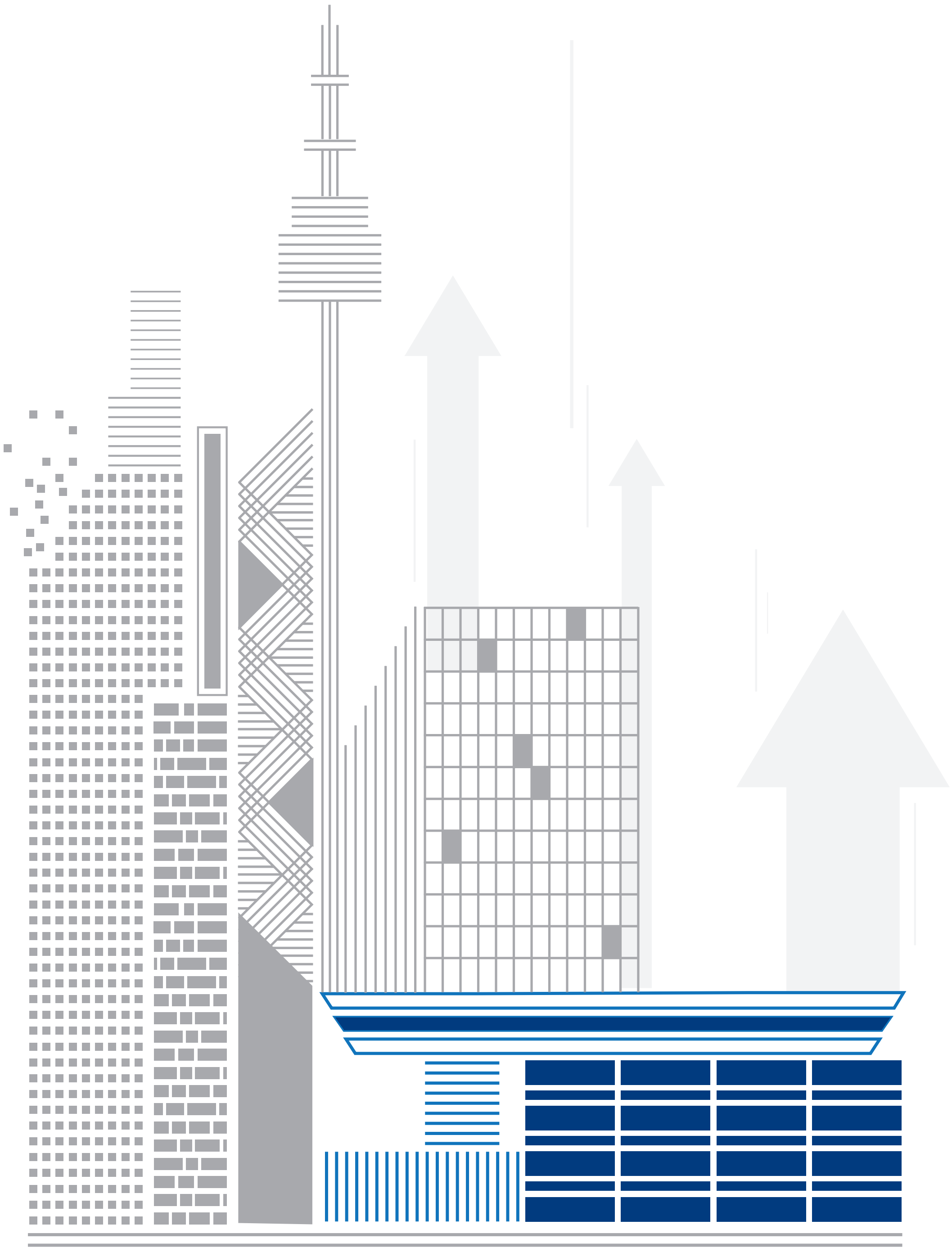
2022
ANNUAL
REPORT

CREATING GROWTH ENGINES

LEADER

KOREA
DEVELOPMENT
BANK



KDB Bank

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2022
ANNUAL REPORT

A LEADER
IN CREATING GROWTH ENGINES

For more than half a century, Korea Development Bank has spearheaded global transformations, constructed the future of Korea's economy, and steered Korea's business innovations.

Consistently at the heart of Korea's economic development, KDB makes every effort to serve as the stabilizer of Korea's economy, as a champion of cultivating new growth drivers, and as a visionary institution responsible for providing a sustainable future for Korea's financial markets and national economy.

KDB Bank

KDB at a Glance

Credit Ratings

Moody's	S&P	Fitch
Aa2	AA	AA-

*Equivalent to the sovereign ratings of the Republic of Korea

Global Network

Global Initiatives

UN Global Compact

Green Climate Fund

International Development Finance Club

Equator Principles

(As of December 31, 2022)

Financial Highlights

Summary Statement of Financial Position

(Unit: KRW billion; Consolidated basis)

	2022	2021	Change	
			Amount	%
ASSETS	**354,125.1**	333,898.2	20,226.9	6.1
Cash & due from banks	**11,437.0**	11,853.4	(416.4)	(3.5)
Securities	**98,820.8**	88,554.6	10,266 .2	11.6
Loans	**211,400.2**	179,826.8	31,573.4	17.6
Other assets	**32,467.1**	53,663.4	(21,196.3)	(39.5)
LIABILITIES	**318,234.3**	287,740.0	30,494 .3	10.6
Deposits	**70,288.1**	53,839.1	16,449 .0	30.6
Borrowings	**30,131.1**	28,561.1	1,570. 0	5.5
Bonds	**164,460.9**	150,014.9	14,446.0	9.6
Other liabilities	**53,354.2**	55,324.9	(1,970.7)	(3.6)
EQUITY	**35,890.8**	46,158.2	(10,267.4)	(22.2)
Issued capital	**23,151.6**	21,886.6	1,265.0	5.8
Capital surplus	**911.6**	758.6	153. 0	20.2
Retained earnings	**6,552.3**	14,090.1	(7,537.8)	(53.5)
Capital adjustments	**274.5**	278.4	(3.9)	(1.4)
Accumulated other comprehensive income	**3,007.7**	4,977.7	(1,970.0)	(39.6)
Non-controlling interests	**1,993.1**	4,166.9	(2,173.8)	(52.2)

Summary Statement of Income

(Unit: KRW billion; Consolidated basis)

	2022	2021	Change	
			Amount	%
Net operating revenue	**2,291.0**	4,051.2	(1,760.2)	(43.4)
Net interest income	**2,759.6**	2,490.6	269.0	10.8
Non-interest income	**(468.6)**	1,560.6	(2,029.2)	(130.0)
Provision for credit losses	**(60.0)**	490.1	(550.1)	(112.2)
G&A expenses	**1,016.8**	940.0	76.8	8.2
Operating income	**1,334.2**	2,621.1	(1,286.9)	(49.1)
Non-operating income	**(9,938.5)**	726.9	(10,665.4)	(1,467.2)
Income tax expenses	**(2,050.1)**	985.4	(3,035.5)	(308.0)
Profit for the period from continuing operations	**(6,554.2)**	2,362.6	(8,916.8)	(377.4)
Profit from discontinued operations	**(1,070.4)**	(1,039.1)	(31.3)	3.0
Net profit	**(7,624.6)**	1,323.5	(8,948.1)	(676.1)

2022
ANNUAL REPORT

A LEADER

IN CREATING GROWTH ENGINES

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Consistently at the heart of Korea's economic development, KDB makes every effort to serve as the stabilizer of Korea's economy, as a champion of cultivating new growth drivers, and as a visionary institution responsible for providing a sustainable future for Korea's financial markets and national economy.

KDB Bank

Message from the Chairman & CEO

Dear Clients and Partners,

Thank you for your continued trust in and support of Korea Development Bank (KDB).

Despite the significant economic challenges driven by the aggressive tightening of U.S. monetary policy and domestic financial market uncertainty, KDB maintained its vital role in stabilizing the national economy throughout 2022. The Bank has made meticulous efforts to foster strategic industries and lead a fundamental shift in Korea's industrial structure as the country braces for a prolonged economic downturn.

In 2022 alone, KDB supplied over KRW 80 trillion to the markets to support business growth, substantially expanded its debt capital markets stabilization programs to address a sudden liquidity crunch caused by a spike in exchange and interest rates, successfully sold Ssangyong Motors following a quick and timely turnaround process, and secured new private investment for Daewoo Shipbuilding & Marine Engineering.

Furthermore, in order to enhance the country's economic security and create new growth momentum, KDB has initiated the Korea Economic Rebound Project, which laid the groundwork to infuse KRW30 trillion in strategic high-tech industries such as fabless and foundry, materials, parts, and equipment, as well as memory semiconductor over the next five years.

In 2023, Korea faces nothing less than a super crisis. With U.S.-China power struggles reaching new highs, and geopolitical tensions between Russia and the West only exacerbating an already harsh business environment, classic global partnerships are coming apart and economic paradigms are changing as we speak. A large number of businesses are on the verge of failing because of high interest rates and a plunge in asset prices. Considering this reality, KDB is determined to focus its resources on the following areas in the year ahead to set the stage for Korea's economic rebound.

First, KDB will strive to acquire new growth drivers for the Korean economy.

KDB will help the country's strategic and highly advanced technology-based industries stay ahead of the curve and be more competitive, while actively incubating high potential industries for the future economy. To that end, the Bank plans to draw an altogether new industrial mosaic, organizing dedicated programs for strategic industries such as semiconductors, secondary batteries, and nuclear power, and putting together policy funds such as the Innovative Growth Fund and K-Biotechnology and Vaccine Fund to serve as catalysts for private sector investment in innovative sectors.

Furthermore, KDB will revamp and strengthen its existing financial support system for the green and digital transitions of domestic industries to pursue the qualitative growth of green finance in Korea that facilitates carbon neutrality in industries, prevents greenwashing, and much more. At the same time, the Bank's resources will be channeled toward fostering innovative digital businesses and assisting with the digital transformation across industries as a whole.

Lastly, KDB will organize support programs to deploy resources in areas that make up the core of Korea's economic security to ensure that the country maintains its industrial competency amid global value chain disruptions. It will also develop supply chain databases to shore up Korea's economic security as a national think tank and guardian of economic security.

Second, KDB will seek to enhance sustainability of the Korean economy.

The concentration of the Korean population in the capital area has created immense barriers to sustainable economic development, leaving many of the country's regional economies struggling, with real estate markets exhibiting severe price imbalances. To help address the issue, KDB has expanded its business network in Korea's southeastern region to better align with the government's policy priority of balanced regional development.

As part of this initiative, KDB has also launched specific funds to support capex investments by businesses located outside of the capital as well as those planning to move out, and organized a series of events across the country using its own VC platform, the KDB NextRound, all aimed at facilitating regional economic activity.

At the same time, KDB will remain committed to its market stabilizer role, continuing to operate existing programs designed to stabilize financial markets including the Key Industry Stabilization Fund, and also expanding market-driven turnaround solutions.

Third, in pursuit of becoming a "greater KDB," the Bank will continue strengthening its global capabilities and ensure stability and sustainability of its policy finance operations.

To achieve this, KDB aims to continuously expand its international network to become more competitive in its global business, a key contributor to overall profit. As part of this plan, the Bank is taking steps with a hope to open new branches in Frankfurt, Germany and Hanoi, Vietnam before the end of 2023.

Furthermore, in order to expand its policy financing capacity, KDB has introduced a Financial Management Division as a financial control tower, adding greater stability to the Bank's financial foundation. This organizational change reflects the Bank's commitment to maintaining a closer check on asset-liability management, BIS ratios, and a range of other risks that may arise with macroeconomic fluctuations.

Dear Clients and Partners,

As the Korean economy stands at a crossroads, KDB will make sure that its actions as a policy finance institution meet the demands for today's new industrial policies, vitalize corporate activity, and contribute to ensuring stability in financial markets. I ask for your continued support and encouragement throughout this journey ahead. Thank you.

kang, seoghoon

Kang , Seoghoon
Chairman & CEO
Korea Development Bank

Management Profiles

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

Kang, Seog Hoon
Chairman & CEO

Kim, Bock Kyu
Vice Chairman & COO

Joo, Tae Hyun
Auditor

Lee, Seog Hwan Independent Directors
Joo, Tae Hyun Auditor
Kim, Bock Kyu Vice Chairman & COO
Kang, Sam Mo Independent Directors
Kim, Yeong Ook Independent Directors
Kang, Seog Hoon Chairman & CEO
Jung, Dong Il Independent Directors

(As of the end of 2023.1Q)

EXECUTIVE DIRECTORS

Kim, Young Jin
Regional Development Division

Lee, Jun Sung
Innovation & Growth Banking Division

Ahn, Young Gyu
Corporate Banking Division

Yang, Seung Weon
Global Business Division

Park, Hyung Soon
Capital Market Division

Jung, Ho Keon
Credit Review Division

Jung, Byung Chul
Risk Management Division

Lee, Keun Hwan
Planning & Administration Division

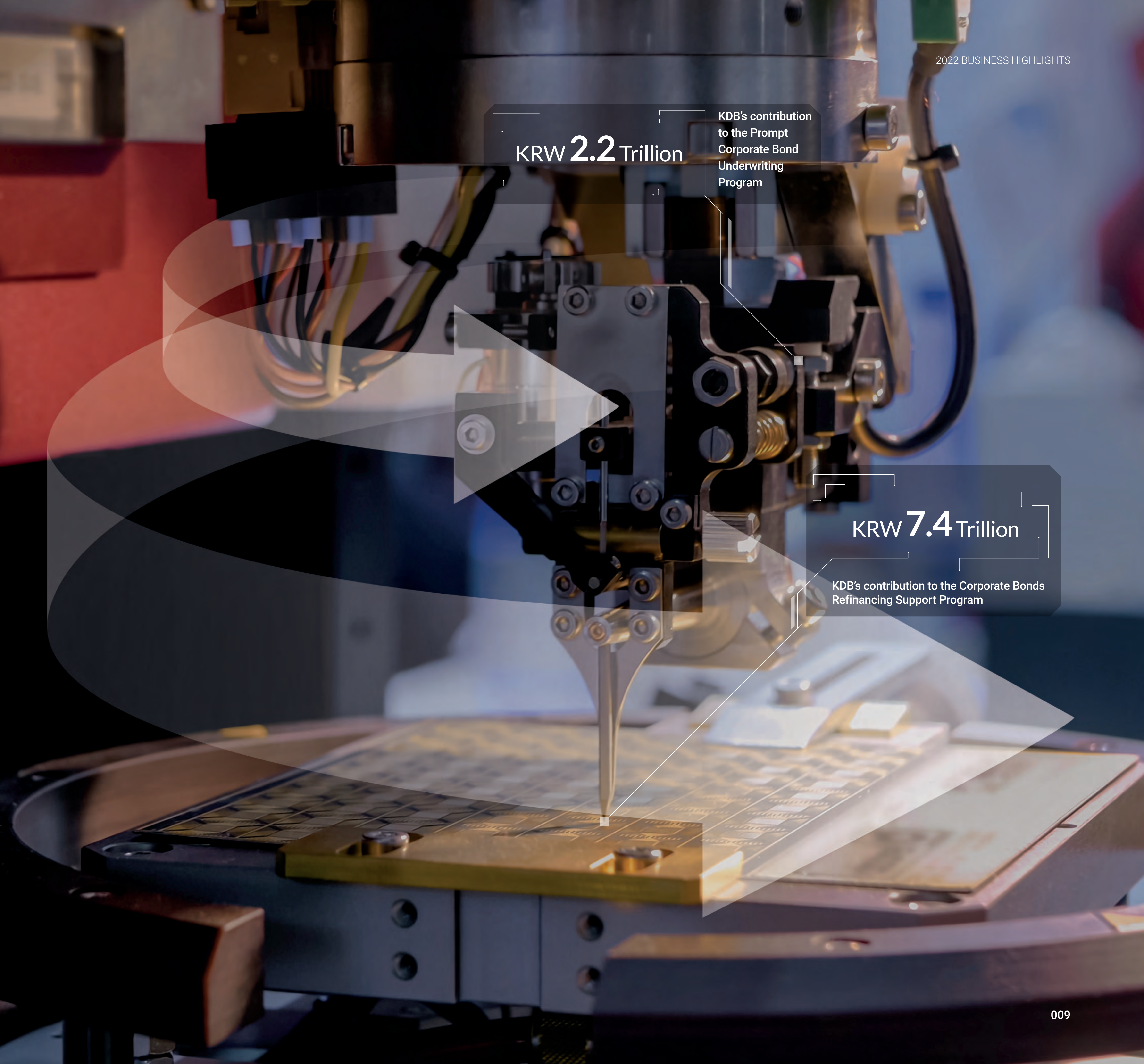
Joo, Dong Bin
Financial Management Division

BUSINESS HIGHLIGHTS 1

Keeper

Keeping Korea secure through market volatility

Fully committed as a policy finance institution at the forefront of Korea's economy, Korea Development Bank operates with a sense of urgency to strengthen its readiness against a potential breach of the nation's economic security: beginning with a newly installed Financial Management Division to create a more sound financial foundation for its operations, the Bank has declared an Economic Emergency Response System that allows enhanced monitoring of its capital raising and supply as well as the turnaround conditions of Korean businesses. KDB was also a market stabilizer amidst the growing market volatilities in 2022, rolling out solutions such as the Prompt Corporate Bond Underwriting Program and the Corporate Bonds and the Commercial Paper Refinancing Support Program to restore balance to financial markets.



BUSINESS HIGHLIGHTS 2

Developer

Developing new growth drivers for a more competitive Korea

Through a careful system of policy finance, KDB is providing the Korean economy with the building blocks for its next quantum leap. KDB provided high-growth Korean start-ups with a total of KRW 538.4 billion in 2022, an increase of 21% over the previous year. Aimed at acquiring new growth momentum, plans are now in place to supply an additional KRW 30 trillion over the next five years through the Korea Economic Rebound Project. KDB's past work has already generated impressive traction. Since its launch in 2016, NextRound, the industry's leading market-driven venture investment platform, has provided 2,369 start-ups with fundraising opportunities through 636 rounds, equipping these rising stars to become major players in the global arena. Going forward, KDB will do its utmost to provide targeted funds to businesses at each stage of their development.

Scale-up financing

KRW **538.4** Billion
(average KRW 12.5 billion / company)

636
IR rounds

KDB NextRound
Number of participants Start-ups **2,369**

Assets under Management by PE · VC Funds

(Unit: KRW billion)

	Number of Funds	Commitment Size of Fund		KDB AUM**
		All	KDB Commitments	
PE Funds	84	17,577.6	5,393.8	2,184.2
VC Funds	134	9,696.3	2,403.2	952.9
Funds of Funds with policy objectives*	11	7,201.5	5,795.1	3,655.6
Total	**229**	**34,475.4**	**13,592.1**	**6,792.7**

* Growth Ladder Fund, Policy-type New Deal Fund, Securities Maket Stabilization Fund, etc.
**AUM 6.8=Capital Invested 9.5 - Exit 1.8 + Gain and Loss from Fair Value 0.1

Global Editions of KDB NextRound

2018	2019.1H	2019.2H	2020	2022
China	China	Indonesia	Singapore	Singapore
Shenzhen	Shanghai	Jakarta	Singapore (Online)	Singapore

BUSINESS HIGHLIGHTS 3

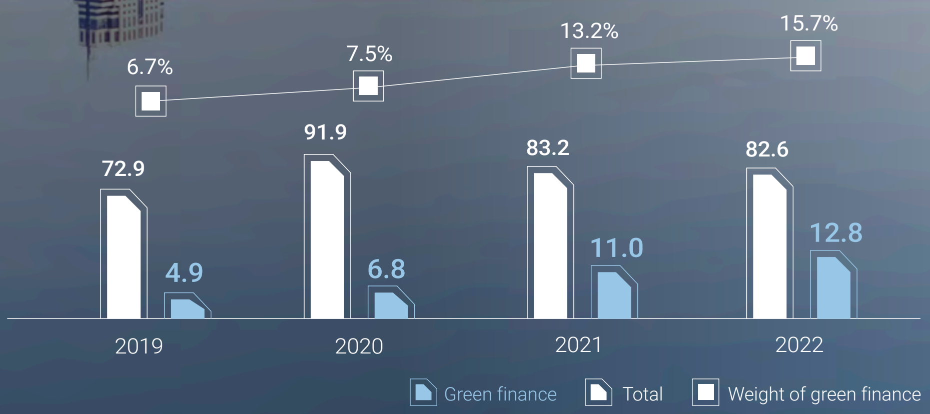
Builder

Building a world-class system for sustainable finance

As the country's leading policy finance institution, Korea Development Bank is tasked with charting a sustainable course for the future of the country's finance. With a dedicated Green Finance Planning Department serving as the control tower for KDB's sustainable business management efforts, KDB continues to actively provide the market with a diverse array of green finance products under a sophisticated green bond management framework that applies K-Taxonomy green classification principles. In 2022, the Bank allocated KRW 12.8 trillion (15.7%) of its total investments to green initiatives, leading Korea's green finance. Furthermore, KDB's green bond issuances have contributed to developing Korea's ESG markets. In the same year, not only did KDB issue a total of KRW 500 billion green bonds in Korean domestic market, but the bank also issued a total of USD 818 million equivalent green bonds in international capital markets, including CHF 225 million in Switzerland, further diversifying its investor base of foreign currency ESG bonds.

Funds provided to green initiatives

(Unit: KRW trillion)



Global initiatives

- Obtained the first-ever approval for a USD 1.2 million project preparation facility from the Green Climate Fund (GCF)
- Elected as the Asia-Oceania Regional Representative to the Equator Principles (EP) Association Steering Committee

Green finance support framework

Four key areas

- Energy transition
- Low-carbon industrial structure
- Low-carbon ecosystems
- Environmentally sustainable society

Mission & Vision

As the country's leading policy finance institution, KDB has set a long-term growth direction targeting 2045. The long- term direction focuses on upgrading the competitiveness of the nation's financial services and industrial systems and reflects the Bank's identity and vision.

Long-term Growth Direction
(Goals for 2045)

Mission

Top Policy Finance Institution
in Korea Spearheading the National Economy

* Embodies KDB's role in helping Korea overcome domestic and global economic challenges while promoting the country's economic growth

&

Vision

Greater KDB
Global Financial Leader Growing in Tandem with Korea

* KDB's long-term vision which embodies the Bank's historical role in elevating Korea to the global hub nation as well as ambitions to solidify its presence as a global financial institution by 2045.

KDB's mission embodies the Bank's commitment as Korea's leading policy finance institution in helping Korea overcome an unprecedented economic downturn and promote growth. In leading the Korea's economic growth, KDB aspires to attain its vision of spearheading Korea's global growth as a leader in global finance.

Long-term Growth Direction
(Goals for 2045)

KDB WAY

01
We heed voice of clients.

02
We step out of comfort zone into calculated challenges.

03
We cooperate with outside to find better ways.

04
We think forward to act forward.

05
We provide expert solution.

06
We embrace change.

07
We communicate and initiate.

08
We find solution on the spot.

09
We take full responsibility to become a socially reliable bank.

10
We think digital.

KEY TASK

KDB has selected six strategic tasks with a dual focus on business success and internal innovation, which are necessary preconditions to achieving its vision as a policy bank.

3 Key Tasks for Business Success

Strategic Goals
Propel growth in core industries
Fostering promising industries as national growth drivers

Strategic Goals
Promote regional growth
Stimulating the development of regional industries, with a focus on sustainable national growth

Strategic Goals
Pursue market stability
Reliable market stabilizer in response to economic downturns

3 Key Tasks for Internal Innovation

Strategic Goals
Innovate from within
Reinforcing KDB's inherent and essential roles as the leading policy financial institution.

Strategic Goals
Build a foundation for sustainability
Building up a solid foundation for KDB's sustainable policy finance in response to changes in future economic and social environments.

Strategic Goals
Enhance global competitiveness
Making a leap onto the ranks of the global leading bank representing Korea financial industry.

BUSINESS REVIEW

As Korea's leading policy finance institution, Korea Development Bank has made a steadfast commitment to a stronger rebound of Korea's economy and to the long-term prospects of the nation's businesses.

KDB's long-standing financial expertise is the key component of its tailored and multi-faceted solutions which help businesses weather volatilities in the economy. The Bank possesses optimal response systems to address changes in a fast-paced market environment and continues to grow through the strides it is taking on the global business stage.

Corporate Banking & Restructuring

Corporate Banking

As Korea's top corporate banking specialist, KDB has provided a diverse array of individualized financial products and services to its corporate clients, while engaging in proactive initiatives to drive their competitiveness. These initiatives include facilitating business realignments of its clients that help preemptive financial improvement, create jobs in local communities and advance industry specialization; supporting the stable growth of medium-sized businesses; and offering financial assistance for activities related to the fourth industrial revolution. These efforts will continue as KDB works as a partner to its corporate clients in pushing for sustainable growth of the national economy.

KDB's contributions include credit products designed to facilitate green loans, quick access to liquidity for businesses hit by COVID-19, and financial support to build up Korea's basic industries (materials, parts, and equipment) and other sectors of primary importance. These contributions have consolidated KDB's role as a mainstay of Korea's business infrastructure. Additionally, KDB has provided critical capital support, as well as other targeted solutions, to businesses at each stage of their growth, backing the growth of small and medium-sized businesses which form the backbone of Korea's economy.

2022 IN REVIEW

Despite macroeconomic uncertainties resulting from the prolonged COVID-19 pandemic and signals of aggressive rate increases from both inside and outside Korea, Korean companies have started new businesses, made large-scale capital investments toward carbon neutrality and fourth industrial revolution opportunities, and taken action to secure acquisition finance to transform their business. To help companies improve their key capacities and speed up any necessary restructuring, KDB has made timely and extensive liquidity available for them.

As a policy finance institution, KDB works closely with the Korean government as well as other policy finance players on key economic and industry initiatives. With a focus on consolidating industry leadership and planning for changes to the global supply chain, the Bank has supported critical capital expenditures by top-tier businesses in globally strategic industries, such as the secondary battery sector. In a similar vein, KDB has offered shipping finance programs to upgrade the capacities of Korean shipping companies and to adopt green ships aligned with carbon reduction trends, thereby promoting mutual growth of the country's shipbuilding and shipping companies.

Lastly, KDB has expanded support for mutually beneficial partnerships among large businesses and their small and medium counterparts not only to create a balanced business ecosystem but also to create jobs and broaden the Bank's client base. To align with government policies and an increasing social voice for green business, KDB has stepped up support for capital investments in green initiatives and net-zero goals in the form of 'Carbon Spread', 'Carbon Net-Zero', and other green finance products.

In 2022, KDB provided a total of KRW 81.6 trillion, of which KRW 49.3 trillion, or 60%, was allocated to SMEs and MEs. In particular, KDB supplied liquidity support through special relief programs, such as the Special Fund for Cheering Up Korea, that are targeted at businesses hit by the COVID-19 pandemic.

KDB has also played a pivotal role in soft-landing of pandemic-hit businesses as the world entered the post-pandemic era, and in full recovery of Korea's economy. In addition to uncovering and backing promising small and medium-sized enterprises to jump-start economic growth, the Bank developed aggressive support schemes targeting innovative industries. In a similar way, KDB has stepped up support to advance key strategic industries, and to promote capital investments for a preemptive business realignment and to enhance business competitiveness.

Landmark Deals of 2022

Supporting companies' net-zero goals and green restructuring through the Industry and Finance Alliance Program

Overview

- Built a long-term industry-finance collaboration mechanism to facilitate the growth of key industries strategic for the future of Korea and to spur the country's net zero initiatives from a broader industry perspective encompassing supply chain considerations.
  - Supplied large sums of capital over an extended period of time to key growth sector businesses for their local and overseas CAPEX spending and carbon neutrality investments
  - Supported market-leading companies for the development of a joint supply chain, securing the ground for a long-term growth of businesses across the materials, parts, and equipment sectors

Highlights

Industry (Beneficiary)	Details of Support
Secondary Batteries (Company L)	Secondary battery global CAPEX support • USD 5 billion (5-year) partnership. Mutual growth fund KRW 150 billion.
Semiconductors (Company S)	M&As to capture global semiconductor market share • USD 3 billion (5-year) partnership. Mutual growth fund KRW 100 billion.
Green Energy (H Group)	Green energy (solar + hydrogen) industry growth • KRW 5 trillion (5-year) partnership. Mutual growth fund KRW 60 billion.
Carbon Reduction Equipment (7 companies, including Company S)	Cement industry carbon neutrality initiative • KRW 1 trillion (5-year) partnership
Submarine Cables for Wind Energy (Company L)	Submarine cable industry growth for offshore wind power generation • KRW 1 trillion (5-year) partnership
Secondary Battery Material (Company S)	Secondary battery and green material business improvement • KRW 1.5 trillion (5-year) partnership

Significance

- KDB's financial backing of companies' entry into new business areas as well as their long-term CAPEX spending for achieving carbon neutrality initiatives improved their business stability, and nurtured other business within a green supply chain contributed to enhanced industrial competitiveness.

Landmark Deals of 2022

Financial support for corporates' business realignment through the Joint Council for Overseas M&As and Investments

Overview

- Completed set-up of the Joint Council for Overseas M&As and Investments in September 2019 to provide end-to-end support to Korean companies engaging in overseas M&As and investment activities
  - Participants: Policy finance institutions (KDB, KEXIM, IBK), commercial banks (NongHyup), national business associations, etc.
    - Policy finance institutions and commercial banks: Joint support for overseas acquisitions and fundraising
    - National business associations: Global deal sourcing and buyer-seller matching, offering regulatory recommendations, etc.
- Actively Supported business realignment and preemptive capital investments of Korean major industries such as semiconductor, display and secondary battery to enhance their competitiveness

Highlights

(Total of 17 deals, equivalent to approximately USD 8.31 billion)

Beneficiary	Details of Support
A	Overseas factory investment • EUR 550 million
B	Equity investment in Company F • USD 300 million
C	Acquisition of Company G's business • USD 3 billion
D	Acquisition of Company H • USD 600 million
E	Acquisition of Company I • USD 350 million

Significance

- KDB has actively contributed to capital investments in key future industries (e.g., secondary batteries, semiconductors, etc.), upgrading the competitiveness of the local parts and materials industries.

PLANS FOR 2023

KDB is the nation's premier policy finance institution in charge of steering paradigm changes in the economy. The Bank will continue to offer customized financing solutions to grow new industries including businesses that are eligible under the Green New Deal, while upgrading the competitiveness of Korea's strategic industries, such as semiconductors, displays, and secondary batteries. At the same time, KDB will continue its industry and finance alliance programs to support business realignment and improvement, develop national growth drivers facing the fourth industrial revolution era, and reinforce its own policy finance capacity.

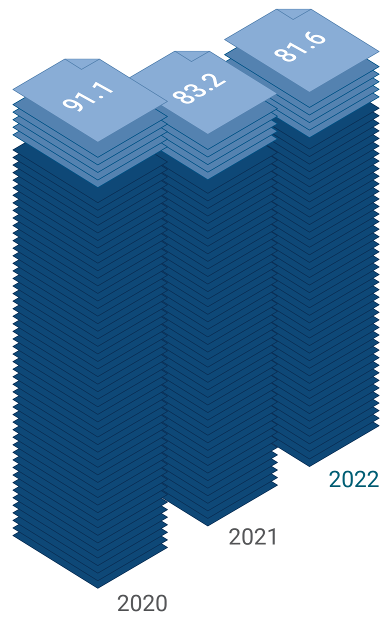
On the environmental front, KDB will pay special attention to ensure that Korea delivers on its net zero initiatives by offering a full spectrum of financial solutions geared for gradually building up a green supply chain in Korea that is fully functional and resilient across all industrial sectors.

KDB Financing Volume

(Units: KRW trillion, %)

Financing Volume in 2022

81.6



	2020	2021	2022
Financing	91.1	83.2	**81.6**
Large	24.2 (26.6%)	19.3 (23.1%)	**21.2 (26.0%)**
Medium	31.4 (34.5%)	27.9 (33.6%)	**25.6 (31.4%)**
Small	25.7 (25.7%)	27.2 (32.7%)	**23.7 (29.0%)**
Other	9.8 (10.8%)	8.8 (10.6%)	**11.1 (13.6%)**

In a similar vein, KDB plans to strengthen support for materials, parts, and equipment businesses as these players brace for a global supply chain restructuring and the resulting fallout. The Bank will also provide support for cutting edge technologies to ensure Korea's technological sovereignty and a competitive edge in the future strategic industries. Finally, the Bank will seek to drive the transition towards green and digital industries and facilitate economic growth by encouraging voluntary, proactive business realignment through expanded support.

Corporate Restructuring

Since the Asian financial crisis of 1997, KDB has become the unrivaled leader in Korea for corporate restructuring based on its corporate banking expertise. The global financial crisis of 2008 resulted in a prolonged stagnation as well as a jump in both the number and size of distressed businesses requiring a turnaround. In light of these challenges, the Bank has carried out efficient corporate turnarounds based on principles, providing a safety net for the national economy and the country's businesses.

