412	555,934	6,690,119
	16,971,707	72	-	32,897	10,351	45,314	59,319	204,297	692,064	18,016,021
	₩ 185,636,573	110,317	22,702	99,972	166,549	439,964	1,710,502	1,843,970	7,731,978	197,762,527

(In millions of won)

Industry information of credit exposure as of December 31, 2018 and 2017 are as follows:

	December 31, 2018				
		Manufacturing	Service	Others	Total
Due from banks (excluding due from BOK)	₩	22,994	924,653	3,445,934	4,393,581
Securities measured at FVTPL:					
Bonds (excluding government bonds)		30,000	-	-	30,000
Securities measured at FVOCI:					
Bonds (excluding government bonds)		2,495,596	8,485,826	2,766,278	13,747,700
Securities measured at amortized cost:					
Bonds (excluding government bonds)		14,020	2,495,707	137,554	2,647,281
Loans		61,220,273	65,641,879	13,663,378	140,525,530
Derivative financial assets		-	723,519	4,211	727,730
Other financial assets		158,070	208,064	8,661,407	9,027,541
		63,940,953	78,479,648	28,678,762	171,099,363
Guarantees		5,935,165	1,738,323	1,434,762	9,108,250
Commitments		300,837	4,870,278	25,213,023	30,384,138
		6,236,002	6,608,601	26,647,785	39,492,388
	₩	70,176,955	85,088,249	55,326,547	210,591,751

	December 31, 2017				
		Manufacturing	Service	Others	Total
Due from banks (excluding due from BOK)	₩	24,352	4,056,180	1,267,497	5,348,029
Financial assets designated at FVTPL:					
Bonds (excluding government bonds)		-	118,970	-	118,970
Available-for-sale financial assets:					
Bonds (excluding government bonds)		2,894,922	9,101,868	2,324,747	14,321,537
Held-to-maturity financial assets:					
Bonds (excluding government bonds)		23,321	2,741,035	430,689	3,195,045
Loans		63,928,166	65,399,208	14,192,024	143,519,398
Derivative financial assets		-	712,432	2,854	715,286
Other financial assets		185,384	197,867	12,144,990	12,528,241
		67,056,145	82,327,560	30,362,801	179,746,506
Guarantees		8,934,178	1,835,233	556,491	11,325,902
Commitments		239,035	5,943,254	507,830	6,690,119
		9,173,213	7,778,487	1,064,321	18,016,021
	₩	76,229,358	90,106,047	31,427,122	197,762,527

(In millions of won)

Credit exposures of debt securities by credit rating as of December 31, 2018 are as follows:

< Corporate >

	December 31, 2018				
				Lifetime expected credit losses	
	Carrying amounts		12-month expected credit loss	Non credit- impaired debt securities	Credit- impaired debt securities
AAA	₩	16,329,277	16,329,277	-	-
AA		4,369,974	4,369,974	-	-
A1		2,567,717	2,567,717	-	-
A2		1,266,929	1,266,929	-	-
BBB1		497,331	436,676	60,655	-
BBB2		11,731	11,667	64	-
BB1		-	-	-	-
BB2		5,682	5,682	-	-
C		260	260	-	-
D		-	-	-	-
	₩	25,048,901	24,988,182	60,719	-

< Non-corporate >

	December 31, 2018				
				Lifetime expected credit losses	
	Carrying amounts		12-month expected credit loss	Non credit- impaired debt securities	Credit- impaired debt securities
Grade 1~ Grade 6	₩	245,709	245,689	-	20
Grade 7~ Grade 8		-	-	-	-
Grade 9~ Grade 10		-	-	-	-
	₩	245,709	245,689	-	20

Credit exposures of due from banks and debt securities by credit rating as of December 31, 2017 are as follows:

	December 31, 2017					
	Due from banks		Financial assets designated at FVTPL	Available-for-sale financial assets	Held-to-maturity financial assets	Total
AAA ~ AA-	₩	1,181,554	99,067	4,806,912	3,090,689	9,178,222
A+ ~ A-		1,744,818	-	4,141,821	52,565	5,939,204
BBB+ ~ BB-		874,734	-	4,023,413	11,395	4,909,542
Below BB-		23,049	-	83,089	495	106,633
Unrated		1,523,874	19,903	1,266,302	39,901	2,849,980
	₩	5,348,029	118,970	14,321,537	3,195,045	22,983,581

December 31, 2018 and 2017 (In millions of won)

(3) Capital management activities

(i) Capital adequacy

The FSS approved the Group's use of the Foundation Internal Ratings-Based Approach in July 2008. The Group has been using the same approach when calculating credit risk-weighted assets since the end of June 2008. The equity capital ratio and equity capital according to the standards of the Bank for International Settlements are calculated for the purpose of such disclosure. The equity capital ratio and equity capital are calculated on a consolidated basis. In conformity with the Banking Act, which is based on the implementation of Basel III on December 1, 2013, the regulatory capital is divided into the following two categories.