2022 IN REVIEW

KDB has made every effort as a policy finance institution to facilitate the efficient turnaround of distressed businesses. The Bank has focused on the insolvencies of large corporate enterprises that can potentially have a massive impact on the national economy, playing an active role as a safety net and growth facilitator for Korean businesses.

With a protracted economic recession in the backdrop, KDB has pursued a consistent stream of turnaround initiatives targeting distressed shipbuilding and shipping companies. As a result, the Bank succeeded in securing external investors for Daewoo Shipbuilding & Marine Engineering (DSME), marking a kick-off of business normalization and the end to a 23-year restructuring phase that began with the dismantling of the Daewoo Group in 2000. In the case of Hyundai Merchant Marine (HMM), the company achieved record results in 2022 driven by critical investment support from KDB in key operating assets, intensive management improvement measures, as well as a boom in the shipping industry.

Lastly, KDB has contributed to preserving the competitiveness of the national automotive industry with the successful completion of Ssangyong Motors' restructuring by finding a buyer prior to the court's approval of the company's rehabilitation plan. For Doosan Heavy Industries & Construction, KDB's emergency capital injection in 2021 to resolve the company's COVID-19 pandemic-triggered liquidity crisis has led to the company's early business normalization with substantial improvements in its financial and business structures.

PLANS FOR 2023

In 2023, KDB will continue to play its role as a turnaround facilitator and market safety net, adhering to its long-held principles established over the years of experience in corporate restructuring.

The Bank will also leverage its accumulated expertise and human resources to encourage voluntary business realignments and support improvements to capital structure, preventing insolvency and promoting business competitiveness through early engagement.

For distressed businesses, the Bank will act early and efficiently in its turnaround efforts to facilitate their successful recovery, which in turn will reinfuse vitality into the national economy.

Capital Markets

Debt Capital Markets

2022 IN REVIEW

As Korea's only bank with a license to underwrite corporate bonds, KDB has maintained market leadership in debt capital markets services such as arranging bond offerings and underwriting bonds in domestic and international markets, and advisory services for structured finance deals.

The year 2022 was marked by increased volatility in the bond market propelled by rapid interest rate rise, with uncertainties peaking in Q4 surrounding real estate PF-ABCP issuances. In response, KDB expanded both the volume and coverage of market-stabilizing measures, such as the Corporate Bonds and Commercial Paper Refinancing Support Program and the Bond Market Stabilization Fund introduced in 2020, while making additional capital calls to better align itself with the government's market-stabilizing directives.

Furthermore, the Bank bolstered the growth of the ESG bond market by arranging, underwriting, and investing in a greater volume of ESG bonds in 2022. It also issued three primary collateralized bond obligations (P-CBOs) backed by privately placed ESG bonds issued by SMEs and MEs. These P-CBO transactions marked a milestone in an ESG bond market dominated by public offerings from large and public companies that extends the reach to SMEs/MEs and private placements.

With respect to international bonds, KDB successfully arranged large issuances of global bonds by companies like the Korea National Oil Corporation (KNOC), Korea Electric Power Corporation (KEPCO), Korea Gas Corporation (KOGAS), and LG Chem, ranking 9th on the Bloomberg Benchmark-size Korean Paper league table and consolidating its position as a leading Korean investment bank. In addition, the Bank arranged green bond offerings by four corporate issuers, one of which was Hyundai Heavy Industries (HHI). The public green bond offering by HHI was the first of its kind in the Korean shipbuilding industry and KDB's successful arrangement of the deal played an instrumental role in facilitating the green business practices in the country.

PLANS FOR 2023

The domestic bond market saw a significant improvement in investor sentiment compared to the end of 2022. This was attributable to the government's market stabilization policies, where KDB was a contributor, and the market's recognition of interest rate peak (no more hike). KDB plans to continue its work in running debt capital market stabilization programs in 2023, actively supporting low-credit businesses facing barriers to raising capital. The Bank will also offer a wide spectrum of financial solutions to its corporate clients including structured finance products to help them raise funds, working closely with businesses in cutting-edge industries such as semiconductors, secondary batteries, biotechnology, as well as green sector companies.

Global business networking is another priority in 2023. The Bank plans to step up its capacity in arranging international bond offerings by expanding its IB desk and developing relevant systems in Hong Kong, while committing to increasing its global and cross-border deal volume by actively targeting strong corporate clients, both Korean and non-Korean.

Landmark Deals of 2022

Arranged the public offering of Hyundai Heavy Industries' green bond

KDB's Debt Capital Markets Department successfully arranged Hyundai Heavy Industries (HHI)' USD 300 million green bond offering in March 2022. The bond, guaranteed by KDB, was approximately twice oversubscribed and priced at a competitive level, thanks to KDB's strong credit rating and solid investor demand for Korean paper.

The bond was the first USD Korean paper issue since the sudden spike in market volatility triggered by geopolitical risks associated with Russia's invasion of Ukraine and a chain of interest rate hikes by the central banks beginning with the U.S. Federal Reserve. As such, this issue helped to reaffirm international confidence in Korean paper amidst a challenging external environment. In particular, this tranche was the first green bond in the Korean shipbuilding industry, of which the proceeds are to be used for clean and sustainable shipbuilding, serving as yet another contribution by KDB to developing green business practices.

Issue Size	USD 300 million
Maturity Date	March 28, 2027
Reoffer Spread/Yield	U.S. 5Y Treasury + 95bps/ 3.179%
Coupon	3.179%
ESG Labeling	Green

M&As

2022 IN REVIEW

KDB provides financial advisory services specialized in M&As both domestically and internationally, and arranges acquisition financing for corporate clients, enabling them to secure necessary funding and manage appropriate capital structures.

M&A transaction volume in 2022 took a 20% plunge versus the previous year due to rapid interest increases globally and a crunch in market liquidity. Despite the tight investment climate, businesses made asset sales to acquire capital, while others that have benefited from the pandemic actively sought entry into new business areas through portfolio adjustments. KDB served as a professional M&A facilitator to streamline these business adjustments, providing advisory as well as capital markets services to create optimal funding structures. Additionally, KDB led the restructuring and business reorganization within the construction and heavy industries, contributing to improving the efficiency and long-term growth potential of the nation's key industries.

KDB has made efforts to enhance its cross-border M&A advisory capability by setting up an M&A desk with dedicated professionals in Hong Kong. Despite the challenges presented by the COVID-19 pandemic, the M&A desk in Hong Kong has continued its networking activities with global investment banks, successfully closing multiple acquisition finance transactions. Moreover, the desk has generated considerable fee income and contributed to raising the global awareness of the Bank.

PLANS FOR 2023

M&A demand is expected to pick up in 2023 mainly among businesses with sufficient liquidity, in the middle of a global trend of high interest rates and tight monetary policies that drove down enterprise value and asset prices. Businesses are expected to increase asset sales and portfolio adjustments to acquire additional capital as they prepare for external environment changes ahead.

Against this backdrop, KDB will not only help Korean businesses secure new growth drivers but also provide M&A advisory and consulting services to companies that require financial restructuring and business improvement. In addition, KDB will expand its partnerships with global advisory groups to offer better cross-border M&A advisory services to Korean businesses seeking to expand their international horizons.

Landmark Deals of 2022

Acquisition consulting and buy-side advisory services for SeAH Group's purchase of Ssangyong Engineering & Construction

KDB played a central role as a buy-side advisor, providing financial arrangement and consulting services for SeAH Group's successful acquisition of a controlling stake in Ssangyong Engineering & Construction from the Investment Corporation of Dubai. SeAH Group expects to leverage the acquisition to create synergies using Ssangyong's global network. The transaction also marks the return of Ssangyong E&C to Korean ownership seven years following its sale to foreign capital. KDB plans to continue offering a one-stop service to Korean businesses that encompasses M&A advisory services, financial arrangement, and consulting, actively supporting clients on their journey to achieving global excellence.

Consulting

2022 IN REVIEW

Since launching its consulting service in 2003, KDB has undertaken 892 projects covering a wide range of topics, including business management, finance, ESG, overseas projects, corporate turnarounds, in-house consulting tasks, public services and development. The Bank's M&A consulting team is proud to offer a differentiated service line by leveraging its extensive industry and business database, while partnering with internal departments within KDB that specialize in investment, private equity, acquisition finance, and project finance for a one-stop service.

Korean businesses faced multiple challenges in 2022 stemming from a volatile macroeconomic environment marked by deepening international tensions that led to supply chain disruptions, rapid interest rate hikes, and high inflation levels. KDB's consulting team successfully leveraged its expertise to partner with other departments within KDB in offering a superior client experience. During the year, KDB provided tailored consulting services to a large number of start-ups on their management strategies, business model improvements and ESG consulting. KDB also advised a medium-sized Korean pharmaceutical company for its establishment of an overseas subsidiary, contributing to laying the foundation for the future growth and expansion of a domestic industry.

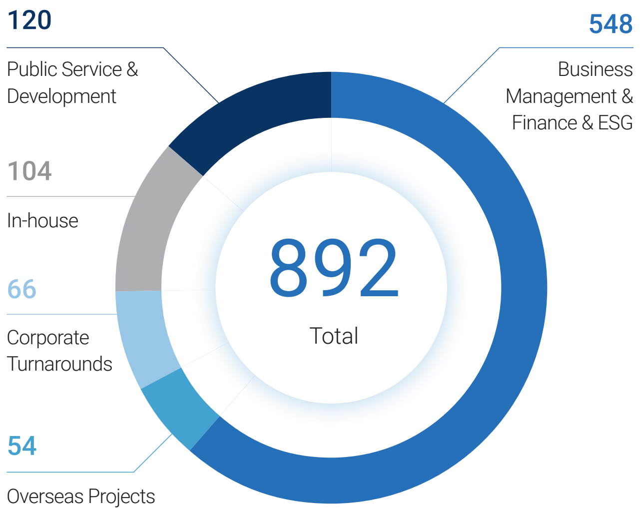
PLANS FOR 2023

As businesses continue to face interest rate hikes and challenges to commodity and energy supply in 2023, environmental regulations at the national level are expected to impose additional burden. In particular, the increasing weight of ESG has resulted in stricter global environmental regulations, including mandatory disclosure of greenhouse gas emissions (Scope 1, 2, 3) and the Carbon Border Adjustment Mechanism. This trend is likely to have a larger impact on SMEs and MEs, given their relative shortage of resources to respond to regulatory changes.

To help address the challenge, KDB will partner with other government institutions to open a KDB ESG platform designed to provide self-diagnostic tools, disclosure requirements, guidelines, and other resources that will make up a total ESG advisory package. Additionally, KDB plans to offer consulting services for value-up strategy including growth diagnostics, as well as pre-IPO/IPO and M&A strategies, enhancing the long-term viability of Korean businesses and invigorating the start-up ecosystem at large.

Number of Projects Completed (2003-2022)

(Unit: cases)



Private Equity

2022 IN REVIEW

KDB's private equity business was launched in January 2005 and is in its 18th year in 2023. To date, KDB has set up 31 private equity funds (PEFs), and has built up an extensive track record in fund management, including buyouts, growth financing, and mezzanine financing. As of the end of 2022, total capital commitments of the 10 funds under management by KDB stood at KRW 3.1 trillion.

The private equity market in Korea faced a challenging year due to global headwinds like inflation and interest rate hikes which led to a clear trend among institutional investors to reduce their exposure to private equity investments, leaving many struggles even to raise funds. Despite this challenging investment climate, KDB's private equity department recorded an impressive return (average IRR of 14.9%), backed by a diversified exit strategy ranging from IPOs to early sales. The department also continued investing in environment and energy-related businesses as well as high-growth and high-innovation sectors through its existing Green Initiative Fund II and the KC SMEs and MEs Value Up Fund. KDB also gained indirect exposure to infrastructure and manufacturing sector investments in Bangladesh, Myanmar, and other emerging Asian economies by becoming a key investor, via the KDB Asia fund, in a fund managed by the World Bank's IFC.

PLANS FOR 2023

Inflation and high interest rates are expected to continue through 2023, draining liquidity from the market while concentrating demands on a select group of high-growth, ESG-related sectors as well as tech-driven businesses with strong potential.

In order to assist with Korea's ongoing transition towards a low-carbon green economy, KDB established the largest private equity fund to date (the Green Initiative Fund II with a total commitment of KRW 705 billion) on August 31, 2021. KDB will continue leveraging the fund to make targeted investments in green and energy-related deals and deepen its green investment expertise.

Additionally, KDB plans to form industry-specific funds and begin investing aggressively in key industrial sectors, such as semiconductors, displays, and secondary batteries, contributing to reinforcing their competitiveness by helping them secure necessary technology and strengthen the capital base.

Finally, KDB plans to take a targeted approach to supporting businesses at different stages of the corporate development by setting up funds that meet their specific funding needs such as one for early stage high-tech businesses (KRW 100 billion) as well as SMEs and MEs (KRW 160 billion). For existing portfolio companies, KDB intends to take bold actions towards value creation and successful exits not only to maximize returns but also to pursue leadership as the nexus between policy objectives and market-driven investing.

Innovation & Growth Banking

KDB NextRound

As a market-oriented policy finance institution, KDB has led Korea's effort to discover growth engines for its economy while promoting vitality and diversity of the start-up ecosystem. The Bank's market-driven venture investment platform, KDB NextRound, has held 636 IR rounds since its inception in August 2016. In response to the COVID-19 era, the Bank successfully arranged both virtual and offline rounds together with the NextRound online platform (www.nextround.kr), offering uninterrupted opportunities to start-ups attracting investment and acting as a market maker in Korea's start-up ecosystem. KDB's NextRise, an annual event launched in 2019, is the industry's largest start-up fair that brings together start-ups and medium to large-sized businesses in an open innovation setting. Furthermore, KDB has set up a dedicated venture capital entity in Silicon Valley and a special purpose fund to invest in Korean start-ups seeking to expand globally. In tandem with this effort, the Bank has collaborated with industry and academic partners to build and finance a positive cycle that facilitates technology development, transfers, and product commercialization, while engaging in start-up incubation and acceleration activities through the KDB NextONE program.

2022 IN REVIEW

Contributing to the start-up ecosystem through its market-driven KDB NextRound platform

KDB NextRound is a market-driven start-up investment platform that connects start-ups attracting investments with investors searching for targets. The Bank and its partners, ranged from VCs and accelerators to government research institutes, have discovered promising start-ups and arranged for them a total of 636 IR rounds since the platform's launch in 2016. Through these rounds, 2,369 start-ups have had an opportunity to make their pitch, of which 645 have successfully raised a total of KRW 4.9 trillion.

In addition to regular IR rounds, KDB NextRound also holds industry-specific special rounds for biotech, fintech, and other sectoral players to better meet versatile market demand. It also offers global rounds in conjunction with VCs from overseas to support start-ups looking to expand beyond Korea's borders. In order to foster start-up ecosystems outside the Seoul metropolitan area, KDB makes tours of start-up hubs located across the country and holds IR rounds tailored to the strengths and needs of each regional hub.

Operating the NextRound online platform (www.nextround.kr)

KDB's NextRound online platform was launched in April 2021 to overcome the limitations of a physical event and better cater to the diverse needs of the start-up ecosystem in Korea. The online platform allows start-ups to directly introduce their business and technologies, and to upload videos and other material related to their pitch. For investors, the platform offers live videos and recordings of NextRound events as well as a convenient interface to browse through the information on potential start-up targets.

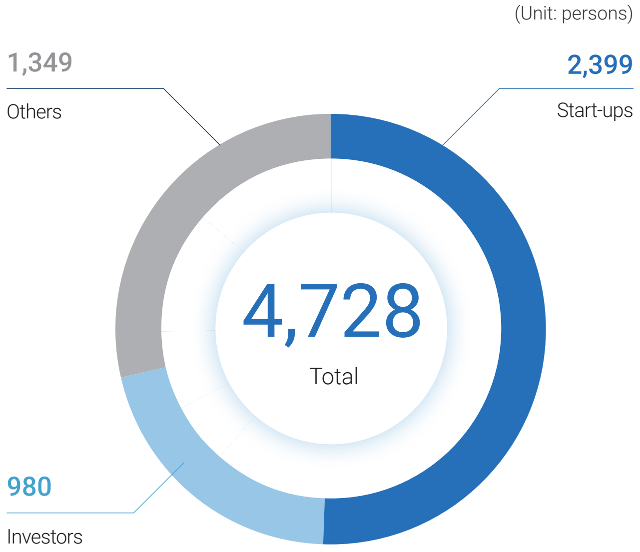
NextRise 2022, Seoul: Korea's largest start-up fair

KDB supported Korea's start-up ecosystem on multiple fronts through the 2022 edition of the NextRise fair, which was held on June 16-17. NextRise is the industry's largest start-up fair organized jointly by KDB and four other organizations—the Korea International Trade Association, Korea Venture Business Association, Korea Venture Capital Association, and National Research Council of Science & Technology. The event consists of conferences, exhibition booths, and 1:1 meetups to bring together industry participants, including medium to large-sized corporates, VCs, start-ups, research institutions, and support institutions. The event continues to develop by adding new programs and attracting more participants each year.

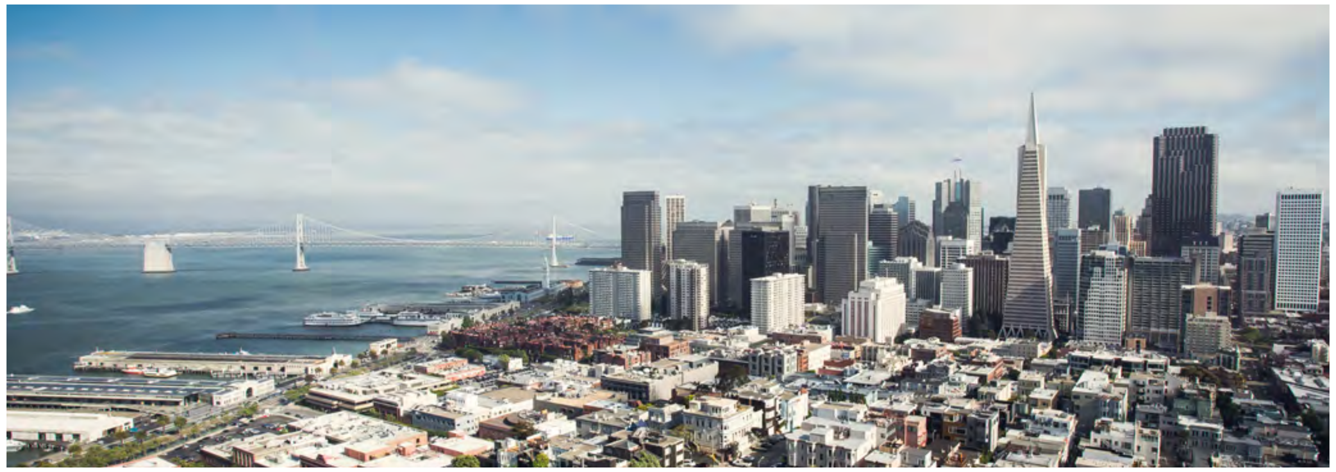
More than 16,000 participants visited the two-day fair this year. In the fair, 339 local and overseas start-ups and several multinational companies, including Hyundai Motor Company, LG, Amazon Web Services, and Mercedes-Benz, opened exhibition booths. Unicorns such as Brandi, Riiid, and Bucketplace, global financial institutions and start-up support organizations like 500 Global and Vertex Holdings, as well as a distinguished pool of industry experts conducted a total of 70 on- and offline conferences. More than 2,300 investment and business partnership meetings took place among 699 start-ups, 115 medium and large-sized businesses, and 60 VCs. The NextRise participants showed their high satisfaction with the outcomes of the fair: investment attraction, business cooperation, marketing, etc., as evidenced by that more than 80% of the participants indicated their willingness to participate in the next year fair.

NextRound Online Platform Overview in 2022

Members by Type



No. of Start-up Media Available a1,345



Accelerating the growth of start-ups via KDB NextONE

KDB continues to discover and incubate early-stage start-ups through the NextONE program, which was launched in July 2020. KDB NextONE provides business consulting, targeted mentoring, fundraising support, and business growth programs to deliver tangible help to early-stage start-ups. Since the program's launch, KDB has incubated a total of 75 start-ups across five serial groups, many of which have secured funding, generated meaningful business results, and created new jobs. In short, KDB NextONE has effectively pushed KDB's start-up support system to the next level.

Supporting start-ups through special purpose funds

Since 2014, KDB has been managing special purpose funds to support the development of the Korean venture capital market and companies. The Bank has set up a Global Partnership Fund Series (I to IV) worth a total of KRW 484.5 billion to help innovative Korean start-ups advance to global markets and attract overseas investments. At the same time, the funds have fostered the qualitative growth of Korea's venture ecosystem by promoting international venture capital companies' entry into the domestic market. Also, KDB had set up a total of KRW 205.6 billion in Open Innovation Funds as of 2022 to expand investments in start-ups and support the securing of future growth engines through open innovation by establishing a technical/strategic collaboration between large/mid-sized companies and start-ups.

Opening an in-house VC in Silicon Valley (KDB Silicon Valley LLC)

Taking a step in a new direction from the Bank's historical focus on building start-ups within Korea, KDB opened a VC subsidiary in Silicon Valley in November 2021 to better connect the Korean start-up ecosystem with one of the most prominent global centers of technological innovation. The Silicon Valley entity is further supported by venture investment desks in Singapore (opened in 2020) and London (opened in 2022). As the Bank's first overseas VC subsidiary, KDB Silicon Valley LLC makes both direct and indirect investments in local start-ups, while venture investment desks in Singapore and London support investment efforts across local and Korean teams. Through these hubs, KDB seeks to build an ethnic Korean network encompassing local entrepreneurs, investors, and industry leaders. This entity will serve as the foundation for KDB to develop industry connections within the global start-up ecosystem, through which the Bank will actively support Korean start-ups on their journey to global expansion and unicorn status.

PLANS FOR 2023

KDB will continue to develop and foster the start-up ecosystem in line with its commitment to the government's Superior Industry policy and efforts to encourage entrepreneurship. The Bank expects to diversify its programs and target start-up pools for KDB NextRound, while conducting additional special rounds categorized by country (global rounds), industry, and domestic region to cater to Korean start-ups expanding overseas as well as global VCs investing in Korea.

In 2023, KDB plans to establish special purpose funds, such as a Global Partnership Fund V and several Open Innovation Funds, to support additional global fundraising and overseas expansion of innovative start-ups, all while keeping an eye on the qualitative growth of the Korean start-up ecosystem.

The fifth annual NextRise is scheduled to take place from Thursday, June 1 to Friday, June 2, 2023 at the COEX Convention & Exhibition Center in Seoul in the name of "NextRise 2023, Seoul".

Key objectives at this year's NextRise event include encouraging growth during a bearish investment climate and accelerating the development of nationally strategic high-tech industries. The Bank hopes for the 2023 NextRise to become an opportunity of global growth for promising Korean start-ups, while contributing to furthering local interest in innovation and entrepreneurship.

Moreover, given the central role of KDB NextONE in the KDB venture platform, the Bank will allocate the best of its know-how and skills from NextRound, NextRise, and its global network in managing the NextONE program over the coming year. As start-ups face a harsh bearish investment climate, KDB will offer much-needed crisis recovery support and engage in active building of promising start-ups in nationally strategic high-tech industries, laying the foundation for the start-up ecosystem to become the driving force of Korea's growth. KDB aims for these efforts to help solidify the Bank's standing as Korea's financial leader, providing uninterrupted innovation-driven momentum and fueling the country's growth.

Creating an Innovative Growth Platform

KDB serves as secretariat to the Innovative Growth Policy Council, a joint effort of four government ministries[1)] and eleven policy finance institutions[2)] to create a multilateral support system for Korea's innovation and growth. KDB's role as the secretariat is to provide managerial support and official communication channels for and among member institutions. The Bank helped establish the Common Criteria for Innovative Growth, a consolidated guideline defining innovative growth areas eligible for the council's policy finance support. Furthermore, the Bank provides end-to-end support to the Financial Services Commission's Korea's 1,000 Innovative Companies Program, which is designed to provide customized policy finance support to high-growth companies selected from different industries by the relevant government institutions. Through the program, KDB enables innovators from a multitude of business verticals to scale up their businesses through policy finance support.

1) Ministry of Economy and Finance, Financial Services Commission, Ministry of Trade, Industry and Energy, and Ministry of SMEs and Startups

2) Korea Development Bank, Industrial Bank of Korea, Export-Import Bank of Korea, Korea Credit Guarantee Fund, Korea Technology Finance Corporation, Korea Credit Information Services, Korea SMEs and Startups Agency, Korea Trade Insurance Corporation, Agriculture, Forestry and Fisheries Credit Guarantee Fund, Korea Growth Investment Corporation, and Korea Venture Investment Corporation

2022 IN REVIEW

In the midst of a prolonged pandemic and the resultant shuffling of market and business dynamics worldwide, KDB undertook measures in 2022 to reexamine the direction of the Bank's policy finance programs, with an eye on promoting economic growth toward future industries and facilitating economic recovery in the post-pandemic era.

First, the fourth edition of the Common Criteria for Innovative Growth was implemented in January 2022 to align with government policy directives to develop future industries and to foster a green ecosystem. The latest update seeks to connect government-wide Korean New Deal initiatives with the Ministry of Environment's K-Taxonomy program, both of which set their sights on transitioning Korea's economy toward digital and green themes. KDB contributed decision-making guidelines to support end-users and strengthened the document's manual function, while also serving in an advisory helpdesk function role for application of the Common Criteria. In the second half of 2022, KDB conducted a policy finance performance analysis* on the effects of the Common Criteria for Innovative Growth, offering insights to more efficiently allocate policy finance resources down the road.

* Five-year (2017-2021) analysis on financial/employment effects of policy finance capital in the innovative growth sector (KRW 262 trillion)

KDB served as the control tower to the government-wide 1,000 Innovative Companies Program*, which was structured as a collaborative framework between government agencies and relevant policy finance institutions. KDB worked alongside ten government agencies in 2022 to select 208 innovative businesses, bringing the total number of beneficiaries to 1,043 businesses since the program's inception. In addition to selecting businesses requiring capital and matching them with policy finance institutions, KDB also oversaw financial support guidelines and developed exclusive financial products to enhance financial support for innovative businesses, while engaging in holistic support of the Bank's partners by participating in investor roadshows and other events as well.

* Korean government-wide collaborative efforts planned for three years to select 1,000+ innovative businesses and provide comprehensive financial support

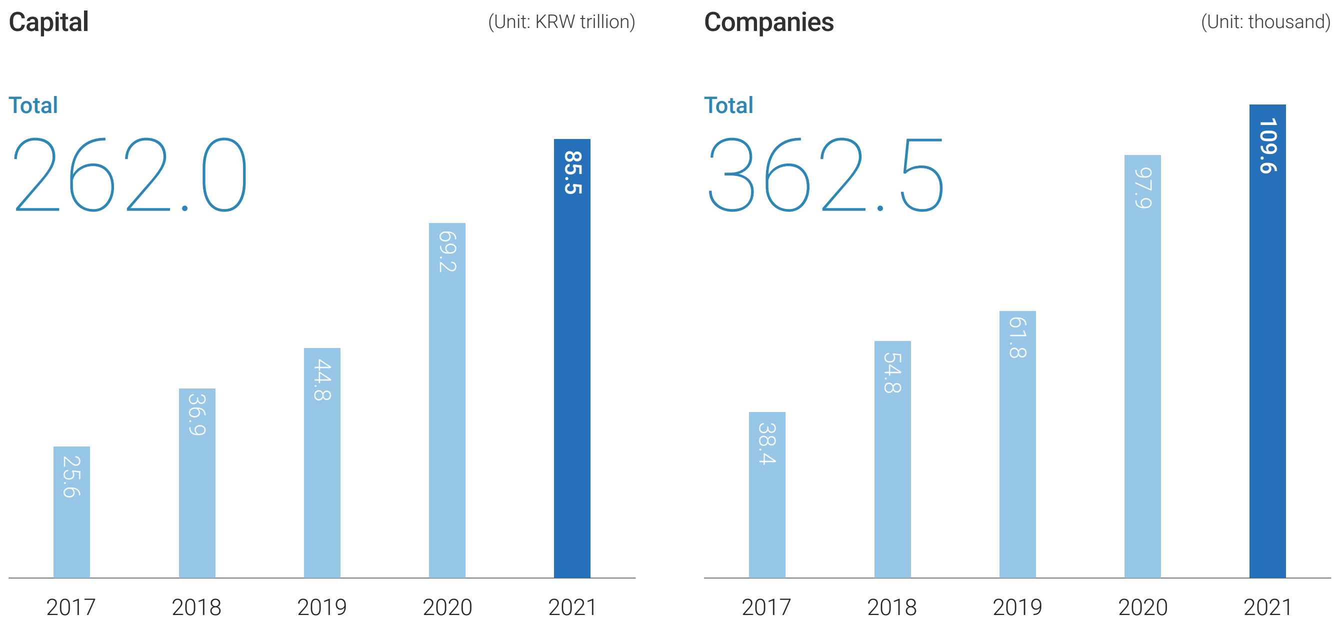
PLANS FOR 2023

The role of policy finance is expected to be highlighted in 2023, with high interest rates having triggered heightened macroeconomic uncertainties characterized by an economic slowdown and supply chain disruption. As the control tower to the Korean government's innovative growth policy finance programs, KDB is entrusted with partnering closely with not just public entities but also with private sector players in order to offer industry-specific policy finance programs that can fuel the national economy.

The upcoming fifth update of the Common Criteria for Innovative Growth, due to be implemented in March 2023, includes improvements to the existing taxonomy to reflect the national industrial strategy and thereby better allocate policy capital to priority tasks and improve attainment of business goals. In addition, the revisions aim to add a practical edge to policy capital management, expanding access to private sector partners and seeking greater weight on industry expert feedback.

Finally, the Bank plans to step up monitoring of the 1,000 innovative businesses selected under the national Innovative Companies Program to assure policy finance support to these partners. The Bank will also proactively develop policy finance partnerships that can generate valuable synergies.

Supply of Policy Finance Capital in the Innovative Growth Sector (by Year, 2017-2021)



* KDB, IBK, KEXIM, KCGF, KTFC, KOSME, KTIC, KGIC (reflects KOSME and KTIC capital 2020 onwards, and KGIC capital 2021 onwards)

Indirect Investment

KDB provides companies with customized funds based on their stages of growth. The funds are supplied through private equity (PE) and venture capital (VC) funds managed by private fund managers. In response to the government's policy direction, the Bank established funds that included the policy-type New Deal Fund, the Growth Support Funds, and the Materials, Parts and Equipment Fund. KDB also pioneered various investment projects to secure future growth engines and diversify its profit base, and currently leads the domestic VC market.

2022 IN REVIEW

As of the end of 2022, KDB had pooled a total of KRW 44.5 trillion since launching its indirect investment business in 2010, and is a key limited partner in Korea's funds, with current commitments to 229 funds that have reached KRW 6.8 trillion in total operating assets. KDB was the first financial institution in the country in 2016 to introduce a "league" system to classify fund managers, and has since developed this system further to promote balance and healthy competition among managers. The Bank is also proud to be at the forefront of encouraging the adoption of an innovative investment culture, introducing market-oriented commitment programs to activate market-driven venture capital, advocating manager autonomy and responsibility, and supporting results-oriented investing.

Finally, KDB is a prolific investor with a wide range of policy-driven funds aimed at supplying venture capital to start-ups as well as to small and medium-sized businesses, providing the foundation for restructuring and building businesses in the strategic materials, parts, and equipment sectors. As of the end of 2022, KDB had successfully pooled KRW 26.3 trillion in policy-driven funds and deployed KRW 15.7 trillion, maintaining the Bank's role as a key partner to government initiatives and anchor investor in Korean funds.

PLANS FOR 2023

KDB will continue as Korea's leading investor in 2023, supplying essential venture capital to secure growth drivers and build an entrepreneurial environment.

KDB's forthcoming capital allocations include a total of KRW 15 trillion spread across 2023 to 2027 toward an Innovative Growth Fund to secure new growth drivers and build global unicorns. The first year of the program will kick off with a split of KRW 1.5 trillion toward semiconductors, nuclear energy, secondary batteries, and other innovative industries, and KRW 1.5 trillion toward unicorn support, bringing the total to KRW 3 trillion for 2023. KDB's investment plans reflect the government's industrial policy, while also providing ample room for private sector autonomy, with this capital serving as a valuable means to jump-start Korea's economy.

KDB also plans to organize the fourth annual roll-out of the Corporate Restructuring Innovation Fund in response to rising demand for restructuring capital, as businesses face tougher downward economic pressures. The investment will consist of a KRW 500 million commitment from the Bank, with an equal private sector matching amount to form KRW 1 billion fund in 2023. KDB will strengthen the role of policy finance in the investment ecosystem during the coming year with thematic policy-driven investment plans, including a new regional investment fund and vaccine fund under review.

Indirect Investment Overview as of the end of 2022

(Unit: funds, KRW billion)

	Number of Funds	Fund Size	KDB Commitments	KDB Capital Contributions	Operating Assets
PE Funds	84	17,577.6	5,393.8	3,850.0	2,184.2
VC Funds	134	9,696.3	2,403.2	1,903.5	952.9
Funds of Funds with policy objectives*	11	7,201.5	5,795.1	3,773.0	3,655.6
Total	229	34,475.4	13,592.1	9,526.5	6,792.7

* Growth Ladder Fund, Policy-type New Deal Fund, Securities Market Stabilization Fund, etc.

On-lending

On-lending is a market-friendly indirect policy finance tool used by KDB to provide long-term capital at low interest rates to SMEs and MEs via banks and specialized credit financial institutions, which act as intermediaries.

2022 IN REVIEW

In 2022, KDB supplied on-lending loans totaling KRW 8.8 trillion to 7,744 qualified SMEs and MEs, and played a significant role in the growth of these companies.

Broken down, 93%, or KRW 8.2 trillion, was provided to SMEs, while those in the innovative growth sectors accounted for 73% or KRW 6.4 trillion by the sectoral makeup. Most of the transactions were, on average, valued at KRW 900 million, allowing SMEs to gain access to the necessary financing to elevate their competitiveness and facilitate innovation.

In particular, the Bank supplied KRW 90.5 billion to SMEs through a tailored low-interest SME Value-up Special Facilities Expense On-lending product launched in March 2022. This product was designed exclusively to meet facility expenses incurred by strategic materials, parts, and equipment businesses as well as businesses selected under the government-wide 1,000 Innovative Companies Program.

KDB supplied KRW 1.8 trillion through the continuation of another special on-lending program launched in April 2020 to support SMEs and small business owners mitigate the impact of COVID-19, along with payment deferrals and other relief measures.

PLANS FOR 2023

KDB will upgrade its digital on-lending platform and engage in a range of public marketing activities to improve customer accessibility, while also broadening the reach of on-lending finance.

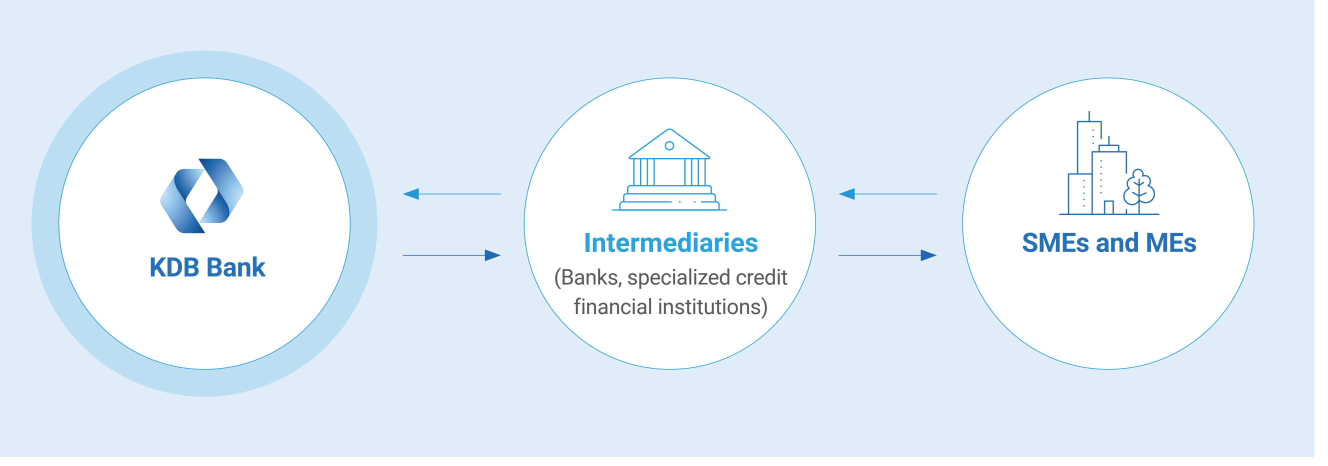
In 2023, the Bank aims to foster an innovative ecosystem and help businesses secure competitiveness by allocating additional capital toward special on-lending programs for innovative growth businesses. The Bank will act on its commitment as a leading policy finance institution through parallel support programs for balanced national development across regions and the creation of jobs.

New programs this year include the Materials, Parts, and Equipment & Strategic High-tech Industries On-lending product launched in January 2023 to foster businesses in their respective sectors, the Carbon Net-zero Support On-lending product launched in January 2023 to help businesses prepare for carbon net-zero goals.

On-lending Loans Supplied by Year

(Unit: KRW billion)

2018	2019	2020	2021	2022
8,303.8	7,590.1	8,404.4	9,151.8	8,835.2



Venture Finance

Venture & Technology Banking

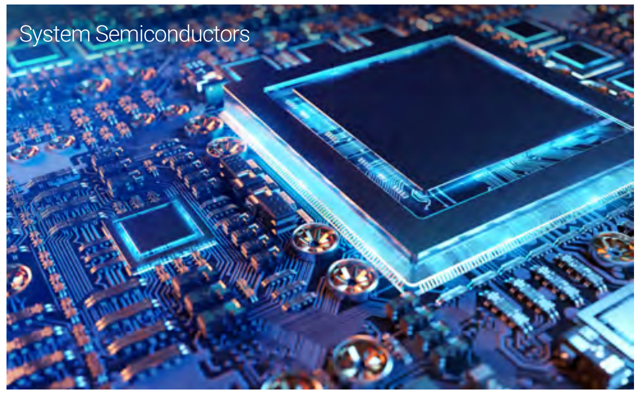
KDB started its venture capital (VC) investment business in 1997 when Korea's VC market was just beginning to take shape. Since then, the Bank has continued to serve as an industry innovator by discovering and supplying growth capital to promising start-ups and small businesses. Indeed, the Bank's work in innovative technology investments is an extension of the Korean government's efforts to discover growth drivers for the national economy.

2022 IN REVIEW

KDB has continued to expand its investments in high-growth start-ups that will undoubtedly make up the economy of the future. In 2022, the Bank particularly focused its investments on system semiconductors and aerospace-related businesses.

System semiconductors are increasingly taking center stage as intelligence and automation advance across all industries. Accordingly, start-ups equipped with innovative ideas for design, materials, and manufacturing processes are emerging as strategic investment targets. In 2022 KDB financed a total of KRW 25 billion to three system semiconductor start-ups. One of these companies, called SEMIFIVE, has developed a unique semiconductor design platform and kicked off their global expansion in 2022 with the support of KDB.

KDB also has a keen interest in growing Korea's aerospace ecosystem. What was once a government-led field, the aerospace industry is rapidly making way for NewSpace, an area in which the private sector is playing an increasingly prominent role. In fact, the industry has already seen developments like reusable rockets, microsatellites, and other technologies driven by advancements in data analytics. At the center of this initiative are a large number of aerospace start-ups. For its part, KDB invested a total of KRW 12 billion in three aerospace start-ups in 2022, such as SIA. Based on KDB's firm support, the start-up develops AI-based satellite image analytics solutions and platforms, contributing to Korea's journey towards aerospace leadership.



System Semiconductors

Aerospace

PLANS FOR 2023

KDB will continue to invest in promising start-ups throughout 2023. The Bank will initiate early investments in companies with disruptive technology, seek to capture new markets at home and abroad, and serve as a trusted partner to Korea's start-up community.

Scale-up Banking

KDB caters to diverse funding needs within the Korean venture ecosystem, in line with the government's determined start-up nurturing policies and the growth of the domestic venture industry. In order to further diversify and deepen Korea's venture scene and let more unicorns to flourish, KDB provides a differentiated set of financing tools including joint investments towards that end.

Scale-up banking, in particular, was introduced to respond to the growing market share and enterprise value of start-ups.

KDB's Scale-up Banking Department works to meet various funding needs across the start-up ecosystem, providing a wide range of differentiated financing programs, including large-scale debt-equity financings, to foster the growth of unicorns and the start-up industry at large.

2022 IN REVIEW

Expansion of Scale-Up Financing for High-growth Start-ups

In 2022, KDB's Scale-up Banking Department closed direct investments in 43 promising Korean start-ups totaling KRW 538.4 billion (averaging KRW 12.5 billion per company), a 21% increase over the previous year, further supporting the scale-up of high-growth start-ups across a range of verticals.

Of the 13 scale-up investments that each received at least KRW 10 billion from KDB, noteworthy deals included KRW 100 billion toward Bucket Place, a home furnishing platform, and KRW 10 billion toward Rebellions, a team of AI semiconductor architects. Investment continued in existing portfolio companies as well, including KRW 100 billion in Viva Republica, the online financial services provider (accumulated volume of investment reaching KRW 200 billion to date), and KRW 7 billion in 3billion (accumulated volume of investment reaching KRW 10 billion to date), a rising star in the biomedical sector providing automated AI-based rare disease diagnostics solutions.

Furthermore, KDB remains committed to its role as a financial policy institution, offering tailored financial solutions to the market in order to fulfill otherwise unmet needs. For start-ups, the Bank offers complex financial products with preferential interest rates. Considering the challenges start-ups typically face in obtaining loans under traditional financial statement-based credit analysis and loan review systems, KDB's program focuses on enterprise value over other classic credit metrics.

Fostering Unicorns through the Mega-7 Club

KDB has partnered with several large VCs to create what is called the Mega-7 Club, a joint investment vehicle to more efficiently discover and support pre-unicorns all around Korea. The Bank supports start-ups selected through the Mega-7 Club by making a co-investment and conducting IR events, thereby providing significant financial backing for their growth. Since the Mega-7 Club's launch in 2019, KDB and its partners have supported 64 companies in their IR activities, and will continue to expand the Bank's horizons in unicorn investing.

Promoting Biotech Start-ups through Open Innovation Program

KDB was the first financial institution in Korea to spearhead the formation of a bank-led biotech alliance and forums to promote open innovation throughout the country. In preparation for the post-Covid-19 era, and in light of a variety of factors, including the public good, research complexity, and expected investment returns, the Bank has selected Alzheimer's disease and infectious diseases as the two key themes of its Open Innovation program. From the program's launch in 2019 to the end of 2022, the Open Innovation program has invested in 14 Alzheimer's disease start-ups and seven other start-ups that are engaged in the study of infectious diseases. As the program evolves, KDB expects to add additional themes such as rare diseases to its pipeline.

PLANS FOR 2023

KDB will further step up its investment and loan programs in 2023 to solidify its market leadership in scale-up financing. The Bank will channel large sums of venture capital to high growth innovators, participate in acquisition finance deals and project funds, and invest through numerous vehicles that expand KDB's presence. The Bank will also arrange large club deals for promising start-ups as a leading market-maker in scale-up financing.

Furthermore, recognizing the importance of cutting-edge industries such as semiconductors and secondary batteries, as well as advanced technologies of the future such as biotechnology, AI and mobility, in driving the growth of the national economy, the Bank will focus its efforts on supporting these industries and facilitating the digital transition of existing ones. The Bank will also leverage its Korean and international networks to increase global investments, making way for local innovators to expand their operations overseas and further strengthen Korea's start-up ecosystem.

Project Finance

Domestic Project Finance

2022 IN REVIEW

KDB provides comprehensive project finance solutions, including advisory and arrangement, based on its extensive experience in projects for SOC development, power generation, plant construction, natural resources development, regional development and more. In 1995, KDB was the first financial institution in Korea to apply the project finance technique and successfully arranged financing for the Incheon International Airport Expressway. The Bank as a policy finance institution has since continued its pioneering role in the Korean PF market, leveraging the creative resources of the private sector and catalyzing long-term investments by financial institutions. Tangible results abound and demonstrate KDB's many contributions to the economy, including expansion of infrastructure facilities across Korea, improvement in power supply and stimulation of regional economies. Moreover, KDB has been instrumental in driving the advancement of domestic financial institutions in the PF market. As of the end of 2022, KDB has arranged a total of 795 projects in Korea, amounting to KRW 155 trillion.

In 2022 alone, KDB arranged 41 transactions with a total deal volume of KRW 8.9 trillion, of which 11 were SOC projects and 30 were in the real estate sector. The Bank contributed to revitalizing the local project finance market by arranging multiple large-scale infrastructure projects with substantial economic benefits, including the Busan New Port Stage 2-4 Container Port Refinancing and the Strada City Gas Project. In the renewable energy sector specifically, the Bank claimed market leadership through its active advisory and arrangement roles in projects like the Jeonnam 1 Offshore Wind Power and the IGE Liquid Hydrogen Plant.

On the regional development front, KDB successfully arranged KRW 5.7 trillion across several major projects, including the Pungmu Station Area Development in Gimpo and the Data Center in Jukjeon, further increasing its visibility as a key player in Korea's real estate PF market, while also fostering regional economic growth.

PLANS FOR 2023

As Korea's primary policy finance institution, KDB will work actively to support government policies aimed at better representing the public interest in PPP projects involving traditional infrastructure assets. This will include providing new funding for landmark projects while promoting stability in the operation of the current

infrastructure facilities through restructuring and refinancing, as well as implementing a range of measures designed to enhance the end-user experience such as toll fee discounts. Additionally, KDB will deploy green finance to environmentally sustainable and low-carbon projects, such as clean transport infrastructure and environment renewal programs. Other target sectors will include ICT infrastructure, such as high-speed optical networks and data centers, in order to drive Korea's shift to the next generation industrial revolution.

In the energy sector, the Bank will make targeted investments in offshore wind, hydrogen and other areas that are expected see continuous growth supported by the push for carbon neutrality and the retirement of existing coal-fired plants. By financing these clean energy projects, KDB anticipates to align itself with the government's new & renewable energy policies and at the same time, expand financing for green projects led by large foreign developers.

Furthermore, KDB will strengthen its role as a policy finance institution in the traditional regional development project market while proactively taking part in financing assets that are closely linked to digital transformation in smart logistics centers, advanced industrial complexes and data centers, contributing to supporting government initiatives aimed at vitalizing Korea's economy.

Overseas Project Finance

2022 IN REVIEW

Since KDB first entered the global PF market in 2003 through a dedicated team organized in that same year, the Bank has built up an international network supported by PF desks led by local talents in Singapore (2011), New York (2015), London (2016), and Sydney (2022). As of the end of 2022, the Bank has arranged 210 deals totaling USD 19.3 billion, ranking 18th globally and 9th in Asia on the 2022 international league table published by Project Finance International (PFI). Furthermore, KDB added to its network dedicated financial advisory teams in London (2018) and Singapore (2019) to ramp up its global financial advisory capabilities.

In 2022, KDB closed 33 global PF transactions worth USD 3.4 billion and 24 shipping and aviation PF transactions worth USD 6.9 billion. The Bank was the mandated lead arranger for a number of large infrastructure projects from developed markets, including the JFK Airport New Terminal One Redevelopment and the Victoria Motor Vehicle Registry Privatisation. In the shipping finance sector, the Bank successfully participated in the QatarEnergy LNG Carriers Project, the largest deal in Korean shipping finance to date.

In particular, KDB arranged a total of seven deals worth USD 887 million in which a Korean company was involved either as an investor, EPC or in other similar capacity. KDB also secured an advisory role in three deals from Southeast Asia by coming up with optimal and competitive financing structures, paving the way for the growth of Korean businesses in this region.

A total of seven deals KDB helped arrange in 2022 were selected as Deals of the Year by PFI. These were a variety of landmark transactions from across the Americas, Europe, Asia, the Middle East and other key markets.

PLANS FOR 2023

In 2023, KDB will continue its strive to become a leading PF house in the global market by seeking out more advisory and arranging opportunities and exploring additional sources of profits. To this end, the Bank will execute business strategies tailored to the geographical regions where its PF Desks are located, increase the number of PF desk advisors to meet the growing demand for financial advisory services and expand the equity business by utilizing infrastructure funds from established global asset managers.

Furthermore, the Bank will assist with Korean companies' global expansion efforts by participating in infrastructure and energy projects developed and invested by Korean developers from the early stages of these projects, offering financial advisory and arrangement services. Expansion of the overseas real estate development portfolio is another priority as the Bank seeks to resolve conflicts with the private sector in the domestic market and secure future growth opportunities through the acquisition of sustainable assets abroad.

Landmark Deals of 2022

Jeonnam 1 Offshore Wind Farm Project

- KDB partnered with SK E&S and CIP, a developer based in Denmark, to back the construction and operation of a 99MW offshore windfarm in Shinan, Jeonnam Province. The financing agreement was signed on December 22, 2022.
- It is the first and largest private sector-led offshore wind power project in Korea. KDB's long-standing domestic and overseas PF expertise was key to securing the mandate as the project's advisor and arranger against a fierce competition. Through the Jeonnam 1 project, KDB gained an ideal position to secure an advisory role in another offshore wind farm project being developed in Korea by Denmark's Ørsted, the world's no. 1 leader in offshore wind power.
- As the joint lead arranger with Crédit Agricole, KDB has also partnered with a number of global investment banks, including SMBC, Mizuho, and Société Générale, further solidifying its status in the global PF market.

JFK Airport New Terminal One Redevelopment Project (PFI Deal of the Year)

- KDB closed its financing of the JFK Airport New Terminal One Redevelopment Project in New York on June 10, 2022. The USD 8.4 billion project covers the redevelopment of Terminals 1 to 3 at the John F. Kennedy International Airport, a facility built over 70 years ago.
- This project constitutes a segment of New York state's JFK Airport expansion and remodeling strategy. Despite delays and other setbacks caused by the Covid-19 crisis, KDB maintained its network with sponsors and financial advisors and made active marketing efforts, eventually resulting in its participation in the landmark transaction.
- KDB successfully arranged USD 300 million in project financing as mandated lead arranger, earning approximately KRW 6 billion in fees and strengthening its position in the global PF market.

PFI's Deals of the Year featuring KDB

- Hornsea Two Offshore Wind Farm Project, UK
- Plaquemines LNG Export Terminal Project, USA
- Champlain Hudson Power Express Transmission Line Project, USA
- JFK Airport New Terminal One Redevelopment Project, USA
- Sotra Connection (Rv. 555) Project, Norway
- Pluto Train 2 Export Terminal Project, Australia
- Neom Helios Green Hydrogen Project, Saudi Arabia

Trading

F/X & Derivatives Trading

KDB pioneered the Korean foreign exchange (F/X) and derivatives market in the 1980s when market activity was virtually nonexistent. Since then, the Bank has built up the depth of expertise required to deal with a wide variety of products, ranging from plain vanilla derivatives such as F/X, swaps, options, and so forth to more complex structured derivative products, providing hedging solutions tailored to the needs of each of its corporate clients. Now, as Korea's top-tier derivatives house, KDB continues to underpin the expansion of the Korean economy. In addition, the Bank strives to leverage its unrivaled Korean market knowhow to strengthen its global business portfolio, which now includes a dedicated derivatives desk in London that opened in 2021.

2022 IN REVIEW

The global economy faced significant market volatility in 2022 driven chiefly by a spike in commodity prices due to the Russia-Ukraine war and the U.S. Federal Reserve's aggressive interest rate hikes aimed at controlling inflation. Despite a challenging macroeconomic backdrop, KDB successfully leveraged its wealth of experience and internal expertise to achieve the following results in providing custom-tailored derivatives solutions to its domestic corporate clients in 2022.

First, the Bank provided optimal hedging products to Korean businesses requiring preemptive funding during a period of rising interest rates. In fact, it supplied airlines, shipping companies, and oil refineries with hedging solutions optimized for their needs, while offering competitive currency swaps to public corporations in need of long-term funding.

Second, KDB was designated as one of the F/X Leading Banks by the Ministry of Economy and Finance, supporting government policies through providing advice for initiatives aimed at currency stabilization against sudden spikes in KRW-USD rates and modernizing Korea's F/X market. KDB also provided exchange rate risk hedging products to corporate clients in key sectors such as shipbuilding and heavy industries. Furthermore, the Bank introduced an electronic trading platform to enhance its digital capability, anticipating the tectonic shift in F/X market caused by electronic transactions.

Third, KDB secured a foothold for expansion into global derivatives markets through its London derivatives desk. The desk began offering its derivatives solutions to local clients including airport and harbor project companies as well as financial institutions throughout the United Kingdom.

In addition, as a market maker, KDB contributed to stabilizing the prices of carbon allowances and keeping the domestic currency swap market liquid through its foreign currency supply. Furthermore, KDB continued to build up the direct CNY-KRW trading volume while providing liquidity to the spot exchange market, committed to active market making efforts in the F/X markets.

PLANS FOR 2023

With unpredictable market conditions expected to continue in 2023, KDB aims to provide a wide range of products and services customized to the needs of its clients in order to help them run their businesses in a stable manner. KDB's plans with respect to derivatives are as follows.

First, KDB will strengthen its competitiveness in derivative sales by exploring new markets and areas that will help boost the Bank's earnings. Thus, it will promote the expansion of its presence, and that starts by initiating business with overseas non-resident clients and leveraging the new London derivatives desk as a key to reaching global financial centers. The Bank will also seek to launch a derivatives offering to cater to Korean businesses requiring commodity price risk management.

Second, the Bank will be an early responder to global derivatives regulations and market changes. KDB will expand its initial margin agreements with local and overseas trading partners in response to the initial margin regulation that took effect in September 2021. Regarding the LIBOR phase-out, KDB will complete changes to its internal regulations and systems to successfully transition to alternative benchmark interest rates. Moreover, in line with government policies aimed at transforming the F/X market into an open market structure, KDB will fulfill its role as a leading bank to actively promote these reforms.

In other areas, the Bank will continue its role as a market maker and policy advisor to the government and the government's efforts to curb carbon emissions and advance the electronic trading system (ETS). Further to that, it will partner with local corporations to build up their risk management capacity and advise on their currency risk, developing custom solutions where necessary. As the domestic and overseas F/X markets shift towards electronic trading, the Bank will implement digital trading platforms to upgrade its trading capability. By doing so, KDB aims to firmly establish itself as the top derivatives house while also continuously expanding its infrastructure for overseas derivatives-related businesses.

Money Market & Capital Market Trading

KDB achieves stable liquidity management and generates profits by investing its mid- to long-term surplus funds in securities at home and abroad. The Bank employs a round-the-clock trading system that takes full advantage of a global book across its major hub branches, including New York and London, in order to seize more opportunities in the financial markets around the world.

2022 IN REVIEW

With the outbreak of a war in Ukraine in February, the global economy underwent another turmoil in 2022. With political risks heightening around the world and massive interest rate hikes in key economies, uncertainty surrounding global economic growth amplified. Meanwhile, the world faced yet another shock at the end of the year with a resurgence of Covid-19 in China.

Understanding the need to respond prudently to an ever-volatile market, KDB stepped up its monitoring capacity through the monthly Securities Management Committee meetings to review its portfolio concentrations of foreign currency securities by country, credit rating, and industry. The Bank has also expanded the use of its Daily Credit Watch program, a proprietary tool implemented in January 2021, to its overseas branches, in an effort to keep a closer eye on credit spread alarms.

PLANS FOR 2023

In 2023, the Bank will continue to advance its securities management system while also bolstering risk management. Moreover, it will fine-tune its investment strategies with a focus on improving the existing Strategic Asset Allocation structure and mitigating the impact of market volatility.

At the same time, KDB will take actions to mitigate the impact of the extreme tightening expected beyond 2022 on its overall securities portfolio. This will include strengthening its early warning system for credit risk based on the current daily credit watch and measures to improve the credit quality of the Bank's entire portfolio. Additionally, the Bank will pursue operational efficiency via introducing digital trading platforms and its own robotic process automation utilizing VBA.

Finally, as Korea's premier bond house, KDB will continue its active market engagement to facilitate corporate bond issuance, while remaining committed to its role as a primary dealer of Korea Treasury Bonds (KTB) for the advancement of the KTB market.

Global Business

Global Expansion and Network Management

As one of Korea's key policy finance institutions, KDB continues to make strides in leading the globalization of the country's financial services industry and expanding its international presence. The Bank draws on its overseas network to underpin the government's policy objectives and support the simultaneous expansion of Korean financial institutions and businesses abroad.

KDB's strengths lie in its financial expertise accumulated over a long period of time in the global financial market and its credit rating, which is equal to that of the Republic of Korea. The Bank offers both Korean and international clients a diverse range of corporate and investment banking (CIB) services, competing head to head with some of the world's most prominent banks.

Going forward, KDB will continue to provide debt arranging service in both the loan markets and capital markets coupled with a diverse array of corporate banking services such as project finance, M&A, ship and aircraft finance, consulting, derivatives and more. Based on this integrated financial platform, KDB will support Korean companies' global expansion while working toward its goal of becoming one of the top 20 banks in the world and a leading CIB in Asia.

2022 IN REVIEW

KDB seeks to establish a stable funding base and secure new revenue sources, while also serving as a gateway for Korean businesses expanding globally. At present, KDB has an overseas presence across 18 countries — one regional head office in Asia, eleven branches, seven subsidiaries, and seven representative offices, totaling 26 entities — and this number is only expected to grow. To strengthen its global business infrastructure, the Bank harnessed the specialties of each of its international locations, increasing strategic assets through ship and aircraft finances, investments in private equity funds and venture capital investments, with a focus on continually improving the asset portfolio around high-growth sectors and businesses.

KDB also partners with MDBs and other international organizations to expand its global network and deepen the business foundation. In 2022, the Bank invited public officials from emerging economy partners including Vietnam and the Philippines, to the third KDB Familiarization Tour, a program launched in 2021 in the midst of the Covid-19 pandemic to introduce the work of KDB to outside organizations. The Bank also participated in the first face-to-face session of the IMF/World Bank Annual Meeting since the start of the Covid-19 pandemic in Washington DC to share best practices and strengthen relationships with key partners. In December, KDB signed an MOU with the Bank of China to enhance further bilateral cooperation on a range of areas including funding, project finance, capital markets and more. In addition to these, the Bank joined multiple working-level seminars and knowledge-sharing sessions throughout the year with peer institutions to strengthen partnership in the Bank's core business areas, such as project finance, ESG, and development finance.

PLANS FOR 2023

In 2023, KDB will seek to deepen its long-term growth foundation by continually expanding its geographic coverage. In line with this, the Bank aims to open a branch in Hanoi, Vietnam, which it envisions as a major hub location for its South East Asian business, and another in Frankfurt, Germany, a center for its green finance activity in Europe.

Moreover, the Bank will divide its overseas branch network into five regions covering China, Hong Kong, Asia, the Americas, and Europe, developing a growth strategy for each region. By making full use of its hub branches, KDB will engage in more mega deals for international clients, increase exposure to securities denominated in local currencies, and expand trade finance transactions with other financial institutions, scaling up its operation and assets through strategic localization.

Cross-Border Syndicated Loans

Global Corporate Banking for International Clients

KDB's global corporate banking team offers syndicated loans and credit commitments to international clients. Its loan origination and distribution desks in the Asia-Pacific region and Europe oversee investment grade and non-investment grade borrowers across the globe. In recent years, KDB has expanded its product offerings from plain vanilla loans to merger & acquisition financing, fund facilities, such as Net Asset Value financing, and subscription line facilities.

Leveraging its extensive network across the globe, KDB has reported strong results despite the uneven recovery from the pandemic and volatile market conditions. Indeed, it financed mega deals such as USD 1.725 billion SMBC Aviation Capital Limited syndicated facilities and USD 2.1 billion Macquarie International Finance Limited transactions in 2022.

In 2023, the impact of inflation and high interest rates will inevitably affect the loan market and KDB's core businesses. Nevertheless, KDB will work towards broadening its partnership with global financial institutions with a focus on increasing the presence in Asia, Europe and the MENA region in pursuit of delivering on its 2023 targets.

Trade Finance

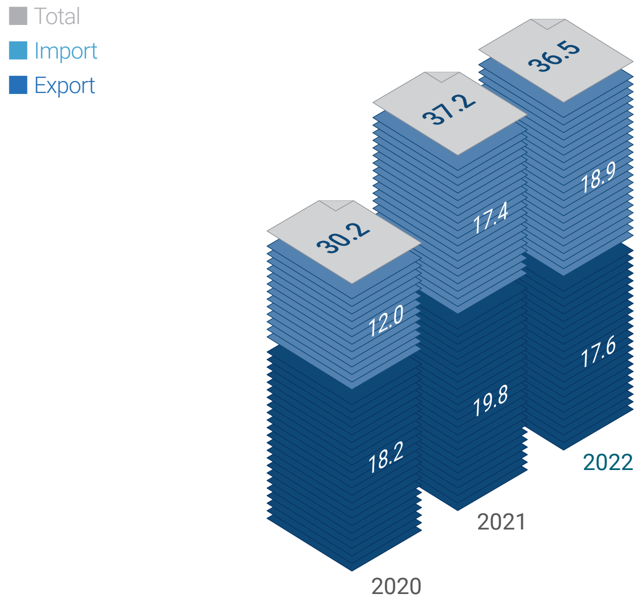
KDB offers a comprehensive spectrum of export and import trade finance products to its domestic clients. In addition, to identify new sources of profit, the Bank has expanded its business to cover inter-bank trade finance risk participation transactions intermediated by global banks. KDB was also the first Korean financial institution to extend credit lines to banks from emerging economy partners that are guaranteed by international financial organizations. Since 2018, KDB has provided trade loans to these banks, diversifying its trade finance offerings and broadening the inter-bank operation base.

Despite a brief gain in exports in early 2022 driven by hopes for an economic recovery, the global monetary tightening cycle along with the Russia-Ukraine war led to a surge in global energy prices, creating Korea's first trade deficit in 14 years. In spite of such challenging trade environment, KDB carried out KRW 36.5 billion worth of export and import finance transactions in 2022, exceeding an annual benchmark of USD 30 billion for seven consecutive years.

In 2023, KDB will continue to help businesses overcome market volatility and economic stagnation, providing import/export finance solutions to its clients by coordinating close cooperation and promoting partnership between the Bank's relationship managers and corporate clients.

Export and Import Financing Supplied to Korean Companies by Year

(Unit : USD billion)



Pensions & Trusts

Pensions

Since the introduction of retirement pension plans in Korea in December 2005, KDB has engaged in the retirement pension business as part of its commitment to provide a full spectrum of financial solutions tailored to the needs of its clients. In managing retirement funds, KDB fully utilizes its years of know-how as a specialist in corporate banking.

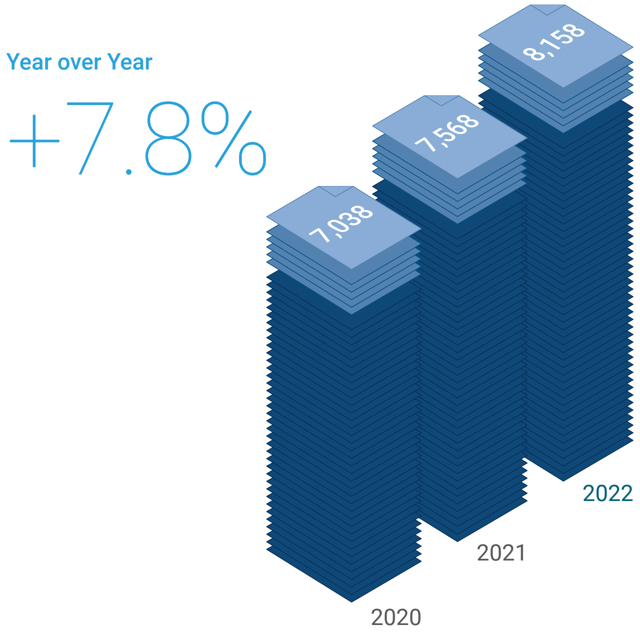
There has been a growing interest in post-retirement security in Korea as the country deals with an aging population and staggeringly low birth rates. In tandem with this, the pension industry is seeing a steady growth trajectory supported by the government's policies aimed at encouraging the growth of private pension markets. As one of the government's key policy implementing partners, KDB is also committed to contributing to the stable growth of Korea's retirement pension market.

In 2022, Korea's retirement market grew thanks in part to government support of private sector pensions and an adjustment of the employer's minimum funding requirement (MFR) from 90% to 100%, a policy change focused on upholding beneficiary rights. Against this backdrop, KDB's pension assets under management grew by 7.8%, from KRW 7.6 trillion in 2021 to KRW 8.2 trillion in 2022.

In 2023, KDB will remain attentive to government's demands for improvement in retirement pension schemes and focus its marketing efforts on providing pensions for corporate clients based on database of the clients, while seeking constant improvements to DC/IRP services in the retail banking segment. The Bank will also upgrade the relevant IT infrastructure to deliver stronger returns and a better experience for its customers.

2022 Pension Assets under Management

(Unit : KRW billion)



Trusts

Since establishing its money trust business in 1989, KDB has expanded its business into property trusts and custody services over the years. Meanwhile, KDB has also worked on digitalizing its trust business by applying robotic process automation (RPA).

In the money trusts category, KDB provides a variety of trust options, including high-return foreign currency instruments (e.g., USD RP, USD-denominated commercial papers), all in a bid to offer custom solutions to its corporate clients looking for ways to manage their excess liquidity.