Tier 1 capital (Common Equity Tier 1 + Additional Tier 1 capital)

- Common Equity Tier 1

  Regulatory capital that represents the most subordinated claim in liquidation of the Group, takes the first and proportionately greatest share of any losses as they occur, and which principal is never repaid outside of liquidation meets the criteria for classification as common equity, including capital stock, capital surplus, retained earnings, qualifying non-controlling interests in subsidiaries, and accumulated other comprehensive income as common equity Tier 1.

- Additional Tier 1 capital

  Capital stock and capital surplus related to issuance of capital securities that are subordinated, have non-cumulative and conditional dividends or interests, and have no maturity or step-up conditions.

Tier 2 capital (Supplementary Tier 2 capital)

Regulatory capital that fulfils supplementary capital adequacy requirements, and includes subordinated debt with maturities over 5 years and allowance for loan losses in conformity with external regulatory standards and internal standards.

The BIS capital adequacy ratio and capital in accordance to Basel III standards as of December 31, 2018 and 2017 are as follows:

BIS capital adequacy ratio

	December 31, 2018	December 31, 2017
Equity capital based on BIS (A):		
Tier 1 capital:		
Common Equity Tier 1	₩ 29,522,899	29,412,410
Additional Tier 1 capital	-	4,327
	29,522,899	29,416,737
Tier 2 capital	4,909,582	4,638,109
	34,432,481	34,054,846
Risk-weighted assets (B):		
Credit risk-weighted assets	226,000,042	216,003,011
Market risk-weighted assets	2,005,094	2,413,057
Operational risk-weighted assets	4,621,678	4,801,430
	232,626,814	223,217,498
BIS capital adequacy ratio (A/B):	14.80%	15.26%
Tier 1 capital ratio:	12.69%	13.18%
Common Equity Tier 1 ratio	12.69%	13.18%
Additional Tier 1 capital ratio	-	-
Tier 2 capital ratio	2.11%	2.08%

December 31, 2018 and 2017 (In millions of won)

Equity capital based on BIS

		December 31, 2018	December 31, 2017
Tier 1 capital (A=C+D):			
Common Equity Tier 1 (C)			
Capital stock	₩	18,108,099	17,938,099
Capital surplus		1,496,704	1,548,609
Retained earnings		9,796,197	9,023,996
Non-controlling interests		-	2,639
Accumulated other comprehensive income		335,744	1,048,942
Common stock deductibles		(213,845)	(149,875)
		29,522,899	29,412,410
Additional Tier 1 capital (D)			
Non-controlling interests		-	4,327
		29,522,899	29,416,737
Tier 2 capital (B):			
Allowance for doubtful accounts, etc.		977,343	447,445
Qualified capital securities		2,900,000	2,900,000
Non-qualified capital securities		1,032,239	1,290,298
Non-controlling interests		-	366
		4,909,582	4,638,109
Equity capital (A+B)	₩	34,432,481	34,054,846

(4) Market risk

(i) Concept

Market risk is defined as the possibility of potential loss on a trading position resulting from fluctuations in interest rates, foreign exchange rates and the price of stocks and derivatives. Trading position is exposed to risks, such as interest rate, stock price, and foreign exchange rate, etc. Non-trading position is mostly exposed to interest rates. Accordingly, the Group classifies market risks into those exposed from trading position or those exposed from non-trading position.

(ii) Market risks of trading positions

Management method on market risks arising from trading positions
Trading position includes securities, foreign exchange position, and derivatives which are traded for short-term profits.

Market risk is managed using VaR limit and loss limit. VaR limit is calculated in the view of entire Group and the calculated VaR limit is distributed into each department and each type (stock price, interest rate, foreign exchange rate and option). The trading department regulates and operates terms of stop loss and investment limits.

Using the Standardized Approach and internal model of VaR, the Group's VaR is measured daily and the measured VaR is used for risk monitoring and limit management. In the estimation of VaR, the historical simulation and two other supplemental procedures are used: variance-covariance matrix and Monte Carlo simulation. Through the stress test and back test, the estimation of VaR is validated daily.

In estimating market risk, the Standardized Approach and the internal model are used. The Standardized Approach is used in order to calculate the required capital from market risk and the internal model is used in order to manage risks internally.

Since July 2007, the Group has measured one-day VaR through the historical simulation method using the time series data of past 250 days under a 99% confidence level. The calculated VaR is monitored on a daily basis.

The Group sets total limit of market risk based on annual business plan, risk appetite and others and monitors VaR limit of each department on a daily basis.