With respect to property trusts, the Bank closed 15 new monetary receivable trust transactions worth KRW 6.7 trillion in 2022 by enhancing the collateral capabilities of SMEs through accounts receivable, effectively helping these businesses diversify their sources of capital. The Bank has also successfully closed five new real estate-backed trust transactions worth KRW 1.1 trillion.

KDB's average balance for custody increased by KRW 8.4 trillion from the previous year, in part due to the Bank's success in securing business related to policy finance funds. There were 41 new contracts made worth KRW 5.6 trillion in 2022. Key business accomplishments during the year included the addition of a shipping finance agent bank role to the service lineup and development of tailored IT systems leading up to the launch of new businesses.

KDB has prioritized information technology in improving work efficiency and reducing operational risks. RPA was further implemented in risk management workflows in addition to custody and agent banking. Other projects included a step-by-step roll-out of an IT system to apply the complex deal structures present in syndicated loans.

KDB's domestic trust assets under management has shown steady growth, increasing 1.8% over the previous year to total KRW 969 trillion by the end of 2022. An increasing interest rate and crunch in the corporate bond markets resulted in a jump in the deposit interest rate, creating a minor decline in the money trust balance compared to the previous year. On a more promising note, however, property trusts, which make up approximately 60% of the entire domestic balance, have maintained a steady stream of growth, contributing to a growth in the total balance versus the previous year.

Going forward, KDB will continue to leverage the Bank's corporate banking capabilities to develop new money trusts and custody trust products as well as custody and agency banking services that meet evolving customer needs. The Bank will aim to offer tailored specialized money trusts that can help businesses manage short-term liquidity, and take a flexible approach to managing property trusts to help businesses gain a better position in capital markets. As the largest custodian bank for policy-driven funds—one of which being the Innovative Growth Fund—KDB will fully leverage its asset management expertise to contribute to establishing new funds and revitalizing the national economy.

KDB Trust Assets Under Management

(Unit: KRW trillion)

	2020	2021	2022
Money trust (Average Balance)	2.9	3.0	**2.0**
Property trust (Outstanding Balance)	29.2	21.8	**19.5**
Custody (Average Balance)	30.1	35.0	**43.4**

Korea Trust Assets under Management

(Unit: KRW trillion)

	2020	2021	2022
Money trust	329	372	**336**
Property trust	529	580	**633**
Subtotal	858	952	**969**

* Source: Korea Financial Investment Association (excluding retirement pensions)

SUSTAINABILITY REVIEW

Korea Development Bank utilizes an intricate ESG management system to contribute to the sustainability of society at large.

In carrying out its policy finance ventures, KDB keeps a close watch on external risks while developing the organization's risk management capabilities, maintaining its commitment to anti-corruption and transparent management principles on the ground, and striving to create social value for the generations ahead.

Liability Management

KDB Bonds

KDB issues Industrial Finance Bonds (KDB Bonds) to procure the necessary funds that will be used for the development and promotion of industries, expansion of social infrastructure, regional economic development, stabilization of financial markets, and facilitation of sustainable growth. It should be noted that all of KDB's funding activities are in accordance with the Korea Development Bank Act. As stipulated in the Act, KDB, as a state-owned policy bank, is protected against the risk of insolvency by the government, and its credit risk is considered equal to that of the government under Basel III criteria.

KRW-denominated

Despite a harsh macroeconomic environment driven by high interest rates and volatility across Korea's debt capital markets in 2022, KDB Bond was a stable source of funds to meet the demands for the Bank's diverse policy financing operations. New issuances of KDB Bonds totaled KRW 68.6 trillion in 2022, with outstanding balance at KRW 122.7 trillion as of the end of 2022, marking a KRW 12.5 trillion jump in new issuances and KRW 11.7 trillion increase in the year-on-year balance.

In accordance with the KDB Act, which stipulates the Korean government to replenish any deficit incurred by the national policy bank, KDB's credit rating is equivalent to Korea's sovereign rating under the Basel III framework. This credit strength allows KDB to issue its bonds at markedly low coupon rates – next only to the Korean Treasury – and its sheer volume makes KDB Bonds one of the benchmark financial debentures in the domestic bond market.

KDB Bonds are classified as special bank debentures, and KDB is the largest issuer in the domestic bond market, behind only the government and the central bank. In terms of outstanding balance, KDB Bonds account for the fourth largest share following government bonds, monetary stabilization bonds, and mortgage-backed securities.

Moreover, the yields on KDB Bonds are widely used by market participants such as the Korea Financial Investment Association as one of the key benchmarks alongside the yields on Korean Treasury Bonds and monetary stabilization bonds.

In recognition of the Bank's leadership in issuing KRW ESG bonds, KDB was selected by the Ministry of Environment in 2022 to take part in a trial implementation of K-Taxonomy, a Korean classification system of green investment options. KDB not only developed a green bond framework adopting the K-Taxonomy but also ranked first out of ten participating institutions in K-Taxonomy-eligible green bond issuance volume (KDB being responsible for KRW 300 billion out of a total of KRW 640 billion).

Since issuing Korea's first KRW green bond (KRW 300 billion) in 2018, KDB has gone on to issue a steady stream of green bonds each year, consolidating its leadership as a key market maker. The issuances of K-Taxonomy-eligible green bonds in 2022 was another step forward for the Bank, relieving industry concerns surrounding greenwashing behavior, while contributing to the growth of the Korean green bond markets.

In 2023, KDB plans to enhance flexibility in its approach to raising KRW funds, both in terms of timing and volume, carefully taking into account the Bank's overall financial strategy and profit and loss management. Additionally, to diversify the investor pool for KRW KDB Bonds, the Bank plans to market more aggressively to new international investors and public institutions in the coming year.

Foreign Currency-denominated

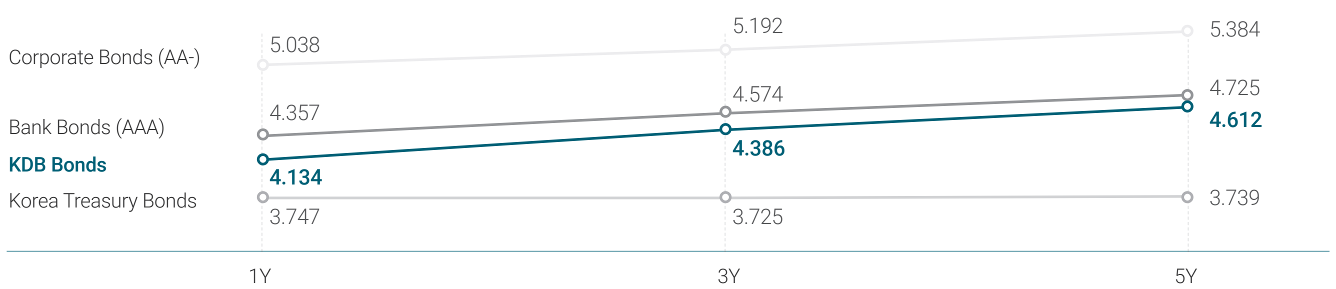
Despite a severely volatile market triggered by geopolitical risks ranging from the Russo-Ukrainian War to central bank interest rate hikes across the globe, KDB was able to successfully issue USD 8.9 billion in foreign currency-denominated bonds in 2022, backed by meticulous market analysis and strategically-timed actions. At the same time, KDB completed two global bond offerings, serving as a Korean benchmark issuer in the international bond market.

The Bank also tapped into niche market instruments, such as CHF bonds and BRL-denominated notes, to diversify its investor base across geographic boundaries and reduce its dependence on USD markets. KDB also issued the first MXN bond in Central American capital markets. In particular, KDB was selected as the Best Korean Paper Issuer in 2022 in the Korea Capital Markets League Table Awards conducted by The Bell, a renowned domestic financial media outlet, once again being recognized as a leading policy finance institution.

In 2023, the Bank's funding strategy will focus on flexibility, bracing for changes in monetary policies of the major economies, by diversifying its funding sources. KDB will seek to capture untapped low-cost funding opportunities in niche markets, continuing to carry out a pioneering role as a Korean benchmark issuer in markets outside the United States.

Market Yields on Benchmark Bonds in Domestic Bond Market

(As of December 31, 2022, Unit: %)



Share of KDB Bonds in the Domestic Bond Market

(As of December 31, 2022, Unit: KRW trillion)

	Treasury & Municipal Bonds	Public Corporation Bonds	Monetary Stabilization Bonds	Bank Bonds		Corporate Bonds	Other	Total
					KDB Bonds			
Newly Issued (Ratio)	174(20%)	85(10%)	105(12%)	204(24%)	68(8%)	107(13%)	176(21%)	851(100%)
Outstanding Balance (Ratio)	967(36%)	405(15%)	113(4%)	355(14%)	123(5%)	422(16%)	403(15%)	2,665(100%)

Deposits

2022 IN REVIEW

KDB ensures an efficient supply of policy funds by utilizing a wide range of deposit instruments to supplement funding from KDB Bonds which can be price-sensitive to market conditions. By securing a sufficient amount of funds through cost-efficient demand and time deposit products, KDB is doing its utmost to diversify its funding risks, while reducing funding costs to enhance its operational competitiveness, with the ultimate goal of more effectively supporting the growth of the Korean economy.

In 2022, average market interest rates rose across the board amid a global trend of interest rate hikes, driving up competition for capital raising among banks. Against this ever-changing environment, KDB's total deposits increased by KRW 12.5 trillion, thanks to the Bank's offering of customized solutions and flexible interest rate management strategies.

Deposits Overview (Outstanding Balance)

(Unit: KRW trillion)

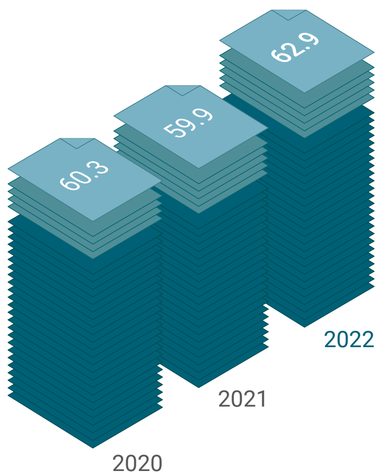
	2020	2021	2022
KRW Deposits	39.7	43.1	**55.6**
Corporate Deposits	28.7	31.4	**42.1**
Retail Deposits	11.0	11.7	**13.5**
Demand Deposits	17.5	19.3	**21.9**

Number of Retail Clients

(Unit : 10,000 people)

Number of Retail Clients in 2022

62.9



PLANS FOR 2023

Going forward, KDB will continue to engage in an active strategy to secure deposits from its key clients as a means to enhance the stability of its funding for policy finance. First, by leveraging its specialty in corporate banking, the KDB will increase deposits from its institutional clients, SMEs and MEs in particular, and thus moving away from the existing funding structure, which is skewed toward large cap companies. In doing so, KDB will align more closely with the government's policy direction of better serving the needs of SMEs and MEs.

Second, in anticipation of greater competition among banks, as well as with fintech companies over customers and their payment accounts, KDB will bolster its partnerships with new financial service providers. Through this collaboration, KDB will seek to attract more customers and their payment accounts, including salary and checking accounts with relatively low funding costs.

Landmark Deal and Implications

Launch of KDB Sherpa Private Banking Service

KDB's Sherpa service is a component of the Bank's private banking, an exclusive program for its private banking clients.

Previously available only as an in-person service, the KDB Sherpa significantly broadened its service channels to encompass outbound phone calls, smartphone applications, online banking, and more, offering consumers a substantially improved access to professional advice on technical inquiries like tax and property without having to visit a branch in person.

Catering to the specific needs of the Bank's private banking clients who make up close to 70% of the entire retail deposits, the KDB Sherpa has not only enhanced customer experience but also became a crucial lock-in tool for customer deposits.

Risk Management

Effective Risk Management by Specialized Councils

KDB operates an independent risk management system to ensure prompt and effective risk management decision-making. The Risk Management Committee (RMC) is the bank's highest risk-related decision-making body, resolving 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 of the Bank.

In 2022, six RMC meetings were held, with a total of 21 agenda items being presented for discussion to the committee. Major items resolved included the risk management plans for 2022 and the country exposure management plans. Also, important risk management issues were reported, such as the results of integrated stress tests for the second half of 2021, the first half of 2022, and the second half of 2022. In addition, verification results for BIS risk-weighted assets of 2021 were also reported to the committee.

The Risk Management Council (Council) is composed of the Bank's division heads, and its roles and responsibilities include the monitoring of the Bank's constant risk variables and the coordination of operations so that risks can be effectively managed within each operation unit. Following the limits set by the RMC, the Council discusses and distributes risks among divisions, setting limits for trading losses and F/X positions. In 2022, the Council convened seven times, discussing the establishment of credit portfolio limits and the distribution of internal capital limits for the year.

The Asset and Liability Management Committee is comprised of the heads of relevant departments who decide on the Bank's asset and liability policies, focusing on interest rate and liquidity risks. The committee convened fourteen times in 2022 to decide on, among other things, the limits on compliance plans for the Bank's liquidity coverage and liquidity requirements (LCR, NSFR).

KDB Risk Management Principles

The KDB Risk Management Principles are centered on maintaining the soundness of the Bank's operations by effectively managing the various risks that arise in the ordinary course of business. The Principles are as follows:

- Risk must be managed across the Bank in a manner that is independent and comprehensive;
- Risk must be accurately identified, measured, and evaluated, and then properly managed;
- Risk must be maintained within a range where it can be balanced against rewards;
- Risk must be appropriately diversified to prevent concentration in specific categories;
- Risk must be managed within certain limits or guidelines to avoid overexposure.

KDB's Risk Management Methodologies

Credit Risk

Credit risk refers to possible losses due to the failure of the counterparty to perform its contractual obligations including failure to (re)pay. The Bank manages credit risk both at the portfolio level and individual credit level. Portfolio management involves reducing credit concentrations and restructuring the portfolio to maximize profitability while taking into account the risk. This is done by setting limits based on credit ratings for each company, group, and industry to prevent overconcentration in specific sectors. To consider industry-specific risks, industry assessments are conducted every six months to provide industry ratings and directions for exposure management. Individual credit management involves monitoring the credit risk of individual companies through a credit review system consisting of credit officers, relationship managers, and credit review committees as the evaluation and decision-making body.

Market Risk

Market risk refers to possible losses to the Bank's assets resulting from a fluctuation in interest rates, stock prices, F/X rates, and/or other variables. The Bank 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, the Bank classifies the severity of market swings into three stages—precautionary, semi-crisis, and crisis stages—and operates Market Risk Contingency Plans appropriate for each of the three stages. The Bank 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 by factoring in major events, such as the Global Financial Crisis of 2008.

Interest Rate Risk

Interest rate risk refers 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 contained within the Bank's accounts. The Bank manages interest rate risks mainly through the economic value of equity (EVE), but it does also employ net interest income (NII) as an auxiliary index. Since the end of 2019, the Bank has managed its interest rate risk by measuring interest rate risk in the banking book (IRRBB), reporting its IRRBB profile on a quarterly basis.

Liquidity Risk

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, or assets are sold below a normal price. The Bank uses Basel III's short-term liquidity regulation index with the liquidity coverage ratio (LCR), and a mid- to long-term liquidity regulation index with the net stable funding ratio (NSFR), to manage its liquidity risks and to meet regulatory requirements.

Key Committees and Councils for Risk Management

Operational Risk

Operational risk refers to possible losses that may occur due to inadequate internal processes, system failures, employee errors, as well as external events that disrupt business operations. Through a Control Self-Assessment (CSA) program, the Bank periodically assesses how aware the relevant staff in each department are of the potential operational risks associated with their job functions, and how well they can properly manage those risks. The Bank has established business continuity plans (BCPs) for each job function to prepare for potential disruptions due to disasters, strikes, and other emergencies. Under the BCPs, annual mock drills are held to ensure that major operations can be resumed within a target timeframe in the event of an emergency.

Management for Soundness of the Bank's Assets

The Bank 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 aside loan loss provisions according to the categorization of its assets. In addition, the Bank makes reasonable estimates of the probability of defaults as well as losses based on defaults, and sets aside adequate levels of loan loss provisions using the expected credit loss (ECL) impairment model in line with the International Financial Reporting Standards 9.

The Bank constantly strives to minimize insolvencies by strengthening credit approval criteria based on asset soundness category and managing portfolio concentration. If assets are classified as non-performing, the Bank pursues measures to normalize business operations through corporate restructuring, or manages the assets through sales or write-offs.

2022 IN REVIEW

The Bank has consistently updated its risk management framework to respond to changing market conditions and to better support the government's policy finance initiatives. The Bank's risk framework prioritizes the sustainability of its business.

The Bank was an active player in public sector finance, analyzing risk factors for each Korean New Deal program and building internal review guidelines for new industry innovators.

Furthermore, the Bank has calculated its BIS ratios in line with the revised Basel III credit risk framework since late 2020. In 2022, the Bank successfully established a system that reflects changes in the Basel III market and operational risk calculation standards due to be implemented in 2023.

Responding to the COVID-19 pandemic, the Bank reanalyzed its forward-looking information and recognized additional allowances for loan losses and provisions. The Bank also frequently held supervisory meetings to review the adequacy of the Bank's assets and to mitigate any impact from distressed companies.

PLANS FOR 2023

The Bank will continue to improve existing systems to enhance its risk management capabilities. At the same time, the Bank will update its risk management framework in line with market and regulatory changes to better manage its risk indices and ensure that its risk framework underpins the effective execution of policy finance activities.

First, the Bank plans to strengthen its risk management framework to ensure sufficient policy financing capacity. Specifically, the Bank will take preemptive actions to manage its BIS ratios including issuing subordinated debts to boost its capital position, while reviewing the impacts and mitigation measures for addressing risks from the Bank's policy financing activities, such as the implementation of the innovation growth funds.

The Bank will also work to enhance stability of the new systems introduced to incorporate external regulatory requirements, such as the Basel III Tangible Common Equity (TCE) and Credit Value Adjustment (CVA) standards scheduled for implementation in 2023, as well as revisions to market and operational risks calculations.

Lastly, the Bank plans to step up the monitoring of its asset quality to prepare against any losses that may have materialized during the prolonged course of the COVID-19 pandemic.

Capital Adequacy Ratio	13.40%
Tier 1 Capital Ratio	12.28%

(As of December 31, 2022)

IT & Digitalization

2022 IN REVIEW

The financial services industry as a whole underwent profound changes in 2022, with digital transformation picking up speed owing to developments of technologies in data, network and artificial intelligence (AI), or D.N.A., in short. Moving toward the end goal of "innovating key workstreams of the Bank's operations with digital technology," KDB promoted digital transformation that progressed around "the digitalization of corporate banking," "process innovation," and "AI and data science."

Digitalization of Corporate Banking:

Contactless corporate loan processing and RM support

KDB unveiled the first phase of its digital corporate loans system, which allows corporate clients to complete certain loan-related process without having to visit a branch in person. This is the beginning of a bigger system that will eventually lead the entire corporate loans process to take place online. In addition, KDB launched "KUPID On the Go," a digital marketing mobile application for relationship managers (RMs), supporting the bankers' real-time data-driven advisory and decision-making needs. The "My Loans Service" has also greatly streamlined work for bankers and clients alike, allowing corporate clients to log on to an online banking service independently and carry out key tasks without having to approach an RM each time.

KDB's Digital Transformation

Digitalization of Corporate Banking	Process Innovation	AI and Data Science
Contactless corporate loan processing and RM support	Further adoption of RPA and other automation efforts	Development of practical AI and big data infrastructure

Process Innovation:

Further adoption of RPA and other automation efforts

The second phase rollout of robotic process automation (RPA) involved the application of new technologies, such as optical character recognition (OCR), streamlining a massive volume of simple, repetitive, and ordinary tasks while maximizing workplace efficiency. The scope of the second phase rollout was finalized based on a detailed analysis of the results and benefits of the first phase RPA rollout in 2021. A total of 40 tasks were added to the automation pool in the most recent phase, replacing approximately 40,000 hours of human labor per year with robots and automating certain workstreams previously processed manually.

AI and Data Science:

Development of practical AI and big data infrastructure

An AI and big data-enabled corporate banking platform was developed to support data-driven decision-making throughout the Bank. This system is connected to infrastructure that can store and analyze big data obtained from both internal and external sources, and has a built-in AI model that can process natural language in corporate banking context to support data-driven decision-making using unstructured data. Finally, the "Data Insight Portal" has been made available to RMs to share key insights from big data analytics.

PLANS FOR 2023

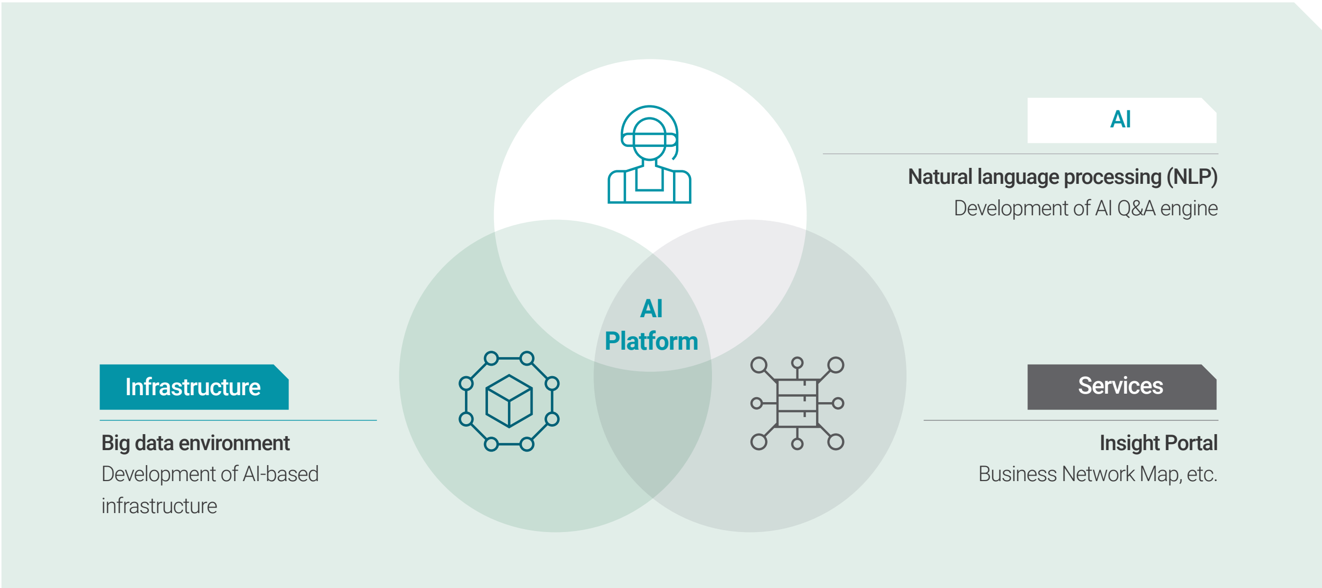
The Korean financial markets in 2023 will be a battleground of innovation driven by digital technology, which will set off an endless evolution in business models. While data volume remains significant, the depth of analysis has taken the center stage as a competitive advantage. Financial services are transitioning from offline sales and single-product models to an end-to-end online platform with comprehensive financial solution services.

In this era of constant change, KDB aims to take an aggressive approach to the evolving financial services environment. With a focus on building KDB Digital Bank, the Bank will develop a contactless corporate loan system, data-driven decision-making system, and streamline and automate key workstreams.

In 2022, the Bank laid the groundwork for its digital transition, and in 2023, it plans to take these efforts to the next level. KDB will pursue digitalization of corporate banking by improving new tools, such as the contactless corporate loans system and the KUPID On the Go mobile app. In addition, the Bank will continue to automate workstreams through RPA, pilot an IoT-activated collateral management system and introduce tablets to create a paperless work environment at the retail banking level. Finally, the Bank aims to build up a culture of data-driven decision-making by upgrading its AI-activated credit analysis models, corporate banking Q&A engines, and the Data Insight Portal that are already in operation.

KDB believes that a digital transformation is the key to a genuine bank-wide transformation that prioritizes clients and enhances workplace efficiency. Accordingly, KDB will remain committed to leading advanced and fully digitalized corporate banking services in Korea.

KDB AI Platform Overview



Ethical Management

KDB has in place effective internal control measures designed to prevent financial malpractices from taking place and to comply with a full range of legal and regulatory requirements including anti-money laundering rules. As a public organization, the Bank regularly monitors and improves its anti-corruption measures and implements a variety of compliance programs to promote business ethics across the Bank's day-to-day operations. KDB also conducts customized training sessions for its employees to reinforce a workplace culture based on integrity and transparency.

2022 IN REVIEW

Similar to the previous year, promoting transparency required for a public organization, ethical management, and proactive business administration were key priorities in 2022. In promoting proactive business administration, and in the process of providing various support mechanisms, KDB ensured that its practices reflected transparency and were carried out in a way that prevented corruption and minimized any potential risk factors.

In addition to the continued implementation of the Recovery of Illicit Profits policy, KDB organized various targeted ethics programs, including group sessions on transparency for its senior executives and quarterly Bank-wide trainings for all levels of employees. In fact, the Bank aimed to raise anti-corruption awareness through more accessible programs, such as anti-corruption quizzes, in which clients were invited as well. Through these efforts, KDB attained a Level 2 rating in the Anti-Corruption and Civil Rights Commission review, the highest rating among the Bank's peers. KDB was also re-certified by the International Standards Organization for anti-bribery management systems (ISO 37001).

KDB also remains steadfast in its commitment to make human rights objectives a core component of how it does business. In 2021, the Bank carried out a review on the impact of its business on human rights and conducted a separate research into human rights grievance systems to analyze the Bank's human rights strengths and address the relevant risks. KDB conducted

a similar review in 2022, upgrading its human rights checklist by incorporating the recommendations from the fourth National Human Rights Plans of Action (2023-2027) as well as some of the key issues that are likely to affect the human rights landscape in 2022, including green financial practices and post-pandemic developments. This substantially enhanced the Bank's existing human rights management framework and indices on working and employment rights, workplace safety and more.

In response to the government's effort to crack down on instances of organizational abuse of power, KDB has established and is operating multiple reporting centers. It has also strengthened the function of the KDB Help Line, its anonymous reporting outlet via the social platform Kakao Talk, expanding professional counseling services and preventive steps to stop workplace power tripping and facilitate effective remedial action.

Major Compliance Management Programs

- **Compliance monitoring**
  Conducts monitoring on compliance reports, self-inspection reports from each department and branch, and monthly compliance training outcomes
- **Preliminary compliance review**
  Conducts compliance reviews on internal regulations, terms and conditions, product disclosures, BoD agenda items
- **Anti-money laundering (AML)**
  Conducts customer due diligence (CDD), suspicious transaction report (STR), currency transaction report (CTR), know-your-employee (KYE), and AML/CFT risk-assessment
- **Sanction compliance program (SCP)**
  Monitors country information (high/medium risk) and transactions related to sanctioned countries and collects standard sanction compliance agreements
- **Financial investment and securities account report system**
  Requires employees to report on their financial investment activities to prevent them from using undisclosed information
- **Cryptocurrency possession report system**
  Requires employees engaging in cryptocurrency transactions to report their possession of cryptocurrency biannually
- **Clean reporting center/ No gifts campaign**
  Prohibits solicitation and acceptance of gifts exceeding specified amounts and establishes an organizational culture of integrity
- **ISO 37001 (Anti-bribery management systems) accreditation**
  Acquires ISO 37001 (Anti-bribery management systems) accreditation and implements internal management systems
- **Executive pledge of ethics**
  Mandates registered directors maintaining integrity in job performance
- **Code of conduct pledge**
  Requires new employees for mandatory pledge of compliance with the KDB Employee Code of Conduct and the Anti-Graft Act
- **Reporting center for power tripping at work**
  Builds a reporting system for unfair demands or treatment of fellow employees or people outside the Bank
- **Whistleblowing system**
  Operates a whistleblower program
- **Reporting system for outside lecture requests**
  Requires employees to report outside lecture activity tied to their job function or influence
- **Compliance self-check system**
  Checks the compliance status of all employees biannually
- **Ethical training**
  Provides training to new employees, promoted employees, high-level management, and employees engaged in job functions vulnerable to corruption

Separately, KDB has significantly improved its institutional capacity for anti-money laundering (AML) in line with tightening regulations worldwide that demand thorough compliance by financial institutions. A new global AML/Sanction Compliance team was launched in 2022 to focus on actively mitigating risks pertaining to the Bank's growing global business. Starting with AML consulting recommendations on the Bank's overseas entities, KDB updated its policies and procedures and made improvements to IT systems in order to develop an AML framework in line with international standards.

With regard to sanctions, a Sanction Compliance Program (SCP) was developed to better account for the broadening scope of global business and idiosyncrasy of the Bank's operations. KDB is the industry's first mover on this front, proving the Bank's dedication to the preemptive resolution of sanction risks. The system is expected to help the Bank not only develop a safe global business foundation, but also enhance KDB's global credibility as it pushes forward.

PLANS FOR 2023

In 2023, KDB plans to develop an effective internal control system to support its stable business growth. Recently, there has been a growing consensus, particularly in the financial sector, about strengthening internal controls beyond the minimum requirements and formalities. As the trend of strengthening financial regulations continues, there is also an increasing drive to improve internal controls. Furthermore, there is an expected increase in social demands for ethical management in the public sector, such as eradication of abusive practices, performing work with integrity, and preventing corruption.

To this end, KDB will continue to strengthen its efforts to prevent violations of both internal and external regulations, such as the Act on the Prevention of Conflict of Interest Related to Duties of Public Servants, the Improper Solicitation and Graft Act and the Bank's own Codes of Conduct. The Bank will also promote and activate various reporting channels to put a stop to any corruption or abuse of power by its staff. At the same time, KDB will continue to develop novel training methods to step up integrity among all of its employees, running regular campaigns to encourage integrity and ethics Bank-wide.

The previous year was tainted by headline-making instances that included employee embezzlement at a Korean bank. In light of this, KDB will aim to strengthen the effectiveness of its internal control measures, especially the ones concerning the compliance framework of individual departments and branches, in order to meet escalating demands for business transparency both within and outside the Bank. KDB will also make a persistent effort to prevent financial accidents and preserve the integrity of the Bank.

Additional plans include updating the Bank's standard AML guidelines to account for local particularities and expanding coverage to subject more branches to tighter controls. At the workstream level, KDB will provide support and monitoring for common business processes as well as new job functions that have been implemented following recent process improvements. Lastly, the Bank will leverage the newly developed SCP to continue monitoring and advisory work on sanctions, while providing regular training to employees to mitigate sanction risks in each of the Bank's business settings.

Corporate Social Responsibility (CSR)

Social Responsibility

KDB's corporate social responsibility initiatives run under four key themes—love of neighbors, love of learning, love of culture, and love of nation—all of which support the Bank's goal to "give hope and make the world a better place." Particularly in 2022, KDB included financial support for restoring marine ecosystem in a national marine park as one of "love of nation" initiatives, expanding its CSR activities related to ESG.

Love of Neighbors

KDB Helping Hands

KDB runs a program for the underprivileged by identifying vulnerable groups in social welfare blind spots that desperately need financial support. KDB outreach programs during the previous year included targeted support to victims of crime (as designated by the National Police Agency), fundraising for the national Paralympic ice hockey team, and fundraising for adolescent group homes.

Holiday Season & Year-End Sharing Events

In partnership with the Yeongdeungpo-gu 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. The Bank also takes part in a wide range of volunteer activities, including the sharing of free meals with the elderly (Bethel Nanum Community in Hanam city) and the fundraising event involving all employees at the end of each year.

Blood Donation Campaign

KDB runs a blood donation campaign aimed at helping pediatric patients with leukemia, and encourages all employees to participate. In 2022, instead of holding conventional blood donation campaigns, the Bank carried out a certificate delivery campaign to work around the spread of Covid-19.

Kimchi Drive

Each year since 2008, KDB employees and their spouses team up with volunteers from Seoul's Saemaeul volunteer group to deliver handmade fall/winter kimchi to elderly people living alone and others in need. In 2022, similar to the previous year, the Bank purchased kimchi made with locally grown ingredients in consideration of Covid-19 restrictions and newly harvested rice and delivered the packages to partner welfare facilities as well as 1,200 underprivileged families across Seoul.

Employee Donations

KDB collects small amounts from employees' paychecks every month, typically less than KRW 10,000 per employee, and donates the sum in the form of scholarships and financial support to low-income and single-parent households.

Education

KDB provides a career development program for teenagers from low-income families facing difficulties in choosing their career path. Last year, the Bank also supported various symposiums and conferences that studied topics related to promoting the development of finance in Korea.

Culture

KDB's diverse Mecenat activities bring culture, arts, and sports closer to the public. The Bank also sponsors traditional and lesser known cultural performances and arts. The Bank also increased opportunities for disabled artists to realize their dreams on stage by sponsoring concerts featuring collaboration between disabled artists and orchestras.

Love of Nation

One Company for One Village and One Company for One Platoon Campaigns

Already in its 16th year, the One Company for One Village campaign provides a channel for KDB employees to directly purchase specialty produce from partner villages, helping farmers cope with challenges such as a drop in rice prices and giving KDB an opportunity to donate fresh harvested rice to its partner welfare facilities. KDB also has a military variation of the program through which the Bank supports soldiers serving in the military.

Dadohae National Marine Park Ecosystem Recovery Support

The Dadohae National Marine Park is a UNESCO-designated biosphere reserve in Korea. Following an initial support in 2021, KDB provided additional funds to conduct a second round of effort aimed at restoring wildlife in the area. The work involved installing plant-derived seawalls to restore eroded coastlines and promoting the natural settlement of indigenous coastal plants. KDB's donation helped improve the resilience of local ecosystems and contributed to achieving 2050 carbon neutrality goals.

KDB Foundation

Since its establishment in 2007, the KDB Foundation has been running projects in three areas: socially responsible finance, community service and talent development. The Foundation aims to identify blind spots in the country's social welfare system and establish a policy foundation through preemptive and strategic intervention. A total of 10 projects are currently in progress and reflect KDB's commitment to sustainable finance.

Youth Start-up Support Project

The Youth Start-up Support Project and the Social Enterprise Support Project are making both direct and indirect contributions to Korea's job market. The Youth Start-up Support Project, which consists of the KDB Start-up Program and the KDB Start-up Education Program, aims to build a start-up ecosystem for new growth industries by discovering and fostering young entrepreneurs. In 2022, a total of 476 teams applied for the KDB startup Program, with 25 teams making it to the semi-final round. The selected teams received professional support and training, including mentoring and opportunities to secure access to venture capital.

Of these 25 teams, seven finalists received a total of KRW 200 million as start-up funding, along with opportunities for follow-up funding rounds and support programs. The KDB Entrepreneur Training Program is being offered as a regular course at fifteen universities nationwide, benefiting 856 students to date and serving as a catalyst for spreading an entrepreneurial mindset among college students and identifying new start-ups. Between 2013 and 2022, KDB identified 206 start-up teams through its Young Start-up Support Project, of which 171 have gone on to start a business of their own. As of December 2022, KDB's work had generated 2,566 jobs and KRW 225.3 billion in cumulative revenue. Furthermore, KDB has offered mid- to long-term follow-up support through its start-up platforms NextRound and NextONE, giving young entrepreneurs access to IR activities and incubation programs.

KDB Social Enterprise Support Project

The Bank supported a total of 17 social enterprises in 2022 through its KDB Social Enterprise Support Project, which was established with the goal of discovering highly capable social enterprises, providing employment opportunities to the socially vulnerable, and equipping them with the necessary infrastructure. The project goes beyond financial aid to offer a holistic and sustainable business support mechanism run by professional entrepreneurs. Unlike most other programs of a similar nature, the KDB Social Enterprise Support Project allows partner enterprises to use KDB's funding to purchase production facilities, directly financing their infrastructure needs. Partner enterprises leverage this opportunity to develop new products, obtain HACCP certification, register patents, and penetrate online and offline sales channels to generate a stable revenue stream. The Bank recently introduced ESG management principles to its existing accelerator program, and the upgraded ESG accelerator program has already supported two businesses seeking to transition to ESG-related themes. A total of 90 social enterprises received KDB funds and mentorship support from 2015 to 2022, and in 2022 alone, partner enterprises contributed to the creation of 241 jobs for vulnerable worker groups, including physically disabled ones, while also driving increased revenue growth.

Development Finance Cooperation

KDB was established in Korea's post-war era as a development finance institution with the goal of reconstructing and promoting the national economy. The Bank has since served a critical role in Korea's financial markets, supplying liquidity and stabilizing markets in line with changing government policies. The Bank has now reached a position to leverage near seventy years of development finance expertise to support governments and financial institutions in developing economies, while using these partnerships as opportunities to develop the Bank's global business base. The Bank also has a significant research capacity related to the economy, industry, and finance of North Korea in preparation for potential denuclearization of North Korea, possible inter-Korean economic cooperation, and the subsequent North Korean economic development activities which may follow.

2022 IN REVIEW

KDB has continued to tap into development finance knowledge-sharing opportunities through international organizations, with a focus on South America and Asia. The Bank has also published an update of the KDB Experience Sharing Program to account for macroeconomic changes, and was selected by the Korean government as a Knowledge-Sharing Program partner to disseminate knowledge on economic development, which is likely to produce further new business and partnership opportunities.

PLANS FOR 2023

In 2023, KDB will continue sharing its development finance experience with partner countries, placing a greater emphasis on ESG finance, including green and socially responsible finance, which are important global trends in the development finance landscape. In addition, KDB will seek closer partnerships with relevant institutions, governments, and international organizations, working to uncover collaborative projects as it continues to broaden its international reach and grows into a comprehensive financial institution.

ESG REVIEW

2022 ESG Review

As laid out in Article 1 of the Korea Development Act, it is the vision of Korea Development Bank to contribute to sustainable growth. In the many years it has been in business, the Bank has strived to spearhead the sustainable growth of the Republic of Korea and the sustainability of the nation as a whole.

Specifically, KDB has supported SMEs and MEs that lack the capacity and resources for sustainable development through a range of tools and products derived from the Bank's green and socially responsible finance initiatives. KDB's work with these companies has induced them to place greater emphasis on ESG values in their day-to-day business practices. Recognizing the essential role of policy finance institutions in tackling climate change, KDB has also stepped up its commitment to green finance, engaging in an increasing array of activities to drive the low-carbon transition of Korean companies and industries and to facilitate climate-resilient business ecosystems throughout the country.

Moreover, in order to avoid, minimize, and/or address any negative environmental and social impact from the Bank's business activities, KDB has established and is effectively implementing environmental and social risk guidelines, which are aligned to the Equator Principles (EPs). To maintain integrity in green investments and prevent greenwashing, KDB has developed a green classification system based on the government's K-Taxonomy. From a governance perspective, KDB actively practices corporate social responsibility through environmentally sustainable business management, human rights empowerment, ethical integrity, and legal compliance, aiming to bring the notion of "a responsible bank" closer to the heart of its corporate identity. As a practical application of this effort, the Bank has continually expanded the adoption of green vehicles, goods, and renewable energy facilities at its buildings and throughout its daily operations.

KDB's Approach to Sustainability

SLOGAN

Policy Finance Leading the Green Industrial Revolution

VISION

Financial platform connecting Korea to the future

MISSION

Cutting-edge policy finance institution driving Korea's sustainable growth

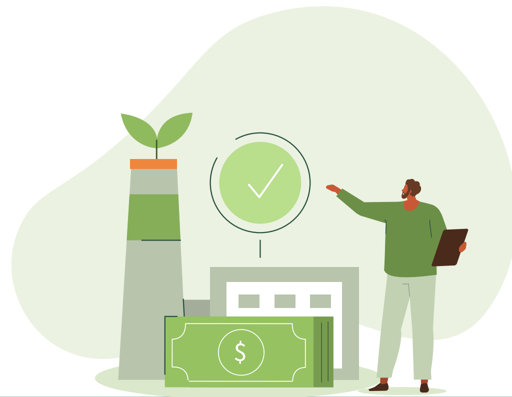
2022 ESG Highlights

HIGHLIGHTS 1

Groundwork Completed for the Effective Implementation of Sustainable Management

A dedicated Green Finance Planning Department under the Planning & Administration Division serves as the control tower for KDB's ESG and green finance businesses, while the rest of the Bank's divisions* and branches carry out their own green activities to allow synergies with existing workstreams and facilitate efficient delivery of outcomes.

* Corporate Banking, Capital Market (PF, PE), Innovation & Growth (Indirect Investment, On-lending), Global Business(Overseas branches)



Key Committees and Councils for Sustainable Management

Financial Management Division
- **Treasury Department**: Issuance of green bonds

Planning & Administration Division
- **Green Finance Planning Department**: ESG and Green Finance Control Tower
  - ESG Planning Team
  - Green Finance Team
  - Climate Change Business Team
  - Environmental and Social Policy Team

Corporate Banking Division (Corporate Restructuring Center)
- Development and operation of green in-dustry partnerships
- Investments and loans in large corporates' green projects

Regional Development Division (Maritime Finance Center)
- Investments and loans in regional green projects and SMEs & MEs
- Support for green shipbuilding

Innovation & Growth Banking Division (Venture Finance Center)
- Establishment of market- and policy-driven funds (LP)
- Investments and loans in green and innovative start-ups

Capital Market Division (Project Finance Center)
- Setting up green funds and investing in green projects (GP)
- Project finance for renewable energy projects
- M&A consulting for green businesses

Global Business Division
- Supporting global expansion efforts of green businesses
- Market-making for K-ETS

Risk Management Division
- Managing climate change risks

KDB Future Strategy Research Institute
- Research on green industries and finance

HIGHLIGHTS 2

Growing Leadership in Korea's Green Finance

Given Korea's scarce renewable energy resources and the economy's heavy reliance on carbon-intensive and export-driven industries, attaining carbon neutrality by 2050 is an ambitious task that cannot be delivered without large-scale green financing to speed up energy transition and promote development/commercialization of carbon reduction technologies.

As a leader in Korea's green finance, KDB has reinforced its role as a policy financial catalyst to channel the market's liquidity to green sectors to address the massive investment needs over long-term horizons. Specifically, the Bank has taken on some of the private sector's burden by providing junior capital through subordinate financing, creating an enabling environment for the private sector to participate in the field.

In line with the Korean government's policy on carbon neutrality and the environmental goals under K-Taxonomy, the Bank has selected four areas as the target of its green finance initiatives: 1) promoting energy transition; 2) creating a low-carbon industrial structure; 3) fostering low-carbon ecosystems; and 4) building an environmentally sustainable society. Utilizing the Bank's spectrum of green products and services, including the KDB Carbon Spread Program, the Bank allocated KRW 12.8 trillion, or 15.7% of its overall financing, to green sectors in 2022.

KDB Green Financing Strategy Overview

Environmental Goals	① Greenhouse gas reduction			② Climate adaptation ③ Water conservation ④ Resource circulation ⑤ Pollution prevention ⑥ Biodiversity
Core Support Themes	❶ Promote energy transition (Reduce reliance on fossil fuels)	❷ Create a low-carbon industrial structure (Reduce industrial emissions)	❸ Foster low-carbon ecosystems (Grow future growth foundations)	❹ Build an environmentally sustainable society (Improving resource utilization)
	• Transition in energy sources • Develop energy infrastructure	• Transition to low-carbon industrial processes • Improve energy efficiency	• Cultivate innovative net-zero businesses • Encourage development of green climate technology	• Improve resource productivity and circulation rates • Build up green infrastructure
Green Financial Products	KRW **0.68** trillion Energy Transition Fund	KRW **2.5** trillion KDB Carbon Spread (Carbon reduction) Climate Response Fund (Interest subsidy)	KRW **2.5** trillion KDB Carbon Spread (Low-carbon Ecosystem)	KRW **0.7** trillion Green Society Fund
	Junior loan-only KRW **0.12** trillion KDB Carbon Net-zero (Hydrogen Infrastructure) Climate Response Fund (KDB investment)		KRW **0.12** trillion KDB Carbon Net-zero (Green innovative technology & enterprises) Climate Response Fund (KDB investment)	

HIGHLIGHTS 3

KDB Carbon Spread Program Overview

This KRW 5 trillion green finance program was launched to facilitate the low-carbon transition of Korea's high emission industries and foster the growth of new and promising climate-resilient business innovators around the country. Of this KRW 5 trillion, KRW 2.5 trillion was set apart as carbon reduction funds, requiring, for the first time in Korea, the recipients of the funds to receive external verification of their carbon reduction effects, avoiding greenwashing and making a tangible impact on carbon reduction. From its launch in April 2021 straight through to the end of 2022, the KDB Carbon Spread Program provided approximately KRW 2.3 trillion of funds to 44 eligible companies in Korea.

Carbon Reduction

Carbon Reduction Fund

Induce carbon reduction by carbon-intensive industries

For installing greenhouse gas reduction and energy efficiency equipment and facilities, etc.

KRW **2.5** trillion

Low Carbon Ecosystem

Low Carbon Ecosystem Fund

Cultivate new and promising low-carbon business innovators

For investing in the manufacturing facilities of low-carbon green products

KRW **2.5** trillion

KDB Carbon Spread Program Process

Loan Consultation
Submit project plan
Borrower

Preliminary Evaluation
Carbon reduction effects
External institution

Credit Review and Approval
Loan execution
KDB

Monitoring and Evaluation
Accrued work progress assessment
KDB and external institution

Follow-up Measures
Interest rate adjustment
KDB

KDB's Financing for Green and Carbon-Neutral Businesses

New & Renewable Energy	**Actively financing new & renewable energy power projects by leveraging its capabilities in the domestic PF market** • Arranged financing for Korea's first and largest private sector-led offshore wind farm project (Dec. 2022) • Arranged financing for the world's largest offshore wind farm project (Dec. 2021)
Low-carbon Transition	**Accelerating a low-carbon transition of companies through offering tailored financial products (e.g., the KDB Carbon Spread program)** • Provided loan to build an energy-saving production facility fitted with a furnace designed to minimize heat loss (Dec. 2022) • Provided loan to a medium-sized company A for greening its power generation facility (Jun. 2021)
Hydrogen Economy	**Financially supporting the creation of a hydrogen ecosystem encompassing production, storage, distribution and application** • Financed Korea's largest liquefied hydrogen plant project for a company B (Dec. 2022) • Arranged financing for a Korean company's acquisition of a stake in a U.S. hydrogen business (Dec. 2021)
Secondary Battery	**Pioneering support for the Korean secondary battery industry** • Provided a capex loan to a company C for its new lithium hydroxide plant (Dec. 2022) • Provided support to a medium-sized company D for its construction of a cathode manufacturing plant (Apr. 2022)
Waste Recycling	**Facilitating a circular economy through financing the use of renewable fuels and recycled resources** • Provided financial support to a company E for its retrofit project to increase uptake of recycled fuel in its production facility (Apr. 2022) • Provided support to a private sector-led project for modernizing a sewage treatment facility (Dec. 2022)

HIGHLIGHTS 4

Expanding Sustainable Finance to Promote Social Value

As Korea's leading policy finance institution, KDB is responsible for a wide range of initiatives that promote social value. KDB's programs support the growth of start-ups and SMEs to create not just a more balanced business environment but also a greater number of jobs in the economy. A multitude of targeted social finance programs support the local economic activities, shared growth between small and big businesses, and other areas that can benefit from policy intervention. Finally, KDB provides much-needed liquidity to businesses impacted by the Covid-19 pandemic, facilitating a quick return to financial self-sustainability and a soft transition to a post-pandemic era.

KDB's Socially Responsible Financing Programs

SMEs and MEs	• Credit facilities for SMEs MEs • KDB Global Challengers 200 • Credit facilities for factory land acquisition • Credit facilities backed by movables/accounts receivables
Start-ups	• Mega Venture Special Loan • Techno-banking (IP-backed loans, Technology and IP commercialization loans, IP acquisition funding loans) • Credit facilities for start-ups
Sustainable Society	• Credit facilities for socially responsible companies • Credit facilities for Job Creators • Credit facilities for stimulating local economies • Credit facilities for shared growth
Post-Covid19 Economic Growth	• Special Fund for Cheering Up Korea • "Boom-up" special capex loan/investment for post-Covid19 business realignment • Post-Covid19 special working capital loan for business stability • Post-Covid19 special investment for financial stability

HIGHLIGHTS 5

Climate and ESG Risk Management

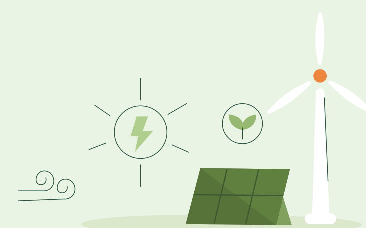
Support for the TCFD

In response to heightening climate warnings, the Financial Stability Board (FSB) established the Task Force on Climate-related Financial Disclosures (TCFD) to help companies identify, assess, and manage their climate risks.

As one of the leaders in Korea's green finance, KDB declared its support for the TCFD in May 2021, along with 13 other financial institutions in the country. The Bank plans to follow the TCFD recommendation up with detailed guidelines on the phased-in implementation of its disclosure of climate-related financial risks around the four thematic areas specified in the TCFD recommendations: governance, strategy, risk management, and metrics and targets. In doing so, KDB aims to establish a more systematic approach to its climate risk management going forward.

Four Thematic Areas Specified in the TCFD Recommendations

Governance	Disclose the organization's oversight on climate-related issues and the management board's assessment and management of climate-related risks and opportunities.
Strategy	Disclose impact of climate-related risks and opportunities on the organization's business, strategies, and plans.
Risk Management	Disclose the process through which an organization identifies, assesses and manages climate-related risks, and disclose whether those steps are integrated into existing risk management processes.
Metrics & Targets	Disclose the metrics and targets used to measure and manage relevant climate-related risks and opportunities as well as the organization's exposure to climate-related issue.



E&S Risk Management

KDB's approach to tackling E&S risks in project-related transactions follows the Equator Principles (EPs), the finance industry's gold standard for E&S risk management. The process starts by categorizing projects based on the significance of their potential E&S risks and impacts. In the course of E&S due diligence, KDB reviews a client's compliance with EP requirements, such as identifying potential E&S impacts and incorporating measures to avoid, minimize, mitigate, and/or compensate for the adverse impact into project design. KDB ensures that financing documentation includes covenants linked to EP compliance and reviews the client's E&S monitoring reports over the life of the loan.

Since adopting the EPs in January 2017, KDB has reviewed a total of 211 credit transactions that fell within the scope of the Principles, including 48 in 2022 alone that were valued at approximately KRW 7.5 trillion. In November 2021, the Bank was designated as the Asia-Oceania Regional Representative by the EP Steering Committee in recognition for its EP-compliant credit review capabilities and work toward promoting the EPs.

As one of the 58 Asia-Oceania regional signatories of the EPs, KDB seeks to establish itself as a standard setter in environmental and social review. The Bank conducts a range of activities including organizing Asia-Oceania regional conferences and capacity-building seminars toward enhancing the E&S review capabilities of Asia-Oceania region member institutions and promoting consistency in adoption of the Principles.

KDB's E&S Risk Management Process

New Project-Related Transactions	E&S Risk Categorization	E&S Due Diligence (in conjunction with credit review)	Financing Documentation	Monitoring and Reporting
Determine if the financial product supporting the project is subject to E&S due diligence (project finance, project-related corporate loans, etc.)	Categorize the project into Category A (high risk), Category B (medium risk), Category C (low risk)	Conduct a compliance review against EP requirements commensurate with the project's risk category as a part of the loan approval process	Incorporate covenants on a client's E&S undertakings into financial documents	Conduct monitoring and review of a client's documents to ensure continued compliance with EP requirements

Equator Principles Association Steering Committee Overview

Overview Coordinating body of the Association made up of five regional representatives and five management support institutions.

Function Establishing an operating strategy, budgeting, executing meeting resolutions, and public relations for all EPs

Chair (Standard Chartered)

EP Association Steering Committee (10 Members)

Regional Representatives		Management Support Institutions	
(Asia-Oceania) **KDB***	(Middle East & Africa) **MCB**	Wells Fargo	UK Export Finance
(Europe) **BBVA**	(North America) **Bank of Montreal**	EDC	
(Latin America) **CIFI**		SMBC	
		EKF	

Working Groups (8 groups organized by strategic theme)

Working Groups Leads (9 EPFIs) : CBA, EDC, BMO, Wells Fargo, Mizuho, ING, Citi, Santander, SC

Administrative Support — EP Association Secretariat

* KDB replaced Mizuho in November 2021

HIGHLIGHTS 6

Joining Global Coalitions to Respond to Climate Change

Clearly recognizing the need for full-fledged global cooperation and alliances in tackling the climate crisis, KDB has teamed up with various international organizations and initiatives to contribute to the joint effort of greening the planet.

GCF Accredited Entity

KDB was successfully re-accredited to Green Climate Fund during the Fund's 32nd board meeting held in May 2022 on the Caribbean islands of Antigua and Barbuda. The 24-member board gave an overwhelming support to KDB's re-accreditation, acknowledging the Bank's determined efforts in facilitating climate finance and promoting global net-zero initiatives over the past five years. As the first and only financial entity in Korea to receive accreditation from GCF, this achievement reflects the global caliber of KDB's climate finance system. Five months later, during the 34th GCF board meeting held in Songdo, Korea, KDB set a new record by securing approval for its first GCF-funded project ("the Indonesia Geothermal Resource Risk Mitigation Project"), demonstrating its capacity to implement climate finance on the ground. Since then, KDB has been actively collaborating with the Indonesian government and financial institutions through MOUs and other forms of partnership to address the climate crisis in the region.

Going forward, KDB will strive to become a global climate bank, contributing to establishing Korea's leadership in global climate finance, as it seeks to bolster its climate finance programs and broaden the network with the relevant stakeholders around the world.

Asia Sustainable Finance Forum

In March 2022, KDB sponsored and participated in the Asia Sustainable Finance Forum, an event hosted by the Financial Services Commission and co-organized by Stanford University and the Korea Advanced Institute of Science and Technology to discuss the "Next Steps for Climate Innovation."

Featuring five key themes of global trends, climate technology, investment strategy, climate risks, and best practices, over 30 experts representing academia, industry, finance, and government gathered to share insights and discuss Asia's net zero and climate technology initiatives. The event also provided a rare opportunity to explore new funding and investment mechanisms for commercializing climate technology. Throughout the discussions, the role of policy finance institutions such as KDB was once again highlighted as they play a vital role in the global transitions to a low-carbon economy.

Asia Sustainable Finance Forum 2022

HIGHLIGHTS 7

Adopting Green and Carbon Neutral Management at KDB

RE100

As a member of the K-RE100 initiative, KDB has set out to source 100% renewable electricity by 2040 in support of the country's 2050 net zero ambitions. To this end, KDB has installed solar power systems in its new data center as well as its employee training facility in Hanam, east of Seoul. The Bank also begun purchasing the Renewable Energy Certificates, which count as a carbon offset, and is conducting an active review of utilizing third-party power purchase agreements. These initiatives, combined with the Bank's energy-saving campaigns, are aimed at raising awareness on the environment as part of the practical implementation of KDB's corporate social responsibility.

Solar Power System at KDB Digital Square

EV100

KDB plans to replace all its internal combustion engine cars with EVs and hydrogen vehicles by 2024, continually expanding the necessary charging infrastructure in support of this goal. The Bank replaced 22 of its existing vehicles with eco-friendly vehicles in 2022 and has 30 EV charging stations (22 at KDB HQ, 8 at Hanam Digital Square) in operation, with plans to install additional stations at its domestic branches.

EV Chargers installed at KDB HQ

ESG Bonds

Issuance of Foreign Currency-denominated Green Bonds

Since issuing its inaugural green bond in 2017, KDB has repeatedly issued green bonds in and outside Korea. In March 2021, KDB issued Asia's first SEC-registered SOFR-linked USD 300 million green bond. The bond was significant for KDB, as it provided momentum to facilitate the use of alternative benchmark rates and diversified its funding sources for ESG financing. The Bank's effort to issue green bonds in a greater variety of currencies continued in 2022, including a CHF 225 million green bond in Switzerland, a leading ESG finance market, green bond issuances in BRL, HKD, and MXN, and the introduction of green loan. As one of Korea's key issuers, KDB continues to actively explore different formats of ESG bonds and bolster its market growth.

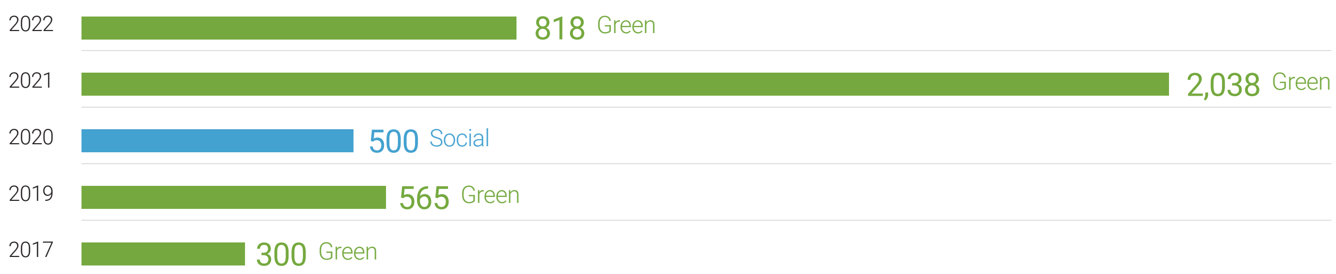
Foreign Currency ESG Bond Issuance Track Record (2022)

(Unit: million)

Type	Issue Date	Currency	Amount	USD Equivalent	Coupon	Use of Proceeds
Green	Mar. 2022	BRL	1,285	250	11.15%	Renewable Energy, Clean Transportation & Sustainable Water Management
	Mar. 2022	USD	40	40	2.643%	
	Apr. 2022	CHF	225	241	0.940%	
	May 2022	HKD	390	50	3.45%	
	May 2022	HKD	169	22	3.60%	
	June 2022	HKD	349	45	4.20%	
	July 2022	MXN	3,500	170	TIIE+0.20%	
Total	-	-	-	**818**	-	

Foreign Currency ESG Bond Issuance Track Record (by Year)

(Unit: USD million)



Issuance of KRW-denominated Green Bonds

In 2022, KDB issued two KRW green bonds totaling KRW 500 billion. The Bank used the proceeds to target green-oriented projects in the country from sectors like renewable energy (wind power), green transportation (building of electric vehicle infrastructure, production of secondary battery materials, etc.), and waste recycling. In particular, the KRW 300 billion green bond issued in October 2022 was the proud result of participating in a pilot K-Taxonomy project organized by the Ministry of Environment. This undertaking involved a rigorous eligibility assessment by outside greenhouse gas verification institutions and environmental consultancies. Furthermore, the Bank has taken proactive measures to clear investor doubts related to greenwashing, disclosing its investor resources and external review report covering asset allocations and environmental contributions on the Bank's website as well as the Korea Exchange (KRX) SRI Bonds website. KDB's work continues to promote qualitative growth in the Korean ESG bond markets.

Issuance of KRW Green Bond in 2022

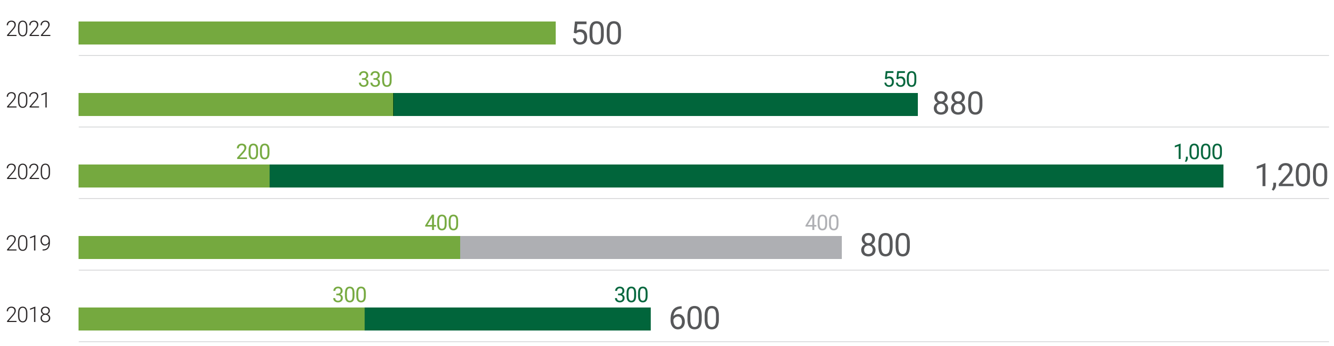
(Unit: KRW billion)

Standard Ticker	Issue Amount	Proceeds Allocated	Target Industries		
			Green Transportation	Renewable Energy	Waste Recycling
KR310207GC15	200.0	200.0	200.0	-	-
KR310202GCA8	300.0	300.0	253.5	40.7	5.8
Total	**500.0**	**500.0**	**453.5**	**40.7**	**5.8**

KRW ESG Bond Issuance Track Record (by Year)

Green Social Sustainability

(Unit: KRW billion)



FINANCIAL REVIEW

Management's Discussion and Analysis

The 2022 financial statements prepared by KDB conform to 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. The 2022 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.

2022 Review

It was challenging year due to the geo-political risks arising from the Russia-Ukraine conflict, worldwide tight monetary policy, and the ongoing COVID-19 outbreaks in China. Despite the tough economic conditions, personal consumption and labor market indicators remained robust during 2022. According to the International Monetary Fund (IMF), the global economic growth rate recorded a positive trend, with edging up 3.4%.

In Korea, there were signs of increased volatility in the financial market due to the strengthening of austerity policies in the US and other major countries, ongoing global geo-political risks. Although the short-term funding market was temporarily constrained in the second half of 2022, the Government and the Bank of Korea quickly restored stability through market stabilization program.

As growth slowed due to inflation control policies in each country, the Korea's year-on-year economic growth rate declined to 2.6% compared to 4.1% in the previous year. Overall consumption rose 4.3% year-on-year primarily due to private consumption growth expanded, despite a slowdown in government spending. Inflation rate for the year recorded 5.1% compared to 2.5% in the previous year. Current account surplus declined to USD 29.8billion in 2022 from USD 88.3billion in 2021 due to the deterioration of the goods balance caused by the sharp increase in raw-material prices, which led to an increase in imports.

The combined net income of the Korean banking industry in 2022 was KRW 18.5 trillion compared to KRW 16.9 trillion in 2021, based on preliminary figures published by the Financial Supervisory Service. This was due to an increase in interest income resulting from the expansion of interest-earning assets, as well as an increase in market interest rates. Meanwhile, both domestic and foreign tightening policies continue, and in order to secure the ability to absorb losses in the face of increased uncertainty shocks, domestic banks have pro-actively expanded their reserve fund in 2022 to perform their inherent functions stably.

In 2022, KDB played a pivotal role in stabilizing the market as one of the key policy banks of Korea. The Bank continuously strengthened financing for SMEs and MEs to bolster the resilience of Korea's supply chains and assisted larger enterprises to reshape their businesses through "industry and finance alliance program". The Bank also extended special loan products especially designed to support companies adversely affected by the COVID-19 crisis in order to mitigate the impact of COVID-19 and ensure soft landing of SMEs and MEs in the post-COVID era.

KDB has faithfully performed the role of market stabilizer for crisis response during time of increasing volatility. The Bank expanded both the volume and coverage of market-stabilizing measures, such as the 'Corporate Bond and CP(Commercial Paper) Exchange Support Program' and the 'Bond Market Stabilization Fund' introduced in 2020, while making additional capital calls to better align itself with the government's market-stabilizing directives.

Moreover, KDB eminently stayed committed to its mandate to enhance the sustainable growth of venture-startup corporates with potential as a leading policy financial institution. Since its inauguration in 2016, the "KDB NextRound", KDB's investment platform connecting promising startups and potential investors not only domestic but international, has held 636 IR rounds, including "Global NextRound in Singapore". The Bank further organized other investment platforms: "NextRise" launched in 2019, a start-up fair which gives opportunities to early-stage firms and individual entrepreneurs to attract investment from venture capitals, and "KDB NextONE" launched in 2020, a platform for nurturing start-ups.

KDB as the Korea's representative policy financial institution has been evaluated and recognized on its capacity and capital adequacy by the major international credit rating agencies. In 2022, KDB maintained its credit ratings at Aa2 from Moody's, AA from S&P and AA- from Fitch, and its BIS capital ratio stood at 13.4%.

2023 Outlook

Spurred by pent-up demand, lingering supply disruptions, and commodity price spikes, inflation reached multi-decade highs last year in many economies, leading central banks to tighten aggressively to bring it back toward their targets and keep inflation expectations anchored. In this process, the unexpected failures of two specialized regional banks in the US and the collapse of confidence in finance system have roiled financial markets in early 2023. The aftermath of central banks' tightening policies and increased market uncertainty is expected to continue in 2023.

According to the IMF's World Economic Outlook (2023), world output is expected to increase by 2.8% year-on-year in 2023. The growth rate of advanced economies is projected to grow 1.2% from the previous year, with the Japan expecting to show a higher growth rate of 1.8% while US (1.4%) and Eurozone (0.7%) are projected to show a slower rate. Major emerging markets, such as India (6.1%) and Saudi Arabia(2.6%), are expected to show faster growth rates than advanced economies. Meanwhile, China (5.2%) saw an increase in expected economic growth rate compared to 2022, due to easing concerns over health issues and reopening economy.

The Bank of Korea's forecast for Korea's growth is 1.6% while the IMF's projection is 1.5%. More than a year after Russia's invasion of Ukraine and the outbreak of more contagious COVID-19 variants, many economies are still absorbing the shocks. The Korea economy is also forecast to show a sluggish growth trend due to the impact of global economic slowdown. However, with the economic soft landing of major countries and China's reopening, global market condition is expected to gradually improve in the second half of 2023. Such forecasts are subject to the resurgence of the recovery of the Chinese economy and drastic approaches to curb the inflationary pressure may unexpectedly contract the real economy.