(In millions of won)

Market risk required equity

The Group's market risk required equity as of December 31, 2018 and 2017 are as follows:

	December 31, 2018	December 31, 2017
Interest rate	₩ 70,509	59,546
Stock price	511	50,139
Foreign exchange rate	27,588	22,469
Option	61,800	60,891
	₩ 160,408	193,045

(iii) Market risks of non-trading positions

Management method on market risks arising from non-trading positions

The most critical market risk that arises in non-trading position is the interest rate risk. Interest rate risk is defined as the likely loss resulting from the unfavorable fluctuation of interest rate in the Group's financial condition and is measured by interest rate VaR and interest rate EaR.

Interest rate VaR is the maximum amount of decrease in net asset value resulting from the unfavorable fluctuation of interest rate. Interest rate EaR is the maximum amount of decrease in net interest income resulting from the unfavorable fluctuation of interest rate for a year.

The Group's interest rate VaR and interest rate EaR are measured through the simulation of conclusive interest rate scenario with the FERMAT and are reported on a monthly basis to the Risk Management Committee. The Management's target of interest rate VaR and interest rate EaR are approved at the beginning of the year. Additionally, the interest rate VaR and interest rate EaR on consolidated basis are calculated using the Standardized Approach in order to retain the consistency in the methods used by the Bank and its subsidiaries.

VaR/EaR of non-trading positions

The Group's interest rate VaR and EaR of non-trading positions as of December 31, 2018 and 2017 are as follows:

December 31, 2018		
Interest rate shock	Interest rate VaR	Interest rate EaR
2.00%	₩ 787,105	31,654

December 31, 2017		
Interest rate shock	Interest rate VaR	Interest rate EaR
2.00%	₩ 928,317	14,858

(iv) Foreign currency risk

Outstanding balances by currency with significant exposure as of December 31, 2018 and 2017 are as follows:

	December 31, 2018					
	USD	EUR	JPY	GBP	Others	Total
Financial assets:						
Cash and due from banks	₩ 3,494,906	38,071	44,348	9,491	429,058	4,015,874
Securities measured at FVTPL	1,161,345	26,074	45	-	64,626	1,252,090
Securities measured at FVOCI	5,610,921	373,045	167,882	-	522,324	6,674,172
Securities measured at amortized cost	1,215,418	200,395	-	-	3,704	1,419,517
Loans	33,808,437	1,596,623	1,035,489	305,458	839,528	37,585,535
Derivative financial assets	753,872	37,778	3,214	7,175	16,011	818,050
Other financial assets	6,151,557	34,980	44,918	59,631	102,455	6,393,541
	52,196,456	2,306,966	1,295,896	381,755	1,977,706	58,158,779

(In millions of won)

	December 31, 2018					
	USD	EUR	JPY	GBP	Others	Total
Financial liabilities:						
Financial liabilities designated at FVTPL	259,286	-	-	-	-	259,286
Deposits	7,838,633	187,058	334,374	769	447,230	8,808,064
Borrowings	15,828,143	328,060	855,914	16,202	154,028	17,182,347
Debentures	16,594,128	1,448,094	650,818	369,533	4,977,695	24,040,268
Derivative financial liabilities	882,719	11,167	1,653	2,706	5,949	904,194
Other financial liabilities	2,641,501	93,732	17,071	13,867	199,853	2,966,024
	44,044,410	2,068,111	1,859,830	403,077	5,784,755	54,160,183
Net financial position	₩ 8,152,046	238,855	(563,934)	(21,322)	(3,807,049)	3,998,596

	December 31, 2017					
	USD	EUR	JPY	GBP	Others	Total
Financial assets:						
Cash and due from banks	₩ 3,058,619	50,024	24,145	7,990	567,633	3,708,411
Financial assets held for trading	387,062	37,013	-	-	15,534	439,609
Financial assets designated at FVTPL	19,902	-	-	-	-	19,902
Available-for-sale financial assets	5,982,219	492	130,433	-	328,407	6,441,551
Held-to-maturity financial assets	1,358,811	-	-	-	1,164	1,359,975
Loans	32,382,201	1,476,959	1,101,157	167,344	673,683	35,801,344
Derivative financial assets	849,932	13,200	3,939	2,103	7,940	877,114
Other financial assets	4,894,874	221,986	86,214	26,184	342,679	5,571,937
	48,933,620	1,799,674	1,345,888	203,621	1,937,040	54,219,843
Financial liabilities:						
Financial liabilities designated at FVTPL	191,618	-	-	-	-	191,618
Deposits	7,413,734	153,802	266,509	1,196	328,898	8,164,139
Borrowings	13,106,953	247,732	742,993	-	233,904	14,331,582
Debentures	14,861,728	1,624,425	367,484	805,053	5,254,011	22,912,701
Derivative financial liabilities	794,943	12,254	2,690	2,459	3,952	816,298
Other financial liabilities	3,781,426	392,410	55,512	24,648	309,487	4,563,483
	40,150,402	2,430,623	1,435,188	833,356	6,130,252	50,979,821
Net financial position	₩ 8,783,218	(630,949)	(89,300)	(629,735)	(4,193,212)	3,240,022

December 31, 2018 and 2017 (In millions of won)

(5) Liquidity risk management

(i) Concept

Liquidity risk is defined as the possibility of potential loss due to a temporary shortage in funds caused by a maturity mismatch or an unexpected capital outlay. Liquidity risk soars when funding rates rise, assets are sold below a normal price, or a good investment opportunity is missed.

(ii) Approach to liquidity risk management

The Group manages its liquidity risks as follows:

Allowable limit for liquidity risk

· The allowable limit for liquidity risk sets LCR, foreign currency liquidity ratio, and remaining maturity gap

· The management standards with regards to the allowable limit for liquidity risk should be set using separate and stringent set ratios in accordance with the FSS guidelines.

<Measurement Methodology>

- LCR: (High quality liquid assets / Total net cash outflows over the next 30 calendar days) X 100
- Foreign currency liquidity ratio: (Maturing liquidity asset in the interval / Maturing liquidity liability in the interval) X 100
- Remaining maturity gap: (Maturing liquidity asset in the interval - Maturing liquidity liability in the interval) / total assets X 100

Early warning indicator

In order to identify prematurely and cope with worsening liquidity risk trends, the Group has set up 17 indexes such as the "Foreign Exchange Stabilization Bond CDS Premium," and measures the trend monthly, weekly and daily as a means for establishing the allowable liquidity risk limit complementary measures.

Stress-Test analysis and contingency plan

- The Group evaluates the effects on the liquidity risk and identifies the inherent flaws. In the case where an unpredictable and significant liquidity crisis occurs, the Group executes risk situation analysis quarterly based on crisis specific to the Group, market risk and complex emergency, and reports to the Risk Management Committee for the purpose of the Group's solvency securitization.
- The Group established detailed contingency plan to manage the liquidity risks at every risk situations.

(iii) Analysis on remaining contractual maturity of financial instruments

Remaining contractual maturity analysis for non-derivative financial instruments as of December 31, 2018 and 2017 are as follows:

	December 31, 2018					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Financial assets:						
Cash and due from banks	₩ 6,715,941	1,075,464	615,085	637,790	37,310	9,081,590
Securities measured at FVTPL	12,676,621	30,619	144,942	710,526	3,074,615	16,637,323
Securities measured at FVOCI	381,493	1,541,504	3,693,057	8,730,489	17,689,808	32,036,351
Securities measured at amortized cost	21,244	17,501	831,608	1,601,516	3,261,228	5,733,097
Loans	12,101,184	14,081,152	50,340,642	59,585,142	19,257,581	155,365,701
Other financial assets	4,671,178	99,438	4,119,185	2,910,635	663,156	12,463,592
	₩ 36,567,661	16,845,678	59,744,519	74,176,098	43,983,698	231,317,654
Financial liabilities:						
Financial liabilities designated at FVTPL	₩ 74,835	388,921	736,432	695,138	638,192	2,533,518
Deposits	15,324,056	4,084,567	10,725,367	3,891,960	574,917	34,600,867
Borrowings	3,195,872	5,708,510	10,015,060	4,502,165	1,398,608	24,820,215
Debentures	6,167,890	10,607,805	42,152,411	59,738,109	11,801,338	130,467,553
Other financial liabilities	3,455,036	2,023,166	3,196,401	2,241,613	335,538	11,251,754
	₩ 28,217,689	22,812,969	66,825,671	71,068,985	14,748,593	203,673,907

(In millions of won)

	December 31, 2017					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Financial assets:						
Cash and due from banks	₩ 6,684,343	756,636	874,659	339,257	13,878	8,668,773
Financial assets held for trading	1,550,583	51,110	79,459	167,034	85,408	1,933,594
Financial assets designated at FVTPL	1,049	-	29,940	59,520	29,510	120,019
Available-for-sale financial assets	1,152,661	1,579,571	7,155,465	10,911,997	20,757,262	41,556,956
Held-to-maturity financial assets	52,578	15,032	319,074	868,029	4,785,751	6,040,464
Loans	13,003,298	14,867,956	51,077,689	59,075,297	18,299,853	156,324,093
Other financial assets	7,763,081	14,174	4,462,567	2,994,700	752,503	15,987,025
	₩ 30,207,593	17,284,479	63,998,853	74,415,834	44,724,165	230,630,924
Financial liabilities:						
Financial liabilities designated at FVTPL	₩ 69,284	263,040	587,957	416,340	662,446	1,999,067
Deposits	15,056,529	6,492,575	10,164,575	3,294,983	597,931	35,606,593
Borrowings	3,888,181	4,764,313	10,434,621	5,698,849	1,503,127	26,289,091
Debentures	6,474,218	11,045,197	45,069,217	47,883,013	16,858,859	127,330,504
Other financial liabilities	6,267,394	1,841,621	3,707,730	2,316,489	518,819	14,652,053
	₩ 31,755,606	24,406,746	69,964,100	59,609,674	20,141,182	205,877,308