To tide over the challenges of 2023, KDB has set its business objective to be an "Korea's Top Policy Finance Institution Spearheading the National Economy" with a goal of helping Korea overcome domestic and global economic challenges while making way for strong rebound of the national economy, as well as putting Korea front and center on the world stage. In line with the Korean government's policy on carbon neutrality and the environmental goals under K-Taxonomy (one of Korean government's key initiatives on climate change), the Bank has selected four key areas as the target of its green finance initiatives and expanded green financing: 1) promoting energy transition; 2) creating a low-carbon industrial structure; 3) fostering low-carbon ecosystems; and 4) building an environmentally sustainable society). In addition, the Bank will also support innovative future industries by identifying and nurturing companies with creative potential and promoting a dynamic venture ecosystem within the country.

Amid the arrival of an unprecedented interest rate hike period and increased uncertainty, KDB will actively utilize its existing venture platform to foster the venture ecosystem and lay the foundation for innovative growth for the Korean economy. In addition, the Bank will prolong financial support programs to stabilize the volatility in the financial market and minimize companies' default risk from their debts that was rapidly built up in the aftermath of the pandemic, thus overcoming market difficulties.

The global economy is again at a highly uncertain moment, with the cumulative effects of the past three years of adverse shocks and the rapid rise in interest rates manifesting in unforeseen ways. As a Korea's leading policy bank, KDB will continue to carry out its market stabilization role based on its strong credit ratings, globally competitive financial expertise, and thorough risk management.

Income Analysis

Summary Statement of Income

(Unit: KRW billion)

	2022	2021	Change	
			Amount	%
Net operating revenue	**2,291.0**	4,051.2	(1,760.2)	(43.4)
Net interest income	**2,759.6**	2,490.6	269.0	10.8
Non-interest income, net	**(468.6)**	1,560.6	(2,029.2)	(130.0)
Provision for (reversal of) credit losses	**(60.0)**	490.1	(550.1)	(112.2)
G&A expenses	**1,016.8**	940.0	76.8	8.2
Operating income	**1,334.2**	2,621.1	(1,286.9)	(49.1)
Non-operating income	**(9,938.5)**	726.9	(10,665.4)	(1,467.2)
Income tax expenses (benefit)	**(2,050.1)**	985.4	(3,035.5)	(308.0)
Profit(loss) for the period from continuing operations	**(6,554.2)**	2,362.6	(8,916.8)	(377.4)
Profit(loss) from discontinued operations	**(1,070.4)**	(1,039.1)	(31.3)	3.0
Net profit	**(7,624.6)**	1,323.5	(8,948.1)	(676.1)

* In 2022, KDB Life Insurance Co., Ltd. was reclassified to a subsidiary of the Bank from assets and liabilities held for sale as the agreement of purchase and sale of shares of the company was canceled. Accordingly, the gain or loss related to the company was excluded from profit from discontinued operations and the statement of income was restated for comparison purpose. That is, the difference in the statement of income for 2021 from the previous financial statement is due to the reclassification.

KDB recorded a net loss of KRW 7.6 trillion in 2022, KRW 8.7 trillion less than that in the previous year. Net operating revenue decreased by KRW 1.8 trillion year-on-year. Despite an increase of 10.8% in net interest income compared to the previous year due to an increase in operating assets and an improvement in NIM, non-interest income significantly decreased compared to previous year due to decrease in dividend income, loss on disposal of securities, loss on valuation of securities and the base effect of recognizing the profit related to the conversion of HMM Co., Ltd. convertible bonds into stocks (KRW 1,817 billion) in the previous year. In addition, impairment losses in investment in associates such as HMM, HANJIN KAL, Daewoo Shipbuilding & Marine Engineering Co., Ltd. contributed to the decrease in non-operating income.

Interest Income and NIM

(Unit: KRW billion)

	2022	2021	Change	
			Amount	%
Interest-earning assets (Annual average balance)	**229,259**	205,222	24,037	11.7
Yield rate (%)	**2.89**	1.92		0.97%p
Interest-bearing liabilities (Annual average balance)	**239,184**	216,123	23,061	10.7
Cost rate (%)	**2.17**	1.18		0.99%p
NIM (%)	**0.63**	0.68		(0.05%p)

* Non-consolidated basis

Interest-earning assets and interest-bearing liabilities increased by 11.7% and 10.7% respectively to KRW 229,259 billion and KRW 239,184 billion, while yield rate and cost rate increased by 0.97%p and 0.99%p to stand at 2.89% and 2.17%, respectively. As a result, the net interest margin for the year decreased by 0.05% p to 0.63%.

Financial Statement

Summarized Statement of Financial Position

(Unit: KRW billion)

	2022	2021	Change	
			Amount	%
Assets	**354,125.1**	333,898.2	20,226.9	6.1
Cash & due from banks	**11,437.0**	11,853.4	(416.4)	(3.5)
Securities	**98,820.8**	88,554.6	10,266.2	11.6
Loans	**211,400.2**	179,826.8	31,573.4	17.6
Other assets	**32,467.1**	53,663.4	(21,196.3)	(39.5)
Liabilities	**318,234.3**	287,740.0	30,494.3	10.6
Deposits	**70,288.1**	53,839.1	16,449.0	30.6
Borrowings	**30,131.1**	28,561.1	1,570.0	5.5
Bonds	**164,460.9**	150,014.9	14,446.0	9.6
Other liabilities	**53,354.2**	55,324.9	(1,970.7)	(3.6)
Equity	**35,890.8**	46,158.2	(10,267.4)	(22.2)
Issued capital	**23,151.6**	21,886.6	1,265.0	5.8
Capital surplus	**911.6**	758.6	153.0	20.2
Retained earnings	**6,552.3**	14,090.1	(7,537.8)	(53.5)
Capital adjustments	**274.5**	278.4	(3.9)	(1.4)
Accumulated other comprehensive income	**3,007.7**	4,977.7	(1,970.0)	(39.6)
Non-controlling interests	**1,993.1**	4,166.9	(2,173.8)	(52.2)

As of end of 2022, KDB's assets amounted to KRW 354,125 billion, up 6.1% compared to the previous year. This was mainly attributable to an increase in loan volumes and increase in securities. The increase in loan volumes reflected the Bank's effort to provide more liquidity to the economy through various government policy response programs, including COVID-19 support programs.

KDB's liabilities rose by 10.6% year-on-year to record KRW 318,234 billion, mainly attributable to increases in deposits and debts. The deposit outstanding amounted to KRW 70,288 billion, increased by 30.6% compared to 2021 and bond outstanding amount stood at KRW 164,461 billion at year-end, up 9.6% year-on-year. KDB issued more bonds during the year to enhance liquidity support for business growth and address a sudden liquidity crunch.

KDB's total equity stood at KRW 35,891 billion, decreased 22.2% compared to the previous year. During the year, KDB received capital in amount of KRW 1.3 trillion from the government to execute the government's various policy objectives including New Deal Policy, Capital Market Stabilization Program, etc. The operating losses of major affiliated companies and the base effect of recognizing the fair value of HMM's perpetual bonds as securities measured at FVOCI in 2021 resulted in decrease in accumulated other comprehensive income while non-controlling interests was reduced compared to the previous year due to the completion of sales of Daewoo Engineering & Construction Co., Ltd., which had been classified as a sub-subsidiary.

Loans

(Unit: KRW billion)

	2022	2021	Change Amount	Change %
Corporate loans	**177,100**	156,463	20,637	13.2
Large enterprises	**145,754**	126,700	19,054	15.0
SMEs	**31,346**	29,763	1,583	5.3
Household loans	**222**	249	(27)	(10.6)
Public and others	**1,586**	1,239	347	28.0
Total loans	**178,908**	157,951	20,957	13.3

* Non-consolidated basis / Excluding loans extended to other banks under on-lending programs

Total loans in 2022 recorded KRW 178,908 billion, up 13.3% from the previous year. Corporate loans, which accounted for the largest proportion of the total volume, rose by 13.2% year-on-year to KRW 177,100 billion, mainly attributable to a 15.0% increase in loans to large enterprises.

Funding

(Unit: KRW billion)

	2022	2021	Change Amount	Change %
Deposits	**70,288**	53,839	16,449	30.6
Borrowings	**30,131**	28,561	1,570	5.5
Bonds	**164,461**	150,015	14,446	9.6

Compared to last year, the deposits increased by 30.6% year-on-year, while borrowings increased by 5.5%. Bond outstanding amounted to KRW 164,461 billion, a 9.6 % increase from the previous year.

Asset Quality

(Unit: KRW billion)

	2022	2021	Change Amount	Change %
Total credit	**178,908**	157,951	20,957	13.3
Normal	**171,069**	150,255	20,814	13.9
Precautionary	**6,526**	4,992	1,534	30.7
Sub-standard	**575**	1,792	(1,217)	(67.9)
Doubtful	**136**	154	(18)	(11.7)
Estimated loss	**602**	758	(156)	(20.6)
Sub-standard and below loans (NPL)	**1,313**	2,704	(1,391)	(51.4)
NPL Ratio	**0.73%**	1.71%	-	(0.98%p)
Loan loss reserve	**4,072**	4,598	(526)	(11.4)
NPL coverage ratio	**365.11%**	170.05%	-	195.06%p

* Non-consolidated basis

Total credit exposure as of the end of 2022 amounted to KRW 179 trillion, up by KRW 21 trillion or 13.3% year-on-year. As NPLs decreased by 51.4% from the previous year, NPL Ratio fell to 0.73% in 2022 from 1.71% in 2021.

Due to the COVID-19 pandemic, KDB adopted a conservative approach in calculating its provision for credit loss. In 2022, loan loss reserve stood at KRW 4,072 billion, down by KRW 526 billion or 11.4%. As a result, the NPL coverage ratio rose to 365.11%.

Capital Management

Capital Adequacy Ratio and Tier 1 Ratio

(Unit: %)

	2022	2021	Change (%p)
Capital adequacy ratio	**13.40**	14.88	(1.48)
Tier 1 ratio	**12.28**	13.73	(1.45)

* The BIS capital adequacy ratio of KDB is well maintained above the minimum requirement of 10.51%.

KDB's BIS capital adequacy and Tier 1 ratios are calculated in accordance with BASEL III standards. As of end of 2022, the corresponding ratios stood at 13.40% and 12.28%, down 1.48%p and 1.45%p from the previous year, respectively. Despite the decrease in risk-weighted assets to KRW 286 trillion from KRW 299.7 trillion in 2021, capital adequacy ratio decreased due to the decrease in total capital to KRW 38.3 trillion from KRW 44.5 trillion.

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, 2022 and 2021, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("Korean 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 Statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in 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 countries. The procedures and practices used in the Republic of Korea to audit such financial statements may differ from those generally accepted and applied in other countries.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with Korean IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern, disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations.
Those charged with governance are responsible for overseeing the Group's financial reporting process.

Auditor's Responsibilities for the Audit of the Consolidated Financial Statements

Our objectives are to obtain reasonable assurance about whether the consolidated financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinion. Reasonable assurance is a high level of assurance, but is not a guarantee that an audit conducted in accordance with Korean Standards on Auditing will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in the aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

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

- Identify and assess the risks of material misstatement of the consolidated financial statements, whether due to fraud or error, design and perform audit procedures responsive to those risks, and obtain audit evidence that is sufficient and appropriate to provide a basis for our opinion. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control.
- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, 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 the financial information of the entities or business activities within the Group to express an opinion on the consolidated financial statements. We are responsible for the direction, supervision and performance of the Group audit. We remain solely responsible for our audit opinion.

We communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit and significant audit findings, including any significant deficiencies in internal control that we identify during our audit.

Seoul, Korea
March 28, 2023

Nexia Samduk

This report is effective as of March 28, 2023, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Korea Development Bank and Subsidiaries

Consolidated Statements of Financial Position

December 31, 2022 and 2021

(In millions of won)	Notes		December 31, 2022	December 31, 2021
Assets				
Cash and due from banks	4,41,49,50,53	₩	11,437,022	11,853,364
Securities measured at FVTPL	5,49,50,53		19,110,409	11,738,330
Securities measured at FVOCI	6,41,49,50,53		46,980,682	39,064,390
Securities measured at amortized cost	7,41,49,50,53		10,212,258	6,203,858
Loans measured at FVTPL	8,49,50,53		542,619	644,412
Loans measured at amortized cost	9,43,49,50,53		210,857,626	179,182,355
Derivative financial assets	10,49,50,51,53		9,390,972	5,101,962
Investments in associates	11,52		22,517,464	31,548,070
Property and equipment, net	12,52		808,181	1,420,646
Investment property, net	13,52		151,676	83,637
Intangible assets, net	14,52		203,508	176,197
Defined benefit assets	22		88,663	-
Deferred tax assets	39		169,678	1,232
Current tax assets			173,352	9,297
Other assets	15,49,50,53		9,428,478	6,573,735
Assets held for sale	16		12,052,539	40,296,751
Total assets		₩	354,125,127	333,898,236
Liabilities				
Financial liabilities measured at FVTPL	17,49,50,53	₩	1,469,724	2,067,144
Deposits	18,49,50,53		70,288,133	53,839,129
Borrowings	19,49,50,53		30,131,079	28,561,063
Debentures	20,49,50,53		164,460,858	150,014,919
Derivative financial liabilities	10,49,50,51,53		11,409,250	4,752,838
Policy reserves	21		18,076,810	-
Defined benefit liabilities	22		-	9,246
Provisions	23		689,829	645,329
Deferred tax liabilities	39		3,487,859	6,496,971
Current tax liabilities			75,657	316,231
Other liabilities	24,49,50,53		8,773,362	8,037,265
Liabilities held for sale	16,21		9,371,802	32,999,924
Total liabilities		₩	318,234,363	287,740,059

(Continued)

Korea Development Bank and Subsidiaries

Consolidated Statements of Financial Position, Continued

December 31, 2022 and 2021

(In millions of won)	Notes		December 31, 2022	December 31, 2021
Equity				
Issued capital	25	₩	23,151,559	21,886,559
Capital surplus	25		911,588	758,560
Capital adjustment	25		274,457	278,392
Accumulated other comprehensive income	25		3,007,685	4,977,670
Retained earnings	25		6,552,360	14,090,106
(Regulatory reserve for credit losses of ₩272,805 million and ₩502,744 million as of December 31, 2022 and 2021, respectively)				
(Required reversal of regulatory reserve for credit losses of ₩18,231 million and ₩229,939 million as of December 31, 2022 and 2021, respectively)				
(Planned reversal of regulatory reserve for credit losses of ₩18,231 million and ₩229,939 million as of December 31, 2022 and 2021, respectively)				
Total equity attributable to owners of the parent			33,897,649	41,991,287
Non-controlling interests	46		1,993,115	4,166,890
Total equity			35,890,764	46,158,177
Total liabilities and equity		₩	354,125,127	333,898,236

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Consolidated Statements of Comprehensive Income

Years ended December 31, 2022 and 2021

(In millions of won, except earnings per share information)	Notes		2022	2021
Continuing operations:				
Interest income	26	₩	8,128,647	5,142,256
Interest expense	26		(5,369,074)	(2,651,703)
Net interest income			2,759,573	2,490,553
Net fees and commission income	27		583,309	420,569
Dividend income	28		479,813	320,512
Net gain (loss) on securities measured at FVTPL	29		(81,647)	211,338
Net gain on financial instruments designated at FVTPL	30		465,099	149,918
Net loss on securities measured at FVOCI	31		(72,828)	(29,970)
Net gain (loss) on securities measured at amortized cost	32		2,887	(2,016)
Net loss on derivatives	33		(523,652)	(720,701)
Net foreign currency transaction gain (loss)	34		(117,464)	314,615
Other operating income (expense), net	35		(1,204,103)	896,337
Non-interest income, net			(468,586)	1,560,602
Provision for (reversal of) credit losses	36		(60,026)	490,070
General and administrative expenses	37		1,016,828	939,949
Operating income			1,334,185	2,621,136
Net gain (loss) related to investments in associates	11		(9,926,416)	753,808
Other non-operating income	38		21,155	21,949
Other non-operating expense	38		(33,258)	(48,854)
Non-operating income (expense), net			(9,938,519)	726,903
Profit (loss) before income taxes			(8,604,334)	3,348,039
Income tax expenses (benefits)	39		(2,050,174)	985,444
Profit (loss) for the year from continuing operations			(6,554,160)	2,362,595
Discontinued operations:				
loss from discontinued operations	16		(1,070,423)	(1,039,126)
Profit (loss) for the year	25	₩	(7,624,583)	1,323,469
(Profit (loss) for the year adjusted for regulatory reserve for credit losses: ₩(7,606,352) million and ₩1,553,408 million for the years ended December 31, 2022 and 2021, respectively)				

(Continued)

Korea Development Bank and Subsidiaries

Consolidated Statements of Comprehensive Income, Continued

Years ended December 31, 2022 and 2021

(In millions of won, except earnings per share information)	Notes		2022	2021
Other comprehensive income (loss) for the year, net of tax	25			
Items that are or may be reclassified subsequently to profit or loss:				
Net loss on securities measured at FVOCI		₩	(1,416,387)	(336,431)
Share of other comprehensive income of associates			633,246	308,471
Exchange differences on translation of foreign operations			401,435	227,988
Valuation gain on cash flow hedge			11,356	98
Net loss on hedges of net investments in foreign operations			(50,089)	(56,620)
Others			28,210	585
			(392,229)	144,091
Items will not be reclassified to profit or loss:				
Remeasurements of defined benefit liabilities			111,606	33,054
Fair value changes on financial liabilities designated at fair value due to credit risk			90,220	6,246
Net gain (loss) on securities measured at FVOCI			(1,509,243)	2,788,857
Share of other comprehensive income of associates			21,801	22,937
			(1,285,616)	2,851,094
			(1,677,845)	2,995,185
Total comprehensive income (loss) for the year		₩	(9,302,428)	4,318,654
Profit (loss) attributable to:				
Owners of the parent	25	₩	(6,900,726)	1,926,033
Non-controlling interests			(723,857)	(602,564)
Profit (loss) for the year		₩	(7,624,583)	1,323,469
Total comprehensive income (loss) attributable to:				
Owners of the parent		₩	(8,673,789)	4,908,636
Non-controlling interests			(628,639)	(589,982)
Total comprehensive income (loss) for the year		₩	(9,302,428)	4,318,654
Earnings (loss) per share:				
Basic and diluted earnings (loss) per share (in won)	40	₩	(1,541)	446
Earnings (loss) per share from continuing operations:				
Basic and diluted earnings (loss) per share (in won)	40	₩	(1,474)	512

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Consolidated Statements of Changes in Equity

Years ended December 31, 2022 and 2021

	Attributable to owners of the parent							
(In millions of won)	Issued capital	Capital surplus	Capital adjustment	Accumulated other comprehensive income	Retained earnings	Total	Non-controlling interests	Total equity
Balance at January 1, 2021	₩ 20,765,729	1,055,888	278,051	2,053,511	12,347,088	36,500,267	4,489,256	40,989,523
Changes in accounting policy	-	-	-	-	(31,821)	(31,821)	(14,838)	(46,659)
Restated balance at January 1, 2021	20,765,729	1,055,888	278,051	2,053,511	12,315,267	36,468,446	4,474,418	40,942,864
Profit (loss) for the year	-	-	-	-	1,926,033	1,926,033	(602,564)	1,323,469
Net gain (loss) on securities measured at FVOCI	-	-	-	2,421,033	54,172	2,475,205	(22,779)	2,452,426
Share of other comprehensive income (loss) of associates	-	-	-	319,859	4,272	324,131	7,277	331,408
Exchange differences on translation of foreign operations	-	-	-	199,154	-	199,154	28,834	227,988
Valuation gain (loss) on cash flow hedge	-	-	-	270	-	270	(172)	98
Net loss on hedges of net investments in foreign operations	-	-	-	(56,620)	-	(56,620)	-	(56,620)
Remeasurements of defined benefit liabilities	-	-	-	34,169	-	34,169	(1,115)	33,054
Fair value changes on financial liabilities designated at fair value due to credit risk	-	-	-	6,246	-	6,246	-	6,246
Others	-	-	-	48	-	48	537	585
Total comprehensive income (loss) for the year	-	-	-	2,924,159	1,984,477	4,908,636	(589,982)	4,318,654
Dividends	-	-	-	-	(209,638)	(209,638)	-	(209,638)
Paid-in capital increase	1,120,830	(5,388)	-	-	-	1,115,442	-	1,115,442
Acquisition on / disposal of interest in subsidiaries while maintain control	-	(291,940)	341	-	-	(291,599)	282,454	(9,145)
Transaction with owners	1,120,830	(297,328)	341	-	(209,638)	614,205	282,454	896,659
Balance at December 31, 2021	₩ 21,886,559	758,560	278,392	4,977,670	14,090,106	41,991,287	4,166,890	46,158,177
Balance at January 1, 2022	₩ 21,886,559	758,560	278,392	4,977,670	14,090,106	41,991,287	4,166,890	46,158,177
Changes in accounting policy	-	-	-	-	(853)	(853)	-	(853)
Restated balance at January 1, 2022	21,886,559	758,560	278,392	4,977,670	14,089,253	41,990,434	4,166,890	46,157,324
Loss for the year	-	-	-	-	(6,900,726)	(6,900,726)	(723,857)	(7,624,583)
Net gain (loss) on securities measured at FVOCI	-	-	-	(3,019,304)	193,307	(2,825,997)	(99,633)	(2,925,630)
Share of other comprehensive income (loss) of associates	-	-	-	649,161	3,615	652,776	2,271	655,047
Exchange differences on translation of foreign operations	-	-	-	269,299	-	269,299	132,136	401,435
Valuation gain on cash flow hedge	-	-	-	10,344	-	10,344	1,012	11,356
Net loss on hedges of net investments in foreign operations	-	-	-	(50,089)	-	(50,089)	-	(50,089)
Remeasurements of defined benefit liabilities	-	-	-	80,387	-	80,387	31,219	111,606
Fair value changes on financial liabilities designated at fair value due to credit risk	-	-	-	90,220	-	90,220	-	90,220
Others	-	-	-	(3)	-	(3)	28,213	28,210
Total comprehensive lodd for the year	-	-	-	(1,969,985)	(6,703,804)	(8,673,789)	(628,639)	(9,302,428)
Dividends	-	-	-	-	(833,089)	(833,089)	-	(833,089)
Paid-in capital increase	1,265,000	(3,700)	-	-	-	1,261,300	-	1,261,300
Acquisition on / disposal of interest in subsidiaries while maintain control	-	156,728	(3,935)	-	-	152,793	(1,545,136)	(1,392,343)
Transaction with owners	1,265,000	153,028	(3,935)	-	(833,089)	581,004	(1,545,136)	(964,132)
Balance at December 31, 2022	₩ 23,151,559	911,588	274,457	3,007,685	6,552,360	33,897,649	1,993,115	35,890,764

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Consolidated Statements of Cash Flows

Years ended December 31, 2022 and 2021

(In millions of won)	2022	2021
Cash flows from operating activities		
Profit (loss) for the year	₩ (7,624,583)	1,323,469
Adjustments for:		
Income tax expenses (benefits)	(2,118,857)	1,245,542
Interest income	(8,128,647)	(4,613,031)
Interest expense	5,369,074	2,627,509
Dividend income	(479,813)	(304,628)
Gain on valuation of securities measured at FVTPL	(65,155)	(147,807)
Gain on valuation of financial instruments designated at fair value through profit or loss	(465,099)	(149,880)
Net loss on securities measured at FVOCI	72,828	30,408
Net loss on securities measured at amortized cost	7,875	2,368
Loss (gain) on valuation of loans measured at FVTPL	78,884	(1,895,878)
Loss on valuation of derivatives	2,342,332	1,496,048
Net gain on fair value hedged items	(1,494,136)	(481,882)
Loss (gain) on foreign exchange translation	131,296	(17,175)
Loss on disposal of investments in associates	70,631	288,009
Impairment loss on investments in associates	3,788,103	47,066
Share of loss (gain) of associates	6,126,637	(742,839)
Provision for loan losses allowance	522,344	623,039
Reversal of provision for due from banks	(76)	-
Increase (reversal) of provision for payment guarantees	183,010	(77,763)
Reversal of provision for unused commitments	(64,310)	(13,986)
Reversal of provision for financial guarantee provision	(13,588)	(5,970)
Increase (reversal) of lawsuit provision	(1,550)	1,611
Reversal of provision for restoration	(2,007)	(1,820)
Increase (reversal) of other provisions	(44,111)	115,432
Reversal of provision for other assets	(687,406)	(33,167)
Defined benefit costs	136,849	47,904
Depreciation of property and equipment	101,199	254,061
Net loss on property and equipment	60,394	15,033
Depreciation of investment property	6,321	4,495
Net loss on investment property	(7,861)	(18,396)
Amortization of intangible assets	61,387	63,309
Net loss on intangible assets	848	5,514
Net gain on assets held for sale	(3,147)	(41,657)
Net loss on share capital repayable on demand	265,582	52,509
Gain on redemption of debentures	(4)	-
	5,749,827	(1,626,022)
Changes in operating assets and liabilities:		
Due from banks	433,739	(4,312,849)
Securities measured at FVTPL	200,403	(121,145)
Loans measured at FVTPL	22,909	27,981
Loans measured at amortized cost	(24,889,717)	(17,172,462)
Derivative financial instruments	427,269	(113,582)
Other assets	(3,128,124)	2,847,450
Financial liabilities designated at FVTPL	(6,956)	290,136
Deposits	16,394,008	6,817,787
Policy reserves	334,584	493,619
Defined benefit liabilities	14,275	(242,278)
Provisions	(278,547)	(393,385)
Other liabilities	(974,126)	4,112,111
	(11,450,283)	(7,766,617)
Income taxes refund (paid)	(308,995)	174,826
Interest received	7,311,298	4,549,130
Interest paid	(5,123,147)	(3,591,718)
Dividends received	798,540	1,211,484
Net cash used in operating activities	₩ (10,647,343)	(5,725,448)

(Continued)

Korea Development Bank and Subsidiaries

Consolidated Statements of Cash Flows, Continued

Years ended December 31, 2022 and 2021

(In millions of won)	2022	2021
Cash flows from investing activities		
Net, increase in securities measured at FVTPL	₩ (2,866,923)	(1,641,098)
Disposal of securities measured at FVOCI	13,771,268	36,618,591
Acquisition of securities measured at FVOCI	(15,488,624)	(37,441,512)
Redemption of securities measured at amortized cost	1,933,660	1,111,166
Acquisition of securities measured at amortized cost	(4,933,576)	(4,794,058)
Disposal of property and equipment	7,718	19,059
Acquisition of property and equipment	(174,891)	(199,353)
Disposal of investment property	-	37,150
Acquisition of investment property	(70)	(6,841)
Disposal of intangible assets	2,301	18,971
Acquisition of intangible assets	(65,094)	(31,339)
Disposal of assets and liabilities held for sale	165,000	248,176
Disposal of investment in associates	240,318	434,308
Acquisition of investments in associates	(820,423)	(957,467)
Net cash flows by the change of subsidiaries	669,547	(140,585)
Net cash used in investing activities	(7,559,789)	(6,724,832)
Cash flows from financing activities		
Increase in financial liabilities designated at FVTPL	125,000	319,690
Decrease in financial liabilities designated at FVTPL	(128,350)	(79,144)
Proceeds from borrowings	50,909,515	49,158,318
Repayment of borrowings	(47,618,865)	(43,418,267)
Proceeds from issuance of debentures	136,754,674	119,688,259
Repayment of debentures	(121,075,245)	(112,262,075)
Repayment of lease liabilities	(65,199)	(124,324)
Paid-in capital increase	696,300	1,115,442
Dividends paid	(833,089)	(209,638)
Decrease of non-controlling interests	189,309	(93,879)
Net cash provided by financing activities	18,954,050	14,094,382
Effects from changes in foreign currency exchange rate for cash and cash equivalents held	159,429	294,950
Net increase in cash and cash equivalents	906,347	1,939,052
Cash and cash equivalents included in assets held for sale	2,332,595	(3,135,528)
Cash and cash equivalents at beginning of the year	10,025,661	11,222,137
Cash and cash equivalents at end of the year	₩ 13,264,603	10,025,661

See accompanying notes to the consolidated financial statements.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

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 ₩23,151,559 million with 4,630,311,768 shares of issued and outstanding as of December 31, 2022 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, 2022, is as follows:

	Domestic		Overseas			
	Head Office	Branches	Branches	Subsidiaries	Representative offices	Total
KDB	1	60	11	7	7	86

(2) Consolidated subsidiaries
The Group's equity ownership in its consolidated direct and indirect subsidiaries as of December 31, 2022 and 2021 are summarized as follows:

Investor	Investee	Country	Industry	Fiscal year end	Ownership (%) 2022	Ownership (%) 2021
	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
	PT KDB Tifa Finance Tbk	Indonesia	Finance	December	84.65	84.65
	KDB Silicon Valley LLC	USA	Finance	December	100.00	100.00
	KDB OCCASIO II, L.P.	Cayman Islands	Finance	December	100.00	-
	KDB Synergy, L.P.	Cayman Islands	Finance	December	100.00	-
	KDB Capital Corporation	Korea	Specialized Credit Finance	December	99.92	99.92
	KDB Biz Co., Ltd.	Korea	Service	December	100.00	100.00
	KDB Investment Co., Ltd.	Korea	Financial investment	December	100.00	100.00
	KDB Infrastructure Investment Asset Management Co., Ltd.	Korea	Asset management	December	84.16	84.16
	Daewoo Shipbuilding & Marine Engineering Co., Ltd. (*1)	Korea	Manufacturing	December	55.68	55.68
	Samwoo Heavy Industry Co., Ltd. (*2) (*5)	Korea	Ship parts manufacturing	December	100.00	100.00
	Daehan Shipbuilding Co., Ltd. (*9)	Korea	Manufacturing	December	-	70.04
	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 Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

1. Reporting Entity, Continued

Investor	Investee	Country	Industry	Fiscal year end	Ownership (%) 2022	Ownership (%) 2021
KDB	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	-	-
	KDB Consus Value Private Equity Fund	Korea	Financial investment	December	68.20	68.20
	Components & Materials M&A Private Equity Fund (*9)	Korea	Financial investment	December	-	83.33
	KDB Investment PEF NO.1 (*9)	Korea	Financial investment	December	-	99.70
	KDB Sigma Private Equity Fund II (*9)	Korea	Financial investment	December	-	73.33
	KDB Asia Private Equity Fund (*5)	Korea	Financial investment	December	65.00	65.00
	KDB-IAP OBOR Private Equity Fund (*5) (*7)	Korea	Financial investment	December	44.69	44.69
	KDB Small Medium Mezzanine PEF (*5)	Korea	Financial investment	December	73.34	73.34
	Green Initiative 2nd Private Equity Fund (*5)	Korea	Financial investment	December	42.25	-
	Corporate Liquidity Assistance Agency Co., Ltd.	Korea	Financial investment	December	100.00	100.00
	K-Five 9th Securitization Specialty Co., Ltd. and 11 others (*6)	Korea	Financial investment	December	-	-
	KIAMCO Road Investment Private Fund Special Asset Trust 2 and 17 beneficiary certificates	Korea	Financial investment	December	-	-
	Sub-subsidiaries:					
KDB Capital Corporation	Vietnam Int'l Leasing Co., Ltd.	Vietnam	Finance	December	81.65	81.65
	Special money trust of Apache Golf Bond with Warrant	Korea	Financial investment	December	100.00	100.00
	Fine Infrastructure No.4 (*9)	Korea	Financial investment	December	-	99.34
	Tiger Alternative Specialized Investment Trust No.21	Korea	Financial investment	December	98.67	98.67
	YK Bluesky No.1 (*6)	Korea	Financial investment	December	-	-
	KDBC Synergy Mezzanine New Tech Fund No.1	Korea	Financial investment	December	90.50	90.50
	KDBC Co-investment Private Equity Fund (*5)	Korea	Financial investment	December	95.00	-

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

1. **Reporting Entity, Continued**

Investor	Investee	Country	Industry	Fiscal year end	Ownership (%) 2022	Ownership (%) 2021
Daewoo Shipbuilding & Marine Engineering Co., Ltd. (*1)	DSME Shangdong Co., Ltd.	China	Parts of watercraft manufacturing	December	100.00	100.00
	Sam Woo Heavy Industries Co., Ltd. (*2) (*5)	Korea	Parts of watercraft manufacturing	December	-	-
	DK Maritime S. A.	Panama	Shipping industry	December	100.00	100.00
	DSME Information Consulting Co., Ltd.	Korea	IT Service	December	100.00	100.00
	DSME Kazakhstan LLP	Kazakhstan	Ship repairing	December	100.00	100.00
KDB Consus Value Private Equity Fund	KDB Life Insurance Co., Ltd. (*1) (*8)	Korea	Finance	December	92.73	92.73
KDB Investment PEF No.1	Daewoo Engineering & Construction Co., Ltd. (*8) (*9)	Korea	Construction	December	-	51.34
KDB Investment Co., Ltd.	KDB INVESTMENT PRIVATE EQUITY FUND NO.2 (*5) (*7)	Korea	Financial investment	December	14.32	14.32
	KDB Investment Global Healthcare Private Equity Fund I (*5) (*7)	Korea	Financial investment	December	45.52	-

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

1. Reporting Entity, Continued

(*1) The Group reclassified the disposal group of Daewoo Shipbuilding & Marine Engineering Co., Ltd. to assets held for sale as described in Note 16. The disposal group related to KDB Life Insurance Co., Ltd. was excluded from assets held for sale.