Remaining contractual maturity analysis for derivative financial instruments as of December 31, 2018 and 2017 are as follows:

Net settlement of derivative financial instruments

	December 31, 2018					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:						
Currency	₩ 19	267	768	-	-	1,054
Interest rate	13,519	27,707	(67,904)	285,976	235,630	494,928
Stock	14	-	-	-	-	14
Hedging purpose derivatives:						
Interest rate	11,764	(4,700)	209,299	1,259,508	2,288,782	3,764,653
	₩ 25,316	23,274	142,163	1,545,484	2,524,412	4,260,649

	December 31, 2017					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:						
Currency	₩ (889)	529	(153,316)	-	-	(153,676)
Interest rate	(3,242)	(2,160)	(123,336)	(111,304)	(40,428)	(280,470)
Stock	134	-	-	-	-	134
Hedging purpose derivatives:						
Interest rate	20,569	19,412	134,694	1,127,275	2,480,383	3,782,333
	₩ 16,572	17,781	(141,958)	1,015,971	2,439,955	3,348,321

(In millions of won)

Gross settlement of derivative instruments

	December 31, 2018					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:						
Currency						
Inflow	₩ 44,391,921	33,891,350	58,815,290	57,202,816	5,725,749	200,027,126
Outflow	44,408,875	33,833,123	58,659,690	57,186,864	5,792,977	199,881,529
Hedging purpose derivatives:						
Currency						
Inflow	46,574	252,017	6,113,586	15,160,421	1,352,371	22,924,969
Outflow	57,180	263,943	6,133,158	15,110,967	1,352,215	22,917,463
Total inflow	₩ 44,438,495	34,143,367	64,928,876	72,363,237	7,078,120	222,952,095
Total outflow	₩ 44,466,055	34,097,066	64,792,848	72,297,831	7,145,192	222,798,992

	December 31, 2017					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Trading purpose derivatives:						
Currency						
Inflow	₩ 39,330,141	35,677,096	67,286,988	51,321,999	5,411,727	199,027,951
Outflow	39,437,703	35,890,367	67,746,614	51,188,768	5,491,575	199,755,027
Hedging purpose derivatives:						
Currency						
Inflow	53,365	349,999	11,941,649	8,588,118	1,464,554	22,397,685
Outflow	34,608	359,082	11,987,081	8,453,956	1,439,125	22,273,852
Total inflow	₩ 39,383,506	36,027,095	79,228,637	59,910,117	6,876,281	221,425,636
Total outflow	₩ 39,472,311	36,249,449	79,733,695	59,642,724	6,930,700	222,028,879

Remaining contractual maturity analysis for guarantees and commitments as of December 31, 2018 and 2017 are as follows:

	December 31, 2018					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Guarantees	₩ 1,008,589	1,120,164	3,387,235	2,523,334	1,068,928	9,108,250
Commitments	115,917	190,689	533,197	2,396,257	27,148,078	30,384,138
	₩ 1,124,506	1,310,853	3,920,432	4,919,591	28,217,006	39,492,388

	December 31, 2017					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Guarantees	₩ 1,480,681	1,229,717	2,891,225	2,696,205	1,563,625	9,861,453
Commitments	289,639	134,852	1,595,006	2,244,278	2,475,576	6,739,351
	₩ 1,770,320	1,364,569	4,486,231	4,940,483	4,039,201	16,600,804

(In millions of won)

63. Adoption of K-IFRS 1109 and K-IFRS 1115

Adjustments in the consolidated statement of financial position as a result of the adoption of K-IFRS 1109

The Group's categories and carrying amounts of financial assets per K-IFRS 1039 and K-IFRS 1109 as of January 1, 2018 (the date of the initial application of K-IFRS 1109) are as follows:

Measurement categories		Carrying amounts			
December 31, 2017 (K-IFRS 1039)	January 1, 2018 (K-IFRS 1109)	K-IFRS 1039	Reclassification	Remeasurement (*1)	K-IFRS 1109
Cash and due from banks					
Cash and due from banks	Cash and due from banks	₩ 8,235,486	(123,570)	-	8,111,916
	Securities measured at FVTPL	-	123,570	-	123,570
		8,235,486	-	-	8,235,486
Financial assets at fair value through profit or loss					
Financial assets held for trading (debt securities)	Securities measured at FVTPL	1,279,429	-	-	1,279,429
Financial assets held for trading (equity securities)		625,220	-	-	625,220
		1,904,649	-	-	1,904,649
Financial assets designated at fair value through profit or loss					
Financial assets designated at fair value through profit or loss	Securities designated at FVTPL	120,019	(120,019)	-	-
	Securities measured at FVTPL	-	120,019	-	120,019
		120,019	-	-	120,019
Available-for-sale financial assets					
Available-for-sale financial assets (debt securities)	Securities measured at FVOCI	23,908,725	96,022	(121,095)	23,883,652
	Loans measured at amortized cost	-	25,073	(75)	24,998
Available-for-sale financial assets (equity securities)	Securities measured at FVTPL	-	4,907,364	311,078	5,218,442
	Securities measured at FVOCI	15,685,201	(5,202,635)	-	10,482,566
	Loans measured at FVTPL	-	174,176	-	174,176
		39,593,926	-	189,908	39,783,834
Held-to-maturity financial assets					
Held-to-maturity financial assets	Securities measured at amortized cost	6,040,641	(2,254,393)	(1,626)	3,784,622
	Securities measured at FVTPL	-	1,404,653	(302,233)	1,102,420
	Securities measured at FVOCI	-	849,740	(123,300)	726,440
		6,040,641	-	(427,159)	5,613,482
Investments in associates (*2)	Investments in associates	28,054,557	-	1,573	28,056,130
Loans					
Loans	Loans measured at amortized cost	143,224,116	(494,758)	(251,586)	142,477,772
	Loans measured at FVTPL	-	494,758	318,906	813,664
		143,224,116	-	67,320	143,291,436