(*2) The Group consolidates directly the investee which was a subsidiary of Daewoo Shipbuilding & Marine Engineering Co., Ltd., because it has power over the investee to control the financial and operating policies of the entity as a principal creditor bank for the subsidiary.

(*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 Group holds less than half of the voting rights because the Group 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 Group 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 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.

(*7) Those entities have been consolidated even though the investor's ownership is not over 50%, because the investor, as an executive partner, 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.

(*9) The investee is excluded from the scope of consolidation as of December 31, 2022 due to liquidation. The reasons for the exclusion of subsidiaries of Daewoo Engineering & Construction Co., Ltd. and Daehan Shipbuilding Co., Ltd. are explained in Note 16.

(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, 2022 are as follows:

(i) Subsidiaries newly included in scope of consolidation as of December 31, 2022

Reason	Subsidiaries
New investment	KDB Occasio II, L.P. , KDB Synergy, L.P., KIAMCO Data Center Blind Fund, Green Initiative 2nd Private Equity Fund, KDB Investment Global Healthcare Private Equity Fund I, KDBC Co-investment Private Equity Fund
Credit facilities or purchase agreements for ABCP	KDB ESG 4TH INC., ENMKDB 1ST INC., KDB ESG 5TH INC., KDB ESG 6TH INC., PROPERTY KDB 1ST INC.

(ii) Subsidiaries excluded from scope of consolidation as of December 31, 2022

Reason	Subsidiaries
Liquidation, etc.	U-BEST 5th Securitization Specialty Co., Ltd., K-Five 8th Securitization Specialty Co., Ltd., KDB Sigma Private Equity Fund II, KDB Investment PEF No.1, Components & Materials M&A Private Equity Fund, Multi Asset Bandi LED Privat Stock Investment Trust 1, Multi Asset Green Car Private Securities Investment, Global Partnership Private Securities Investment Trust I, Global Partnership Private Securities Investment Trust II, Global Partnership Private Securities Investment Trust III
Reclassification to securities measured at FVOCI	Daehan Shipbuilding Co., Ltd.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

1. **Reporting Entity, Continued**

(4) Financial information of subsidiaries

Financial information of subsidiaries included in the consolidated financial statements as of and for the years ended December 31, 2022 and 2021 are as follows:

	2022					
	Assets	Liabilities	Equity	Operating revenue	Net profit (loss)	Total comprehensive income (loss)
KDB Asia (HK) Ltd.	₩ 3,660,944	3,029,336	631,608	218,171	53,881	75,373
KDB Ireland Ltd.	985,414	861,265	124,149	54,874	7,036	11,258
KDB Bank Uzbekistan Ltd.	981,301	874,872	106,429	55,269	25,765	23,614
KDB Bank Europe Ltd.	1,197,124	1,082,057	115,067	101,071	7,415	(4,360)
Banco KDB Do Brazil S. A.	481,207	386,159	95,048	84,252	27,132	33,709
PT KDB Tifa Finance Tbk	130,098	41,343	88,755	13,738	5,284	2,639
KDB Silicon Valley LLC	126,606	1,522	125,084	2,237	(1,055)	7,105
KDB OCCASIO II, L.P.	60,554	49,495	11,059	20	(16,446)	(15,908)
KDB Synergy, L.P.	19,643	-	19,643	-	(596)	(328)
KDB Capital Corporation	8,792,535	7,427,546	1,364,989	542,270	135,968	136,090
KDB Infrastructure Investment Asset Management Co., Ltd.	70,706	10,403	60,303	39,151	19,057	19,104
KDB Biz Co., Ltd.	6,899	3,238	3,661	26,291	325	624
KDB Investment Co., Ltd.	152,004	19,866	132,138	84,468	54,032	54,034
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	12,235,665	11,490,693	744,972	5,805,906	(1,744,778)	(1,472,612)
Samwoo Heavy Industry Co., Ltd.	268,614	264,893	3,721	121,249	(10,237)	(9,681)
Korea Education Fund	95,445	7	95,438	9,675	9,442	9,442
Korea BTL Fund I	329,286	215	329,071	14,607	11,773	11,773
Korea Railroad Fund I	158,318	9	158,309	7,492	(3,569)	(3,569)
Principals and interests guaranteed trusts	229,553	227,911	1,642	5,335	(2,967)	(2,967)
Principals guaranteed trusts	231,518	224,916	6,602	6,142	44	44
KDB Consus Value Private Equity Fund	18,595,875	19,958,869	(1,362,994)	4,379,434	429,868	(1,315,065)
KDB Asia Private Equity Fund	194,389	172	194,217	1	(494)	20,532
KDB-IAP OBOR Private Equity Fund	58,878	60,084	(1,206)	-	(1,024)	(1,017)
KDB Small Medium Mezzanine PEF	96,666	122	96,544	4,620	3,432	3,432
Green Initiative 2nd Private Equity Fund	190,404	5,316	185,088	2	(5,795)	(5,795)
KDBC Co-investment Private Equity Fund	17,522	27	17,495	-	(544)	(544)
Corporate Liquidity Assistance Agency Co., Ltd.	3,280,515	2,215,553	1,064,962	90,631	32,625	32,625
K-Five 9th Securitization Specialty Co., Ltd. and 11 others	1,197,829	1,328,029	(130,200)	35,074	(9,819)	(8,690)
KIAMCO Road Investment Private Fund Special Asset Trust 2 and 17 beneficiary certificates	2,342,807	376,995	1,965,812	255,976	203,680	206,279

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

1. **Reporting Entity, Continued**

	2021					
	Assets	Liabilities	Equity	Operating revenue	Net profit (loss)	Total comprehensive income (loss)
KDB Asia (HK) Ltd.	₩ 3,958,732	3,402,497	556,235	130,854	42,651	84,868
KDB Ireland Ltd.	698,808	585,918	112,890	22,318	5,156	13,790
KDB Bank Uzbekistan Ltd.	838,100	755,286	82,814	28,400	10,340	16,928
KDB Bank Europe Ltd.	1,113,228	993,801	119,427	46,211	4,333	8,031
Banco KDB Do Brazil S. A.	369,396	308,057	61,339	49,441	1,649	2,773
PT KDB Tifa Finance Tbk	116,553	30,437	86,116	9,137	169	2,657
KDB Silicon Valley LLC	119,648	1,669	117,979	24	(552)	(552)
KDB Capital Corporation	7,513,809	6,217,165	1,296,644	555,801	232,376	183,742
KDB Infrastructure Investment Asset Management Co., Ltd.	68,612	11,373	57,239	37,483	18,851	18,936
KDB Biz Co., Ltd.	7,478	4,441	3,037	25,580	260	737
KDB Investment Co., Ltd.	81,468	2,687	78,781	10,535	4,084	4,177
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	10,623,210	8,405,627	2,217,583	4,486,586	(1,699,829)	(1,650,289)
Samwoo Heavy Industry Co., Ltd.	253,430	240,028	13,402	87,589	(9,176)	(8,939)
Daehan Shipbuilding Co., Ltd.	701,881	991,844	(289,963)	763,270	(136,391)	(135,624)
Korea Education Fund	98,376	6	98,370	3,877	2,039	2,039
Korea BTL Fund I	361,684	237	361,447	12,709	10,819	10,819
Korea Railroad Fund I	178,399	110	178,289	7,172	3,806	3,806
Principals and interests guaranteed trusts	238,144	233,534	4,610	5,944	(70,119)	(70,119)
Principals guaranteed trusts	243,459	236,901	6,558	4,522	242	242
KDB Consus Value Private Equity Fund	19,680,738	19,633,413	47,325	5	14,301	(385,890)
Components & Materials M&A Private Equity Fund	793	25	768	2	(15,695)	(15,695)
KDB Investment PEF No.1	11,017,597	8,043,123	2,974,474	-	205,231	232,737
KDB Sigma Private Equity Fund II	629	12	617	39	(2,314)	(2,314)
KDB Asia Private Equity Fund	130,757	102	130,655	-	(2,669)	11,441
KDB-IAP OBOR Private Equity Fund	55,046	55,235	(189)	-	(74,212)	(70,569)
KDB Small Medium Mezzanine PEF	105,256	144	105,112	81,216	69,808	70,597
Corporate Liquidity Assistance Agency Co., Ltd.	3,947,608	2,915,271	1,032,337	83,857	29,628	29,628
K-Five 9th Securitization Specialty Co., Ltd. and 8 others	724,085	845,498	(121,413)	16,367	(8,138)	(8,138)
KIAMCO Road Investment Private Fund Special Asset Trust 2 and 21 beneficiary certificates	2,170,320	1,489	2,168,831	223,781	188,381	191,661

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

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, 2022. The nature and the impact of each new standard or amendment are described below:

Amendments to K- IFRS 1116 'Lease' - Covid-19-Related Rent Concessions etc. beyond June 30, 2021
The application of the practical expedient, a lessee may elect not to assess whether a rent concession occurring as a direct consequence of the COVID-19 pandemic is a lease modification, is extended to lease payments originally due on or before 30 June 2022. A lessee shall apply the practical expedient consistently to eligible contracts with similar characteristics and in similar circumstances. The amendment does not have a significant impact on the consolidated financial statements.

Amendments to K-IFRS 1103 'Business Combination' – Reference to the Conceptual Framework
The amendments update a reference of definition of assets and liabilities to qualify for recognition in revised Conceptual Framework for Financial Reporting. However, the amendments add an exception for the recognition of liabilities and contingent liabilities within the scope of K-IFRS 1037 'Provisions, Contingent Liabilities and Contingent Assets', and K-IFRS 2121 'Levies'. The amendments also confirm that contingent assets should not be recognized at the acquisition date. The amendment does not have a significant impact on the consolidated financial statements.

Amendments to K-IFRS 1016 'Property, Plant and Equipment' - Proceeds before intended use
The amendments prohibit an entity from deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced while the entity is preparing the asset for its intended use. Instead, the entity will recognize and disclose the proceeds from selling such items, and the costs of producing those items, as profit or loss. The amendment does not have a significant impact on the consolidated financial statements.

Amendments to K-IFRS 1037 'Provisions, Contingent Liabilities and Contingent Assets' – Onerous Contracts: Cost of Fulfilling a Contract
The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendment does not have a significant impact on the consolidated financial statements.

Annual improvements to K-IFRS 2018-2020
The amendment does not have a significant impact on the consolidated financial statements.

- K-IFRS 1101 'First time Adoption of Korean International Financial Reporting Standards' – Subsidiaries that are first-time adopters
- K-IFRS 1109 'Financial Instruments' – Fees related to the 10% test for derecognition of financial liabilities
  The amendment clarifies that in applying the '10 per cent' test to assess whether to derecognise a financial liability, an entity includes only fees paid or received between the entity (the borrower) and the lender, including fees paid or received by either the entity or the lender on the other's behalf.
- K-IFRS 1116 'Leases' – Lease incentives
- K-IFRS 1041 'Agriculture' – Measuring fair value

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

2. Basis of Preparation, Continued

(ii) Change of accounting policies
The Group has changed the following accounting policy for its annual reporting period commencing January 1, 2022.

The Group had classified due from banks with restriction to use, such as reserve requirement deposits, as due from banks measured at amortized cost rather than cash and cash equivalents; however, following the IFRS Interpretations Committee's decision that cash and cash equivalents include restricted demand deposits, some classified due from financial institutions with restriction to use, such as reserve requirement deposits, the Group has retrospectively classified these accounts as cash and cash equivalents from January 1, 2022. The comparative consolidated financial statements have been restated to reflect the changes made to retrospective application.

The application of these accounting policy changes has no effect on the consolidated statements of financial position as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021.

The effects on the consolidated statements of cash flows for the years ended December 31, 2022 and 2021, are as follows:

<Increase (decrease) by cash flow statement line item>

		December 31, 2022	December 31, 2021
Increase (decrease) in due from banks	₩	(3,219,178)	1,316,120
Increase in effects from changes in foreign currency exchange rate for cash and cash equivalents held		13,560	18,438
Increase in cash and cash equivalents at beginning of the year		4,387,441	3,052,883
Increase in cash and cash equivalents at end of the year		1,181,823	4,387,441

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

2. Basis of Preparation, Continued

(iii) 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, 2022, and the Group has not early adopted them. The nature and the impact of each new standard, amendment and enactments are described below:

Amendments to K-IFRS 1001 'Presentation of Financial Statements' - Classification of Liabilities as Current or Non-current

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the management's expectations thereof. Also, the settlement of liability includes the transfer of the entity's own equity instruments; however, it would be excluded if an option to settle the liability by the transfer of the entity's own equity instruments is recognized separately from the liability as an equity component of a compound financial instrument. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Bank does not expect that these amendments have a significant impact on the consolidated financial statements.

Amendments to Korean IFRS No.1001 Presentation of Financial Statements

The amendments require an entity to define and disclose their material accounting policy information. IFRS Practice Statement 2 Making Materiality Judgements was amended to explain and demonstrate how to apply the concept of materiality. The amendments should be applied for annual reporting periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Amendments to Korean IFRS No.1008 Accounting Policies, Changes in Accounting Estimates and Errors

The amendments introduce the definition of accounting estimates and clarify how to distinguish changes in accounting estimates from changes in accounting policies. The amendments should be applied for annual reporting periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Amendments to Korean IFRS No.1012 Income Taxes – Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction

The amendments narrow the scope of the deferred tax recognition exemption so that it no longer applies to transactions that, on initial recognition, give rise to equal taxable and deductible temporary differences. The amendments should be applied for annual reporting periods beginning on or after January 1, 2023, and earlier application is permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Issuance of K-IFRS 1117 Insurance Contracts

K-IFRS 1117 Insurance Contracts will replace K- IFRS 1104 Insurance Contracts. This standard should be applied for annual reporting periods beginning on or after January 1, 2023.

① Major changes in accounting policy

This standard requires an entity to estimate future cash flows of an insurance contract and measure insurance liabilities using discount rates applied with assumptions and risks at the measurement date and recognize insurance revenue on an accrual basis including services provided to the policyholder by each annual reporting period. In addition, investment components (refunds due to termination and maturity) repaid to a policyholder even if an insured event does not occur, are excluded from insurance revenue, and net insurance income and net investment income are presented separately to enable users of the information to understand the sources of net income.

If the Group prepares consolidated financial statements by applying K- IFRS 1117, the following parts are expected to make significant differences with the current consolidated financial statements. It does not mean to include all differences that are arising in the future and can be changed based on the future additional analysis results.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

2. Basis of Preparation, Continued

i) Measurement of Insurance liabilities

Under K-IFRS 1117, the Group estimates all cash flows from insurance contracts and measures the insurance liabilities using discount rate that reflects assumptions and risks at the reporting date. In details, the Group identifies a portfolio of insurance contracts that comprises contracts exposed to similar risks and managed together, then separates the contracts with similar profitability within the portfolio as groups of insurance contracts. The groups of insurance contracts are measured as the sum of the estimate of future cash flows (including cash flows related to policy loans and reflecting time value of money, etc.), risk adjustment, and the contractual service margin. With the adoption of K-IFRS 1117, account of the contractual service margin will be introduced, which means unearned profit that would be recognized by providing insurance service in the future.

Meanwhile, reinsurance contracts mean insurance contracts issued by a reinsurance company to compensate claims arising from original insurance contracts issued by other insurance companies. The groups of insurance contracts also apply assumptions consistent with the groups of original insurance contracts when estimating the present value of future cash flows for the groups of insurance contracts ceded.

ii) Recognition and measurement of financial performance

Under K-IFRS 1117, the Group recognizes insurance revenue on an accrual basis for services (insurance coverage) provided to the policyholder by each annual reporting period, excluding investment component (refunds due to termination and maturity) to be paid to the policyholder regardless of the insured event. In addition, net insurance income and net investment income are presented separately to enable users of the information to understand the sources of net income.

The Group also includes the time value of money, financial risk and effects of their fluctuations related to the group of insurance contracts and the Group should select accounting policy whether the insurance finance income or expenses for the periods are divided to profit or loss, or other comprehensive income.

iii) Accounting policy for transition of insurance contracts

Under transition requirements of K-IFRS 1117, the Group shall adjust the original cost-based measurement to current measurement by applying the fully retrospective approach, modified retrospective approach or fair value approach, for the group of insurance contracts issued before the transition date (the beginning of the annual reporting period immediately preceding initial application date of January 1, 2022).

In principle, the Group shall identify, recognize and measure each group of insurance contracts as if K-IFRS 1117 had always applied before the transition date. If this method is impracticable, the Group can apply the modified retrospective approach or the fair value approach. However, the fair value approach can be applied even though it is possible to apply the fully retrospective approach for the group of insurance contracts with direct participation features that meet specific requirements.

Meanwhile, the modified retrospective approach is a way to obtain results very close to the fully retrospective approach by using all reasonable and supportable information available without undue cost or effort. The fair value approach is a way to measure group of insurance contracts using fair value measurements based on KIFRS 1113 'Fair Value Measurements'. When applying the fair value approach, contractual service margin or loss component of the liability for remaining coverage at the transition date are measured as the difference between the fair value of a group of insurance contracts at that date and the fulfilment cash flows measured at that date.

Meanwhile, the cost-based valuation was adjusted to the current valuation by applying the fair value approach for the entire period to the set of insurance contracts issued before the conversion date.

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(In millions of won)

2. Basis of Preparation, Continued

	K-IFRS 1104	K-IFRS 1117
Insurance liability measurement	Measure at cost using the past information	- Measure at current value using information at the reporting date - Evaluation model: Building block approach, Variable fee approach, Premium allocation approach - Applying the fair value approach as a conversion method for past group of insurance contracts
Recognition of insurance revenue	Apply cash basis to recognize the received premium as insurance revenue	- Recognize revenue by reflecting services provided to the policyholder (accrual basis)

② Status of preparation for K-IFRS 1117 adoption

In order for the Group to smoothly adopt K-IFRS 1117, it is necessary to prepare a separate implementation department, implement an accounting system, train executives and employees, and analyze financial impact and etc. Above all, for the adequacy of insurance liability evaluation, the stability of the accounting system and the conformity of system calculations must be secured, and accounting policies and actuarial assumptions must be established reasonably and applied consistently every period. For this, the Group needs to verify the system continually, and prepare various internal control procedures.

The detailed preparations for adoption and future plans are as follows:

Key activity	Progress (at the reporting date)	Future plan
Implementation department	Progress works in relation to transition to new accounting standard (Currently, total 21 personnel who are fully in charge)	Supplement personnel who are fully in charge of, etc.
Implementation of accounting system	System operations and stabilization	Implementation of internal control over financial reporting
Training for executives and employees	Training for executives and employees in related departments	Continuation of the training courses for practitioners
Reporting to management	Report implementation of the system and financial effects	Reporting financial impact analysis after adoption

③ Financial effect evaluation

If the Group applies K-IFRS 1117 to insurance liabilities as of December 31, 2022, the insurance contract liabilities are expected to be ₩ 15,695,586 million.

The estimated composition of applicable the insurance contract assets and the insurance contract liabilities under K-IFRS 1117 is as below:

		Assets under K- IFRS 1117
Insurance contract assets	₩	-
Contractual service margin		-
Reinsurance contract assets		-
Contractual service margin on reinsurance contract		-

		Liabilities under K- IFRS 1117
Insurance contract liabilities	₩	15,669,495
Contractual service margin		523,940
Reinsurance contract liabilities		26,091
Contractual service margin on reinsurance contract		5,909
	₩	15,695,586

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2. Basis of Preparation, Continued

(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(HK) Ltd.
	KDB Ireland Ltd.
	KDB Asia Private Equity Fund
	KDB-IAP OBOR Private Equity Fund
	Multi-Asset KDB Shipping Private Fund DA-3
	Multi-Asset KDB Ocean Value-up Private Fund 6th
	KDB Silicon Valley LLC
	KDB Occasio II, L.P.
	KDB Synergy, L.P.
UZS	KDB Bank Uzbekistan Ltd.
HUF	KDB Bank Europe Ltd.
BRL	Banco KDB Do Brazil S. A.
IDR	PT KDB Tifa Finance Tbk

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

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2. Basis of Preparation, Continued

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

Financial instruments, which are not actively traded in the market and those with less transparent market prices, will have less objective fair values and require broad judgment on liquidity, concentration, uncertainty in market factors and assumptions in price determination and other risks.

Diverse valuation techniques are used to determine the fair value of financial instruments, from generally accepted market valuation models to internally developed valuation models that incorporate various types of assumptions and variables.

(ii) Credit losses allowance

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

The pandemic of COVID-19 has a negative impact on the global economy despite of the Korean government's financial and economic stabilization packages. It may have a negative impact on the financial position and financial performance of the Group due to the increase of the expected credit losses on specific portfolios and the potential losses on financial assets. The detail of credit risk exposures by industry affected by the pandemic of COVID-19 as of December 31, 2022 is disclosed in Note 53. (2) and the exposures by industries could be changed according to economic fluctuations.

Taking these circumstances into account comprehensively, the Group recalculated the forward-looking information used to estimate the expected credit loss in accordance with K-IFRS 1109 'Financial Instruments' as at December 31, 2022. During the 12-month period since the previous year ended, there have been changes in forward-looking information that affect expected credit losses. It is predicted that major economic factors, such as the unemployment rate and economic growth rate, will deteriorate due to the impact of COVID-19. To reflect these changes, the Group recalculated the forward-looking information by means of increasing the probability of recession used in generating future economic scenarios and will continue to monitor the forward-looking information on a quarterly basis.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

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2. Basis of Preparation, Continued

(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, 2023, which will be submitted for approval to the shareholders' meeting to be held on March 29, 2023.

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.

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3. Significant Accounting Policies, Continued

(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.

Korea Development Bank and Subsidiaries
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3. Significant Accounting Policies, Continued

(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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

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3. **Significant Accounting Policies, Continued**

(4) Recognition and measurement of financial instruments

(i) Initial recognition

The Group recognizes a financial asset or a financial liability in its consolidated 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

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3. Significant Accounting Policies, Continued

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 consolidated 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 three months 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.

Korea Development Bank and Subsidiaries

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3. Significant Accounting Policies, Continued

(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 profit or loss.

(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.

Korea Development Bank and Subsidiaries

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3. Significant Accounting Policies, Continued

(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.

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3. **Significant Accounting Policies, Continued**

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

The amount of the loss on financial assets at amortized cost is measured as the difference between the asset's carrying amount and the present value of estimated future cash flows discounted at the financial asset's original effective interest rate. The 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 is 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.

Korea Development Bank and Subsidiaries

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3. Significant Accounting Policies, Continued

(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.

Hedges of net investments in foreign operations

The Group designates non-derivative financial instruments as hedging instruments for foreign currency risk arising from net investments in foreign operations and recognises the portion of the gain or loss on the hedging instrument that is determined to be an effective hedge in other comprehensive income. The cumulative amounts recognised in other comprehensive income relating to both the foreign exchange differences arising on translation of the results and financial position of the foreign operation and the gain or loss on the hedging instrument that is determined to be an effective hedge of the net investment are reclassed from equity to profit or loss as a reclassification adjustment when the Group disposes of the foreign operation.

(ii) Trading purpose derivatives

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

(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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(10) 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 adjusts 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(11) 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

(12) 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

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3. Significant Accounting Policies, Continued

(13) Leases

(i) Lessee accounting

The Group recognizes a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments at the commencement date of the lease. The Group elected not to apply the requirements to the short-term leases and low value assets.

Right-of-use asset

The right-of-use asset is measured at its cost less subsequent accumulated depreciation and accumulated impairment loss with adjustments reflected arising from remeasurements of the lease liability. The cost of the right-of-use asset comprise the amount of the initial measurement of the lease liability, any initial direct costs incurred by the lessee and any lease payments made at or before the commencement date, less any lease incentive received. The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis from the commencement date of the lease.

Lease liabilities

At the commencement date, the lease liability is measured at present value of the lease payments that are not paid at that date. Lease payments include fixed payments (including in-substance fixed payments), less any lease incentives receivable, variable lease payments that depend on an index or a rate, amounts expected to be payable by the lessee under residual value guarantees, the exercise price of a purchase option if the lessee is reasonably certain to exercise that option, and payments of penalties for terminating the lease, if the lease term reflects the lessee exercising an option to terminate the lease. The variable lease payments that do not depend on an index or a rate are recognized as an expense in the period in which the event or condition that triggers those payments occurs.

When measuring the present value, the lease payments are discounted using the interest rate implicit in the lease. If such implicit rate cannot be readily determined, the Group uses the Group's incremental borrowing rate. The lease liability is subsequently increased by the amount of interest expenses recognized on the lease liability and reduced by the lease payments made.

Lease liabilities are remeasured when the future lease payments are changed due to the following:

- Changes in an index or a rate;
- Changes in amounts expected to be payable by the lessee under residual value guarantees;
- Changes in the assessment of whether a purchase option or an option to renew is reasonably certain to be exercised; or
- Changes in the assessment of whether it is reasonably certain that an option to terminate the lease will not be exercised.

Leases of low-value assets and short-term leases

The Group applies the recognition exemption for leases of low-value assets (e.g., office supplies and IT equipment) and short-term leases (i.e., leases with a lease term of 12 months or less). In these cases, lease payments are charged to profit or loss on a straight-line basis over the period of lease.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(ii) Lessor accounting

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.

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.

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.

(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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. Significant Accounting Policies, Continued

(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 measuring the impairment loss.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. **Significant Accounting Policies, Continued**

(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 1109 *'Financial Instrument'* 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

3. **Significant Accounting Policies, Continued**

(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 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

4. Cash and Due from Banks

(1) Cash and due from banks as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Cash	₩	730,429	618,444
Due from banks in Korean won:			
Due from Bank of Korea		3,360,908	5,673,412
Other due from banks in Korean won		1,041,299	775,177
		4,402,207	6,448,589
Due from banks in foreign currencies / off-shores		6,304,386	4,786,331
	₩	11,437,022	11,853,364

(2) Restricted due from banks as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Reserve deposit	₩	1,181,823	4,387,441
Deposit of monetary stabilization account		2,470,000	1,500,000
Others		444,768	565,162
	₩	4,096,591	6,452,603

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

(In millions of won)

5. Securities Measured at FVTPL

(1) Details of securities in financial assets at fair value through profit or loss as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:				
Stocks	₩	-	2,978,850	2,733,747
Equity investments		-	1,911,408	2,079,343
Beneficiary certificates		-	10,251,890	10,440,078
Government and public bonds		718,000	682,243	683,215
Financial bonds		712,200	707,943	688,558
Corporate bonds		816,014	813,594	773,161
Commercial papers		29,999	29,422	29,836
Others		274,784	274,784	272,324
		2,550,997	17,650,134	17,700,262
Securities denominated in foreign currencies/off-shores:				
Stocks		-	21,784	22,168
Equity investments		-	317,202	338,440
Beneficiary certificates		-	978,356	926,954
Debt securities		182,051	182,051	122,585
		182,051	1,499,393	1,410,147
	₩	2,733,048	19,149,527	19,110,409

		December 31, 2021		
		Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:				
Stocks	₩	-	1,804,967	1,639,347
Equity investments		-	1,392,064	1,525,636
Beneficiary certificates		-	6,612,784	5,600,696
Government and public bonds		707,000	681,019	651,062
Financial bonds		277,900	276,753	275,436
Corporate bonds		781,124	780,019	800,132
Others		409,699	348,899	319,033
		2,175,723	11,896,505	10,811,342
Securities denominated in foreign currencies/off-shores:				
Stocks		-	7,836	7,869
Equity investments		-	110,131	142,465
Beneficiary certificates		-	771,669	723,436
Debt securities		53,347	52,985	53,218
		53,347	942,621	926,988
	₩	2,229,070	12,839,126	11,738,330

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

5. Securities Measured at FVTPL, Continued

(2) Equity securities with disposal restrictions in financial assets at fair value through profit or loss as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			
Company	Number of shares		Carrying amount	Restricted period
National Hapiness Fund	34,066	₩	28,873	Undecided

	December 31, 2021			
Company	Number of shares		Carrying amount	Restricted period
National Happiness Fund	34,066	₩	47,647	Undecided
Shinhan Metal Co., Ltd.	7,692		-	Until December 31, 2022
	41,758	₩	47,647	

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6. Securities Measured at FVOCI

(1) Details of securities measured at FVOCI as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:				
Stocks and equity investments	₩	-	10,873,813	11,149,883
Government and public bonds		9,259,848	7,958,772	6,575,782
Financial bonds		2,600,000	2,853,251	2,824,496
Corporate bonds		9,280,879	9,299,251	8,686,231
Others		2,118,938	2,125,404	5,996,794
		23,259,665	33,110,491	35,233,186
Securities denominated in foreign currencies/off-shores:				
Stocks		-	4,336	6,025
Debt securities		10,907,828	12,726,708	11,741,471
		10,907,828	12,731,044	11,747,496
	₩	34,167,493	45,841,535	46,980,682

		December 31, 2021		
		Face value	Acquisition cost	Fair value (Carrying amounts)
Securities denominated in Korean won:				
Stocks and equity investments	₩	-	10,204,480	10,476,340
Government and public bonds		1,160,000	1,158,713	1,157,222
Financial bonds		1,820,000	1,820,839	1,817,298
Corporate bonds		8,444,966	8,445,272	8,303,980
Others		2,137,933	2,137,928	8,399,956
		13,562,899	23,767,232	30,154,796
Securities denominated in foreign currencies/off-shores:				
Stocks		-	7,631	6,995
Debt securities		8,101,939	8,311,303	8,484,959
		8,101,939	8,318,934	8,491,954
Loaned securities		420,000	416,002	417,640
	₩	22,084,838	32,502,168	39,064,390

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 and loss on disposal of equity securities for the years ended December 31, 2022 and 2021 are the amount of ₩266,630 million of gain and ₩74,720 million of gain, respectively, which is directly recognized in retained earnings.

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6. Securities Measured at FVOCI, Continued

(2) Changes in securities measured at FVOCI for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Beginning balance	₩	39,064,390	34,920,659
Acquisition		16,053,624	37,441,512
Disposal		(13,847,034)	(37,229,695)
Change due to amortization		35,264	(46,583)
Change in fair value		(4,536,586)	3,273,627
Reclassification (*1)		9,553,486	(15,657)
Foreign exchange differences		644,033	574,342
Others (*2)		13,505	146,185
Ending balance	₩	46,980,682	39,064,390

(*1) For the year ended December 31, 2022, the amount includes the reclassification from assets held for sale to securities measured at FVOCI related to KDB Life Insurance Co., Ltd.

(*2) For the year ended December 31, 2022, others represent the increase in securities measured at FVOCI including shares of FADU Inc., TETOS Co., Ltd. and others acquired through exercise of conversion rights of the convertible bonds and shares of Boowon Industry Co., Ltd., ENTECHNOLOGIES Co., Ltd. and others acquired in accordance with the rehabilitation plan under the Debtor Rehabilitation and Bankruptcy Act. For the year ended December 31, 2021, others represent the increase in securities measured at FVOCI including shares of DAE SUN SHIPBUILDING & ENGINEERING CO., LTD., HEUNG-A SHIPPING CO., LTD. and others acquired in accordance with the workout plan decided by the Council of Financial Creditors, shares of Woongjin Energy Co., Ltd. and others acquired in accordance with the rehabilitation plan under the Debtor Rehabilitation and Bankruptcy Act. and shares of L&F CO., LTD., NKMAX Co., Ltd., KASA NETWORK PTE. LTD. and others acquired through exercise of conversion rights of the convertible bonds.

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6. Securities Measured at FVOCI, Continued

(3) Equity securities with disposal restrictions in securities measured at FVOCI as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			
Company (*1)	Number of shares		Carrying amount	Restricted period
UAMCO., Ltd.	113,050	₩	188,721	Undecided
High Gain Antenna Co., Ltd.	18,138		270	Undecided
Kumho Tire Co., Inc.	21,339,320		71,167	Until July 6, 2023 (*2)
Daehan Shipbuilding Co., Ltd.	231,459		2,871	Until August 31, 2023
	21,701,967	₩	263,029	

(*1) The Group sold all of its shares in HEUNG-A SHIPPING CO., LTD. and K Shipbuilding Co., Ltd. for the year ended December 31, 2022.