(In millions of won)

Measurement categories		Carrying amounts			
December 31, 2017 (K-IFRS 1039)	January 1, 2018 (K-IFRS 1109)	K-IFRS 1039	Reclassification	Remeasurement (*1)	K-IFRS 1109
Derivative financial assets					
Trading purpose derivative financial assets	Trading purpose derivative financial assets	5,658,476	(145,715)	-	5,512,761
	Loans measured at FVTPL	-	145,715	-	145,715
Hedging purpose derivative financial assets	Hedging purpose derivative financial assets	724,103	-	-	724,103
		6,382,579	-	-	6,382,579
Other financial assets	Other financial assets	16,477,589	-	(5,759)	16,471,830
		₩ 250,033,562	-	(174,117)	249,859,445

(*1) The changes of provision for credit losses remeasured due to the adoption of K-IFRS 1109 are included.

(*2) The changes in net assets of associates, to which the equity method is applied, due to the adoption of K-IFRS 1109 are included.

On January 1, 2018 (the date of the initial application of K-IFRS 1109), ₩13,131 million of valuation loss from own credit risk of financial liabilities designated at fair value through profit or loss was reclassified to other comprehensive income.

On January 1, 2018 (the date of the initial application of K-IFRS 1109), the Group classified certain financial assets, other than financial assets at amortized cost as at January 1, 2018, to amortized cost as follows:

Measurement categories		Fair value	Recognizable valuation gain or loss if not reclassified
After reclassification (K-IFRS 1109)	Before reclassification (K-IFRS 1039)		
Loans measured at amortized cost (Privately placed public bonds)	Available-for-sale financial assets (Privately placed public bonds)	₩ 25,073	73

The reconciliation of the ending allowances/provision in accordance with K-IFRS 1039 to the opening allowances in accordance with K-IFRS 1109 are as follows:

Measurement categories		Allowances/Provision			
December 31, 2017 (K-IFRS 1039)	January 1, 2018 (K-IFRS 1109)	K-IFRS 1039	Reclassification	Remeasurement	K-IFRS 1109
Loans and receivables					
Due from banks	Due from banks	₩ -	-	-	-
Loans	Loans measured at amortized cost	2,793,838	-	251,586	3,045,424
	Loans measured at FVTPL	212,290	(212,290)	-	-
Other financial assets	Other financial assets	2,860,413	-	4,629	2,865,042
Available-for-sale financial assets					
Debt securities	Securities measured at FVOCI (*)	-	-	121,095	121,095
Held-to-maturity financial assets					
Debt securities	Securities measured at amortized cost	-	-	1,626	1,626
Guarantees and Commitments					
Payment guarantees (financial guarantee contracts, etc.)	Payment guarantees (financial guarantee contracts, etc.)	556,803	-	21,035	577,838
Unused commitments	Unused commitments	62,420	-	10,179	72,599
		₩ 6,485,764	(212,290)	410,150	6,683,624

(*) The provision for credit losses for securities measured at FVOCI was recognized as other comprehensive income.

December 31, 2018 and 2017 (In millions of won)

On January 1, 2018 (the date of the initial application of K-IFRS 1109 and K-IFRS 1115), the impact on retained earnings is as follows:

Description	Impact of application	
Retained earnings as of December 31, 2017 (before adoption of K-IFRS 1109 and K-IFRS 1115)	₩	9,827,095
Reversal of impairment loss on equity securities measured at FVOCI		477,360
Reclassification of accumulated other comprehensive income relating to available-for-sale financial assets reclassified to financial assets measured at FVTPL		136,194
Remeasurement after reclassified from available-for-sale financial assets to financial assets measured at FVTPL		311,078
Translation of equity securities denominated in foreign currencies		(18,156)
Effect of changes in exchange differences on translation of foreign operations		(52,536)
Remeasurement after reclassified from held-to-maturity financial assets to financial assets measured at FVTPL		(302,233)
Effect of adjustment in convertible private bond, etc. classified as loans measured at FVTPL		102,113
Effect of adjustment in valuation loss from self-credit-risk of financial liabilities designated at fair value through profit or loss		(9,520)
Measurement of expected credit losses of loans measured at amortized cost		(251,586)
Measurement of expected credit losses of other financial assets		(4,629)
Measurement of expected credit losses of debt securities measured at FVOCI		(121,095)
Measurement of expected credit losses of securities measured at amortized cost		(1,626)
Effect of changes in provision for payment guarantee and unused commitments		(31,214)
Effect of changes in share of other comprehensive income (loss) of associates		44,598
Effect of adoption of K-IFRS 1115 (*)		(182,991)
Effect of changes in non-controlling interests, etc.		66,211
Tax effect		117,903
Others		(5,009)
Retained earnings as of January 1, 2018 (after adoption of K-IFRS 1109 and K-IFRS 1115)	₩	10,101,957

(*) It is the effect of changes in the Group's retained earnings due to the adoption of K-IFRS 1115 by the Group's subsidiaries including the Daewoo Shipbuilding & Marine Engineering Co., Ltd., Daewoo Engineering & Construction Co., Ltd. and others. The effect arose from the changes of the subsidiaries' revenue recognition policies following K-IFRS 1115, e.g. 1) changes of criteria to measure incremental costs of obtaining a contract, 2) adjustments from significant financing component in the contract, 3) changes of revenue recognition in presale construction, etc.

On January 1, 2018 (the date of the initial application of K-IFRS 1109), the impact on other comprehensive income is as follows:

Description	Impact of application	
Other comprehensive income as of December 31, 2017 (before adoption of K-IFRS 1109)	₩	694,547
Reversal of impairment loss on equity securities measured at FVOCI		(477,360)
Reclassified from available-for-sale financial assets to financial assets measured at FVTPL		(136,194)
Translation of equity securities denominated in foreign currencies		18,156
Effect of changes in exchange differences on translation of foreign operations		52,536
Effect of adjustment in valuation loss from self-credit-risk of financial liabilities designated at fair value through profit or loss		9,520
Measurement of expected credit losses of debt securities measured at FVOCI		121,095
Others		40,124
Other comprehensive income as of January 1, 2018 (after adoption of K-IFRS 1109)	₩	322,424

64. Events after the Reporting Period

(i) DSME Sell-off Agreement with Hyundai Heavy Industries Co., Ltd.

In an effort of attracting strategic investments in the Daewoo Shipbuilding & Marine Engineering Co., Ltd. (“DSME”), the Bank’s subsidiary, the Bank signed a memorandum of understanding on January 31, 2019 and entered into an official agreement (“the Agreement”) to sell off its stake in DSME with Hyundai Heavy Industries Co., Ltd. (“HHI”) on March 8, 2019. According to the Agreement, the HHI will split the shipbuilding business, special & naval ship business, industrial plant & engineering business and engine & machinery business, excluding investment business and so on, into a newly established company, and the existing company after the split-off will be transferred to a holding company defined in the “Monopoly Regulation and Fair Trade Act”. The Bank will provide its DSME stake to the HHI as a contribution in kind. In return, the Bank will acquire newly issued common shares and redeemable convertible preference shares of HHI. Rights offering of both HHI and DSME will be executed and the HHI will bear the responsibility of financial support for the DSME.

To finalize the Agreement, some prerequisites such as approval process of government bodies, e.g. domestic or foreign approval of business combination, etc., should be met.

Organization

- Board of Directors
  - Risk Management Committee
- Chairman & CEO
  - Chief Executive Committee
- Vice Chairman & COO
  - Secretariat

Auditor
- Audit Department

Innovation & Growth Banking Division
- New Growth Engine Industry Policy Finance Center
- Venture & Technology Banking Department
- KDB NextRound Department
- Indirect Investment Banking Department
- On-lending Banking Department

SME Banking Division
- SME Banking Department

Maritime Finance Center
- Maritime Finance Department

Regional Head Office
- Gangnam, Gangbuk, Gyeongin, Jungbu, Youngnam, Chungcheong Honam

* Domestic Network

Corporate Banking Division
- Corporate Banking Department I
- Corporate Banking Department II
- Corporate Banking Department III
- Corporate Banking Department IV

Corporate Restructuring Center
- Corporate Restructuring Department I
- Corporate Restructuring Department II
- Investment Management Department

International Business Division
- International Business Department
- Trade Finance Department
- Global Network Branches (Excluding Asia)

Treasury & Trading Center
- Treasury Department
- Trading Department
- F/X & Derivatives Trading Department

Asia Regional Head Office
- Global Network Branches (Asia)

Capital Market Division
- Debt Capital Markets Department
- M&A Consulting Department
- Private Equity Department

Project Finance Center
- Project Finance Department I
- Project Finance Department II
- Project Finance Department III

Chief Compliance Officer
- Compliance Department
- Legal Affairs Department
- Financial Consumer Protection Department

Chief Information Security Officer (CISO)
- Information Security Department

Credit Review Division
- Credit Review Department I
- Credit Review Department II
- Credit Rating Department

Risk Management Division
- Risk Management Department
- Loan Review Department
- Operations Department

IT (Information Technology) Center
- Information Systems Department
- Core Banking System Department
- e-Banking System Department
- Next Generation Information Systems Department

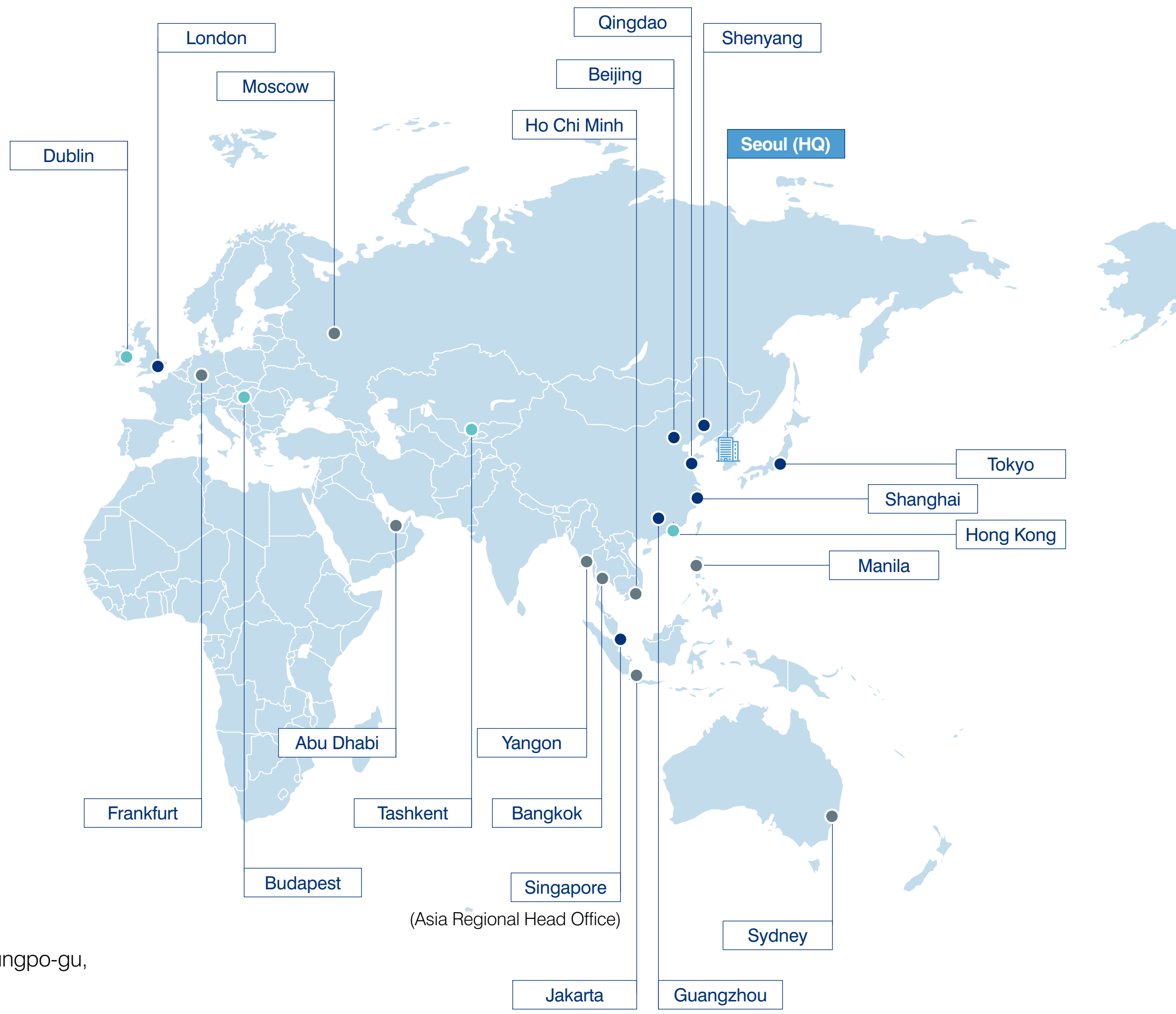
Strategy & Planning Division
- Planning Department
- Business Planning Department
- Deposit Planning Department
- Financial Planning Department

Business Administration Division
- Personnel Department
- General Affairs Department
- Public Relations Department
- Security Control Department

Pension & Trust Business Center
- Pension Business Department
- Trust Department

KDB Future Strategy Research Institute
- Future Strategy Development Department
- Industry & Technology Research Center
- Korean Peninsula New Economy Center

Global Network



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