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

	December 31, 2021			
Company	Number of shares		Carrying amount	Restricted period
UAMCO., Ltd.	113,050	₩	176,628	Undecided
High Gain Antenna Co., Ltd.	18,138		273	Undecided
DNGV., Co. Ltd. (*2)	500,000		1	Undecided
HEUNG-A SHIPPING CO., LTD.	3,019,800		8,153	Until July 11, 2022
K Shipbuilding Co., Ltd.	1,115,242		1,258	Until August 3, 2022
WOOJEON CO., LTD.	591,118		1	Until November 12, 2022
Kumho Tire Co., Inc.	21,339,320		98,374	Until July 6, 2023 (*)
POSCO PLANTEC CO., LTD.	1,838,744		1,806	Until December 31, 2023 or listing date
	28,535,412	₩	286,494	

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

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6. Securities Measured at FVOCI, Continued

(4) Changes in the loss allowance in relation to securities measured at FVOCI for the years ended December 31, 2022 and 2021 are as follows:

		2022			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	11,455	3,269	72,624	87,348
Transfer to 12-month expected credit loss		157	(157)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired debt securities		(1,127)	1,127	-	-
Provision for loss allowance		(3,330)	532	(140)	(2,938)
Disposal		(677)	-	-	(677)
Foreign currency translation		195	(1)	355	549
Others		4,183	(2,223)	855	2,815
Ending balance	₩	10,856	2,547	73,694	87,097

		2021			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	9,218	1,358	71,354	81,930
Transfer to 12-month expected credit loss		400	(400)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired debt securities		(1,786)	1,786	-	-
Provision for loss allowance		5,246	1,469	822	7,537
Disposal		(485)	-	-	(485)
Foreign currency translation		103	-	766	869
Others		(1,241)	(944)	(318)	(2,503)
Ending balance	₩	11,455	3,269	72,624	87,348

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7. Securities Measured at Amortized Cost

(1) Securities measured at amortized cost as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	
		Amortized cost	Fair value
Securities denominated in Korean won:			
Government and public bonds	₩	2,964,285	2,964,285
Financial bonds		2,961,886	2,961,788
Corporate bonds		3,296,921	3,290,517
Others		4,448	4,448
		9,227,540	9,221,038
Securities denominated in foreign currencies:			
Corporate bonds		991,810	779,605
		10,219,350	10,000,643
Less:			
Loss allowance		(7,092)	
	₩	10,212,258	

		December 31, 2021	
		Amortized cost	Fair value
Securities denominated in Korean won:			
Government and public bonds	₩	1,437,496	1,437,496
Financial bonds		1,088,249	1,088,203
Corporate bonds		3,616,291	3,607,456
		6,142,036	6,133,155
Securities denominated in foreign currencies:			
Corporate bonds		71,057	70,703
		6,213,093	6,203,858
Less:			
Loss allowance		(9,235)	
	₩	6,203,858	

(2) Changes in securities measured at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Beginning balance	₩	6,203,858	2,120,469
Acquisition		4,933,576	4,794,058
Redemption		(1,933,533)	(700,000)
Change due to amortization		13,109	(6,118)
Impairment loss		2,524	(4,788)
Foreign exchange differences		54,014	237
Reclassification, etc. (*)		938,710	-
Ending balance	₩	10,212,258	6,203,858

(*) For the year ended December 31, 2022, the amount includes the reclassification from assets held for sale to securities measured at FVOCI related to KDB Life Insurance Co., Ltd.

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8. Loans Measured at FVTPL

(1) Loans measured at FVTPL as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	
		Amortized cost	Fair value (Carrying amounts)
Loans in Korean won:			
Privately placed corporate bonds	₩	459,931	542,619

		December 31, 2021	
		Amortized cost	Fair value (Carrying amounts)
Loans in Korean won:			
Privately placed corporate bonds	₩	471,645	644,412

(2) Gains (losses) related to loans measured at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Transaction gains (losses) on loans measured at FVTPL			
Transaction gains	₩	8,100	1,860,411
Transaction losses		(8,709)	(9,692)
		(609)	1,850,719
Valuation gains (losses) on loans measured at FVTPL			
Valuation gains		9,364	83,772
Valuation losses		(88,248)	(4,349)
		(78,884)	79,423
	₩	(79,493)	1,930,142

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9. Loans Measured at Amortized Cost

(1) Loans measured at amortized cost and allowance for loan losses as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	
		Amortized cost	Fair value
Loans in Korean won:			
Loans for working capital	₩	71,204,285	69,583,844
Loans for facility development		65,218,913	63,233,829
Loans for households		1,403,975	1,390,978
Inter-bank loans		3,043,216	2,752,261
		140,870,389	136,960,912
Loans in foreign currencies:			
Loans		30,274,562	29,935,380
Inter-bank loans		3,906,439	3,892,376
Off-shore loans		20,442,349	19,902,573
		54,623,350	53,730,329
Other loans:			
Bills bought in foreign currency		2,290,686	2,268,364
Advances for customers on acceptances and guarantees		8,954	1,286
Privately placed corporate bonds		4,134,081	4,097,734
Credit card loans		117,958	117,456
Others		12,106,198	12,014,977
		18,657,877	18,499,817
		214,151,616	209,191,058
Less:			
Allowance for loan losses		(3,278,721)	
Present value discount		(10,621)	
Deferred loan origination costs and fees		(4,648)	
	₩	210,857,626	

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9. **Loans Measured at Amortized Cost, Continued**

		December 31, 2021	
		Amortized cost	Fair value
Loans in Korean won:			
Loans for working capital	₩	63,555,754	61,980,947
Loans for facility development		60,215,183	59,032,685
Loans for households		310,800	306,840
Inter-bank loans		2,787,493	2,598,921
Others		1,744	-
		126,870,974	123,919,393
Loans in foreign currencies:			
Loans		24,531,460	24,186,081
Inter-bank loans		2,170,975	2,170,110
Off-shore loans		16,602,690	16,193,012
		43,305,125	42,549,203
Other loans:			
Bills bought in foreign currency		2,776,677	2,774,875
Advances for customers on acceptances and guarantees		6,408	1,438
Privately placed corporate bonds		2,500,388	2,599,374
Credit card loans		120,536	119,739
Others		6,927,185	6,791,561
		12,331,194	12,286,987
		182,507,293	178,755,583
Less:			
Allowance for loan losses		(3,312,276)	
Present value discount		(15,881)	
Deferred loan origination costs and fees		3,219	
	₩	179,182,355	

(2) Changes in allowance for loan losses for the years ended December 31, 2022 and 2021 are as follows:

		2022			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	381,569	1,334,840	1,595,867	3,312,276
Transfer to 12-month expected credit loss		23,976	(13,013)	(10,963)	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired loans		(185,237)	205,833	(20,596)	-
Transfer to credit-impaired loans		(72,498)	(198,266)	270,764	-
Provision for (reversal of) loss allowance		182,941	(120,955)	460,358	522,344
Write-offs		-		(86,745)	(86,745)
Recovery		-		20,782	20,782
Sale		(136)		(148,285)	(148,421)
Debt-to-equity swap		-		(355,903)	(355,903)
Foreign currency translation		3,094	41,416	10,722	55,232
Other		2,957	(33,501)	(10,300)	(40,844)
Ending balance	₩	336,666	1,216,354	1,725,701	3,278,721

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9. Loans Measured at Amortized Cost, Continued

		2021			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	662,190	665,018	1,839,870	3,167,078
Transfer to 12-month expected credit loss		3,453	(3,453)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired loans		(2,108,992)	2,108,992	-	-
Transfer to credit-impaired loans		(1,400,952)	(6,603)	1,407,555	-
Provision for (reversal of) loss allowance		3,250,579	(1,479,207)	(1,148,333)	623,039
Write-offs		-	(1,844)	(34,640)	(36,484)
Recovery		-	-	57,778	57,778
Sale		(55)	-	(195,397)	(195,452)
Debt-to-equity swap		-	-	(402,680)	(402,680)
Foreign currency translation		15,037	7,948	39,620	62,605
Other		(39,691)	43,989	32,094	36,392
Ending balance	₩	381,569	1,334,840	1,595,867	3,312,276

(3) Losses related to loans measured at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Provision for loan losses	₩	(522,344)	(621,071)
Gains on disposal of loan		32,313	36,152
	₩	(490,031)	(584,919)

(4) Changes in net deferred loan origination costs and fees for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Beginning balance	₩	3,219	(2,188)
New deferrals		(6,737)	(7,578)
Amortization		(1,130)	12,985
Ending balance	₩	(4,648)	3,219

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10. 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.

The Group applies net investment hedge accounting by designating non-derivative financial instruments as hedging instruments and any gain or loss on the hedging instruments relating to the effective portion of the hedge is recognised in other comprehensive income and accumulated in the foreign currency translation reserve.

Gains and losses on the hedging instrument accumulated in the foreign currency translation reserve are reclassified to profit or loss on the disposal or partial disposal of the foreign operation.

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10. Derivative Financial Instruments, Continued

(1) The notional amounts outstanding for derivative contracts and the carrying amounts of the derivative financial instruments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Notional amounts (*1)		Carrying amounts (*1)	
		Buy	Sell	Assets	Liabilities
Trading purpose derivative financial instruments:					
Interest rate					
Futures	₩	-	1,232,323	-	-
Forwards		-	50,000	1,384	-
Swaps		293,780,901	293,397,190	1,570,043	2,054,643
Options		7,881,911	14,728,387	473,586	536,364
		301,662,812	309,407,900	2,045,013	2,591,007
Currency					
Forwards		43,253,318	20,120,036	2,434,017	1,326,656
Swaps		59,221,890	75,130,783	4,272,602	6,138,009
Options		330,066	329,052	1,991	6,452
		102,805,274	95,579,871	6,708,610	7,471,117
Stock					
Options		48,904	493,689	12,762	6,003
Allowance and other adjustments		-	-	(14,647)	(1,447)
		404,516,990	405,481,460	8,751,738	10,066,680
Hedging purpose derivative financial instruments:					
Interest rate (*2)					
Futures		-	87,951	-	-
Swaps		31,358,989	31,358,989	50,214	542,258
		31,358,989	31,446,940	50,214	542,258
Currency					
Forwards		-	11,251,200	408,031	22,385
Swaps		10,217,257	11,831,985	181,144	781,730
		10,217,257	23,083,185	589,175	804,115
Allowance and other adjustments		-	-	(155)	(3,803)
		41,576,246	54,530,125	639,234	1,342,570
	₩	446,093,236	460,011,585	9,390,972	11,409,250

(*1) The notional amounts, derivative financial assets and liabilities of Daewoo Shipbuilding & Marine Engineering Co., Ltd. classified as assets and liabilities held for sale as of December 31, 2022, are excluded.

(*2) The expected maximum period for which derivative contracts, applied the cash flow hedge accounting, are exposed to risk of cash flow fluctuation is until August 28, 2029.

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10. Derivative Financial Instruments, Continued

		December 31, 2021			
		Notional amounts (*1)		Carrying amounts (*1)	
		Buy	Sell	Assets	Liabilities
Trading purpose derivative financial instruments:					
Interest rate					
Futures	₩	-	702,640	-	-
Swaps		244,254,542	244,041,721	858,605	485,957
Options		8,369,912	14,664,093	305,022	377,850
		252,624,454	259,408,454	1,163,627	863,807
Currency					
Futures		17,783	-	-	-
Forwards		60,581,549	53,453,895	1,775,680	1,135,352
Swaps		57,998,582	70,368,555	1,620,744	2,497,574
Options		377,494	375,834	889	578
		118,975,408	124,198,284	3,397,313	3,633,504
Stock					
Options		53,753	50,736	10,911	221
Allowance and other adjustments		-	-	(11,531)	(850)
		371,653,615	383,657,474	4,560,320	4,496,682
Hedging purpose derivative financial instruments:					
Interest rate (*2)					
Futures		-	69,707	-	-
Swaps		24,135,814	24,135,534	331,117	45,477
		24,135,814	24,205,241	331,117	45,477
Currency					
Swaps		9,073,004	9,023,151	210,660	214,707
Allowance and other adjustments		-	-	(135)	(4,028)
		33,208,818	33,228,392	541,642	256,156
	₩	404,862,433	416,885,866	5,101,962	4,752,838

(*1) The notional amounts, derivative financial assets and liabilities of Daewoo Shipbuilding & Marine Engineering Co., Ltd., KDB Life Insurance Co., Ltd. and Daewoo Engineering & Construction Co., Ltd. classified as assets and liabilities held for sale as of December 31, 2021, are excluded.

(*2) The expected maximum period for which derivative contracts, applied the cash flow hedge accounting, are exposed to risk of cash flow fluctuation is until April 29, 2025.

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10. Derivative Financial Instruments, Continued

(2) The notional amounts outstanding for the hedging instruments by period as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Interest rate:							
Swaps	₩	38,019	1,697,045	4,319,670	20,712,419	4,591,836	31,358,989
Currency:							
Swaps		316,782	311,512	3,339,781	6,600,909	1,263,001	11,831,985

		December 31, 2021					
		Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Interest rate:							
Swaps	₩	306,695	1,441,003	1,437,526	17,596,972	3,353,618	24,135,814
Currency:							
Swaps		-	17,178	2,412,941	5,159,516	1,483,369	9,073,004

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10. Derivative Financial Instruments, Continued

(3) Details of the balances of the hedging instruments by risk type as of December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Notional amounts		Balances		Changes in fair value for 2022
		Buy	Sell	Assets	Liabilities	
Cash flow hedge accounting:						
Interest rate risk						
Swaps	₩	88,711	88,711	-	-	5,044
Currency risk						
Forwards		-	71,343	-	3,946	(2,706)
Swaps		-	211,105	3,268	6,221	12,053
		-	282,448	3,268	10,167	9,347
		88,711	371,159	3,268	10,167	14,391
Fair value hedge accounting:						
Interest rate risk						
Futures		-	87,951	-	-	-
Swaps		31,270,278	31,270,278	50,214	542,258	(1,586,513)
		31,270,278	31,358,229	50,214	542,258	(1,586,513)
Currency risk						
Forwards		-	11,179,857	408,031	18,439	404,381
Swaps		10,217,257	11,620,880	177,876	775,509	(635,435)
		10,217,257	22,800,737	585,907	793,948	(231,054)
		41,487,535	54,158,966	636,121	1,336,206	(1,817,567)
	₩	41,576,246	54,530,125	639,389	1,346,373	(1,803,176)

		December 31, 2021				
		Notional amounts		Balances		Changes in fair value for 2021
		Buy	Sell	Assets	Liabilities	
Cash flow hedge accounting:						
Interest rate risk						
Swaps	₩	82,985	82,985	-	-	2,035
Fair value hedge accounting:						
Interest rate risk						
Futures		-	69,707	-	-	-
Swaps		24,052,829	24,052,549	331,117	45,477	(699,622)
		24,052,829	24,122,256	331,117	45,477	(699,622)
Currency risk						
Swaps		9,073,004	9,023,151	210,660	214,707	(469,520)
		33,125,833	33,145,407	541,777	260,184	(1,169,142)
	₩	33,208,818	33,228,392	541,777	260,184	(1,167,107)

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10. Derivative Financial Instruments, Continued

(4) Details of the balances of the hedged items by risk type as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Carrying amounts		Adjustments from fair value hedge accounting		Changes in fair value for 2022	Other comprehen-sive income for cash flow hedge
		Assets	Liabilities	Assets	Liabilities		
Cash flow hedge accounting:							
Interest rate risk							
Debt debentures	₩	-	88,711	-	-	-	7,240
Currency risk							
Securities measured at FVOCI		143,206	-	-	-	-	5,719
		143,206	88,711	-	-	-	12,959
Fair value hedge accounting:							
Interest rate risk							
Securities measured at FVOCI		4,610,088	-	(334,845)	-	(347,090)	-
Debt debentures		-	25,497,582	-	(1,900,489)	1,890,055	-
Other liabilities (Deposits, etc.)		-	107,660	-	(19,070)	22,323	-
		4,610,088	25,605,242	(334,845)	(1,919,559)	1,565,288	-
Currency risk (*)							
Securities Measured at FVTPL		339,525	-	(7,726)	-	(8,787)	-
Securities measured at FVOCI		802,267	-	38,607	-	19,135	-
Securities Measured at Amortized Cost		762,435	-	31,178	-	8,412	-
Loans		104,321	-	2,203	-	2,203	-
Debt debentures		-	9,816,395	-	(89,179)	611,221	-
		2,008,548	9,816,395	64,262	(89,179)	632,184	-
		6,618,636	35,421,637	(270,583)	(2,008,738)	2,197,472	-
	₩	6,761,842	35,510,348	(270,583)	(2,008,738)	2,197,472	12,959

(*) Firm commitments, etc designated as hedged item are excluded.

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10. Derivative Financial Instruments, Continued

		December 31, 2021					
		Carrying amounts		Adjustments from fair value hedge accounting			
		Assets	Liabilities	Assets	Liabilities	Changes in fair value for 2021	Other comprehensive income for cash flow hedge
Cash flow hedge accounting:							
Interest rate risk							
Debt debentures	₩	-	82,985	-	-	-	1,930
Fair value hedge accounting:							
Interest rate risk							
Securities measured at FVOCI		3,459,504	-	(122,926)	-	(67,612)	-
Debt debentures		-	21,621,572	-	(2,069)	643,184	-
Other liabilities (Deposits, etc.)		-	121,593	-	3,043	9,589	-
		3,459,504	21,743,165	(122,926)	974	585,161	-
Currency risk							
Debt debentures		-	9,012,029	-	170,860	504,818	-
		3,459,504	30,755,194	(122,926)	171,834	1,089,979	-
	₩	3,459,504	30,838,179	(122,926)	171,834	1,089,979	1,930

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10. Derivative Financial Instruments, Continued

(5) Details of hedge ineffectiveness recognized in profit or loss from derivatives for the years ended December 31, 2022 and 2021 is as follows:

		2022	2021
Interest rate risk	₩	(21,225)	(114,461)
Currency risk (*)		15,484	35,298
	₩	(5,741)	(79,163)

(*) 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 years ended December 31, 2022 and 2021 is as follows:

		2022		
		Change in the value of the hedging instrument recognized in other comprehensive income	Hedge ineffectiveness recognized in profit or loss (*)	Amount reclassified from other comprehensive income to profit or loss (*)
Interest rate risk and currency risk	₩	14,280	111	-

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

		2021		
		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 and currency risk	₩	1,883	152	-

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

(7) Details of net investments in foreign operations for the years ended December 31, 2022 and 2021 are as follows:

		2022	
		Changes in fair value	Other comprehensive income (loss) for hedges of a net investment in a foreign operation
Currency (foreign exchange risk)	₩	67,754	(96,874)

		2021	
		Changes in fair value	Other comprehensive income (loss) for hedges of a net investment in a foreign operation
Currency (foreign exchange risk)	₩	78,096	(29,120)

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10. Derivative Financial Instruments, Continued

(8) Detail of hedging instruments in hedge of net investment in a foreign operation as of December 31, 2022 and 2021 is as follows:

		December 31, 2022			
		Book value	Changes in fair value for 2022	Change in the value of the hedging instrument recognized in other comprehensive loss for 2022	Hedge ineffectiveness recognized in profit or loss for 2022
Debentures in foreign currencies	₩	1,097,225	(67,754)	(67,754)	-

		December 31, 2021			
		Book value	Changes in fair value for 2021	Change in the value of the hedging instrument recognized in other comprehensive income for 2021	Hedge ineffectiveness recognized in profit or loss for 2021
Debentures in foreign currencies	₩	1,006,263	(78,095)	(78,095)	-

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11. Investments in Associates

(1) The market value of marketable investments in associates as of December 31, 2022 and 2021 are as follows:

		Market value		Carrying amounts	
		December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Korea Electric Power Co., Ltd.	₩	4,604,929	4,668,299	13,341,271	20,982,893
HMM Co., Ltd.		1,978,446	2,722,261	1,974,499	3,305,985
KG Dongbu Steel Co., Ltd. (*)		-	15,966	-	17,421
HANJIN KAL		264,477	433,616	352,761	509,168
Korean Air Lines Co., Ltd.		280,906	-	369,789	

(*) KG Dongbu Steel Co., Ltd. is excluded from the Group's subsidiaries due to the disposal of shares for the year ended December 31, 2022.

(2) Changes in investments in associates for the years ended December 31, 2022 and 2021 are as follows:

		2022								
		January 1, 2022	Acquisition / transfer	Disposal / transfer	Share of profit (loss)	Impairment loss (*)	Share of other comprehensive income (loss)	Dividends	Others	December 31, 2022
Korea Electric Power Co., Ltd.	₩	20,982,893	-	-	(8,050,704)	-	402,401	-	6,681	13,341,271
Korea Tourism Organization		274,365	-	-	(12,551)	-	8,799	-	-	270,613
HMM Co., Ltd.		3,305,985	-	-	2,082,593	(3,528,974)	175,614	(60,720)	1	1,974,499
Korea Infrastructure Fund II		228,929	-	(183)	1,307	-	-	(10,791)	-	219,262
Korea Ocean Business Corporation		2,117,139		-	(439,129)	-	15,682	-	(350)	1,693,342
HANJIN KAL		509,168	-	-	72,186	(247,283)	18,680	-	10	352,761
Korean Air Lines Co., Ltd.		-	330,477	-	20,152	-	17,085	-	2,075	369,789
Others		4,129,591	612,483	(452,198)	187,833	(11,846)	24,481	(247,216)	52,799	4,295,927
	₩	31,548,070	942,960	(452,381)	(6,138,313)	(3,788,103)	662,742	(318,727)	61,216	22,517,464

(*) For the year ended December 31, 2022, the Group recognized impairment losses amounting to ₩247,283 million due to a decrease in value in use resulting from the deterioration of operating cash flows for HANJIN KAL. The Group recognized impairment losses amounting to ₩3,528,974 million for HMM Co., Ltd. for the year ended December 31, 2022, due to a decrease in recoverable amount resulting from the decrease in expected cash flow from the shares held by the Bank. The Group recognized impairment losses amounting to ₩11,846 million for the year ended December 31, 2022, based on objective evidence of impairment, such as a decrease in the net asset value due to a decrease in the fair value of assets held for Blue Ocean Corporate's Financial Stabilization Private Equity Fund No.1, and 14 other companies. The recoverable amount was ₩2,418,729 million as of December 31, 2022.

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11. Investments in Associates, Continued

	2021								
	January 1, 2021	Acquisition / transfer	Disposal / transfer	Share of profit (loss)	Impairment loss (*)	Share of other comprehensive income (loss)	Dividends	Others	December 31, 2021
Korea Electric Power Co., Ltd.	₩ 22,801,747	-	-	(1,748,894)	-	184,270	(256,862)	2,632	20,982,893
Korea Tourism Organization	315,812	-	-	(46,356)	-	4,909	-	-	274,365
HMM Co., Ltd.	-	2,658,000	-	924,528	-	69,453	-	(345,996)	3,305,985
Korea Infrastructure Fund II	240,389	-	(6,911)	5,661	-	-	(10,210)	-	228,929
Korea Ocean Business Corporation	1,196,393	-	-	924,696	-	18,236	-	(22,186)	2,117,139
HANJIN KAL	500,000	-	-	4,738	-	(3,443)	-	7,873	509,168
Others	4,174,146	957,467	(779,741)	698,077	(46,997)	56,159	(639,784)	(289,736)	4,129,591
	₩ 29,228,487	3,615,467	(786,652)	762,450	(46,997)	329,584	(906,856)	(647,413)	31,548,070

(*) The Group recognized ₩46,997 million as impairment losses considering the decline in net asset values due to the decrease in fair value of assets held as indications of impairment for Unison Savor Private Equity Fund and 17 others for the year ended December 31, 2021. Recoverable amount is ₩193,487 million as of December 31, 2021.

Korea Development Bank and Subsidiaries

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11. Investments in Associates, Continued

(3) The key financial information of associates invested and ownership ratios as of and for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Profit (loss) for the year	Total comprehensive income (loss)	Ownership (%)
Korea Electric Power Co., Ltd.	Korea	December	Electricity generation	₩ 234,804,994	192,804,738	42,000,256	71,257,863	(24,429,108)	(23,182,239)	32.90
Korea Tourism Organization	Korea	December	Culture and tourism administration	1,201,900	393,608	808,292	737,973	(28,798)	(8,610)	43.58
HMM Co., Ltd.	Korea	December	Shipping	25,973,455	5,285,543	20,687,912	18,582,770	10,085,271	10,655,184	20.69
GM Korea Company (*)	Korea	December	Manufacturing	5,916,955	4,503,620	1,413,335	9,013,561	282,760	282,760	17.02
Korea Infrastructure Fund II	Korea	December	Financial investment	829,121	65,397	763,724	62,465	19,105	19,105	26.67
Korea Ocean Business Corporation	Korea	December	Financial investment	11,782,946	4,393,822	7,389,124	324,012	(1,986,514)	(1,915,571)	21.78
HANJIN KAL (*)	Korea	December	Holding company	3,915,078	1,339,021	2,576,057	200,336	659,568	851,925	10.58
Korean Air Lines Co., Ltd. (*)	Korea	December	Air passenger transportation	28,997,701	19,705,241	9,292,460	14,096,095	1,728,363	2,268,959	3.32

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

	December 31, 2021									
	Country	Fiscal year end	Industry	Assets	Liabilities	Equity	Operating revenue	Profit (loss) for the year	Total comprehensive income (loss)	Ownership (%)
Korea Electric Power Co., Ltd.	Korea	December	Electricity generation	₩ 211,108,870	145,797,021	65,311,849	60,574,819	(5,315,055)	(4,754,046)	32.90
Korea Tourism Organization	Korea	December	Culture and tourism administration	1,130,031	312,593	817,438	465,281	(71,016)	(59,751)	43.58
HMM Co., Ltd.	Korea	December	Shipping	17,876,100	7,517,806	10,358,294	13,794,148	5,337,056	5,696,643	20.69
GM Korea Company (*)	Korea	December	Manufacturing	5,013,939	3,496,897	1,517,042	6,973,860	(166,475)	(166,475)	17.02
Korea Infrastructure Fund II	Korea	December	Financial investment	851,153	51,177	799,976	70,165	40,891	40,891	26.67
Korea Ocean Business Corporation	Korea	December	Financial investment	15,040,759	5,845,062	9,195,697	5,499,512	4,187,673	4,207,691	22.11
HANJIN KAL (*)	Korea	December	Holding company	3,754,742	1,930,524	1,824,218	395,278	17,234	46,260	10.66

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

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12. Property and Equipment

Changes in property and equipment for the years ended December 31, 2022 and 2021 are as follows:

		2022						
		January 1, 2022	Acquisition/ depreciation	Disposal	Reclassifi- cation (*2)	Foreign exchange differences	Others	December 31, 2022
Acquisition cost:								
Land	₩	510,091	113	(585)	(376,762)	(1)	(342)	132,514
Buildings and structures		998,802	1,181	(1,979)	(167,603)	97	279	830,777
Leasehold improvements		42,689	4,409	(2,159)	2,726	(79)	4	47,590
Vehicles		2,999	357	(718)	2,830	75	104	5,647
Equipment		89,099	6,554	(3,362)	52,799	(447)	(322)	144,321
Construction in progress		48,495	7,559	(72)	(52,534)	-	(1,109)	2,339
Right-of-use assets		198,121	102,506	(149,113)	38,575	3,566	44	193,699
Others		334,044	5,514	(1,203)	(132,643)	(6)	184	205,890
		2,224,340	128,193	(159,191)	(632,612)	3,205	(1,158)	1,562,777
Accumulated depreciation: (*1)								
Buildings and structures		319,455	21,863	-	(49,837)	35	22,991	314,507
Leasehold improvements		36,172	3,192	(1,987)	1,400	(411)	(68)	38,298
Vehicles		5,156	264	(714)	2,323	53	(2,732)	4,350
Equipment		72,474	9,341	(2,804)	48,265	(221)	(9,132)	117,923
Construction in progress		2,810	-	-	(2,810)	-	-	-
Right-of-use assets		67,015	44,223	(71,458)	18,137	1,130	4,039	63,086
Others		252,050	15,508	(863)	(94,621)	70	(6,095)	166,049
		755,132	94,391	(77,826)	(77,143)	656	9,003	704,213
Accumulated impairment losses:								
Land		3,024	-	-	-	-	-	3,024
Buildings and structures		34,641	1,124	-	532	-	-	36,297
Vehicles		39	5	-	-	-	-	44
Equipment		905	94	(119)	-	-	-	880
Others		9,953	272	(87)	-	-	-	10,138
		48,562	1,495	(206)	532	-	-	50,383
	₩	1,420,646	32,307	(81,159)	(556,001)	2,549	(10,161)	808,181

(*1) The amounts include government grants.
(*2) The property and equipment of KDB Life Insurance Co., Ltd. are reclassified from assets held for sale as of December 31, 2022.

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12. Property and Equipment, Continued

		2021						
		January 1, 2021	Acquisition/ depreciation	Disposal	Reclassifi- cation (*2)	Foreign exchange differences	Others	December 31, 2021
Acquisition cost:								
Land	₩	630,688	132	(62)	(120,671)	-	4	510,091
Buildings and structures		1,203,197	3,585	(744)	(207,811)	15	560	998,802
Leasehold improvements		43,674	3,707	(5,615)	54	721	148	42,689
Vehicles		90,788	121	(111)	(87,933)	52	82	2,999
Equipment		151,821	9,307	(2,944)	(68,949)	137	(273)	89,099
Construction in progress		110,391	22,433	(1,350)	(82,599)	-	(380)	48,495
Right-of-use assets		410,760	122,850	(27,065)	(301,477)	(7,598)	651	198,121
Others		692,443	10,865	(36,271)	(333,182)	204	(15)	334,044
		3,333,762	173,000	(74,162)	(1,202,568)	(6,469)	777	2,224,340
Accumulated depreciation: (*1)								
Buildings and structures		383,452	24,646	(311)	(92,865)	14	4,519	319,455
Leasehold improvements		37,525	3,081	(5,085)	-	651	-	36,172
Vehicles		83,159	252	(109)	(78,189)	32	11	5,156
Equipment		124,022	6,026	(2,404)	(55,523)	160	193	72,474
Construction in progress		2,887	-	-	(77)	-	-	2,810
Right-of-use assets		105,598	32,515	(20,429)	(54,165)	536	2,960	67,015
Others		547,180	22,285	(35,567)	(283,844)	167	1,829	252,050
		1,283,823	88,805	(63,905)	(564,663)	1,560	9,512	755,132
Accumulated impairment losses:								
Land		11,721	-	-	(8,697)	-	-	3,024
Buildings and structures		40,190	1,664	(10)	(7,203)	-	-	34,641
Vehicles		26	13	-	-	-	-	39
Equipment		852	58	(5)	-	-	-	905
Construction in progress		20,163	-	-	(20,163)	-	-	-
Others		9,667	425	(139)	-	-	-	9,953
		82,619	2,160	(154)	(36,063)	-	-	48,562
	₩	1,967,320	82,035	(10,103)	(601,842)	(8,029)	(8,735)	1,420,646

(*1) The amounts include government grants.
(*2) The property and equipment of Daewoo Engineering & Construction Co., Ltd. are reclassified as assets held for sale as of December 31, 2021.

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13. Investment Property

Changes in investment property for the years ended December 31, 2022 and 2021 are as follows:

2022		January 1, 2022	Acquisition/ depreciation/ impairment	Disposal	Reclassifi- cation (*)	December 31, 2022
Acquisition cost:						
Land	₩	60,651	-	-	8,572	69,223
Buildings and structures		59,356	70	-	95,595	155,021
		120,007	70	-	104,167	224,244
Accumulated depreciation:						
Buildings and structures		33,397	4,382	-	29,949	67,728
Accumulated impairment losses:						
Land		1,197	-	-	-	1,197
Buildings and structures		1,776	-	-	1,867	3,643
		2,973	-	-	1,867	4,840
	₩	83,637	(4,312)	-	72,351	151,676

(*) The investment property of KDB Life Insurance Co., Ltd. are reclassified from assets held for sale as of December 31, 2022.

2021		January 1, 2021	Acquisition/ depreciation/ impairment	Disposal	Reclassifi- cation (*)	December 31, 2021
Acquisition cost:						
Land	₩	211,192	-	-	(150,541)	60,651
Buildings and structures		357,013	-	-	(297,657)	59,356
		568,205	-	-	(448,198)	120,007
Accumulated depreciation:						
Buildings and structures		88,113	2,209	-	(56,925)	33,397
Accumulated impairment losses:						
Land		8,321	-	-	(7,124)	1,197
Buildings and structures		11,034	-	-	(9,258)	1,776
		19,355	-	-	(16,382)	2,973
	₩	460,737	(2,209)	-	(374,891)	83,637

(*) The investment property of Daewoo Engineering & Construction Co., Ltd. are reclassified as assets held for sale as of December 31, 2021.

The fair value of the Group's investment property, as determined on the basis of valuation by an independent appraiser, amounts to ₩ 171,447 million and ₩98,784 million as of December 31, 2022 and 2021, respectively. Additionally, fair value of investment in property is classified as level 3 according to the fair value hierarchy in Note 49.

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14. Intangible Assets

Changes in intangible assets for the years ended December 31, 2022 and 2021 are as follows:

2022		January 1, 2022	Acquisition	Disposal	Reclassifi- cation (*)	Amortiza- tion	Impairment loss	Foreign exchange differences	Others	December 31, 2022
Goodwill	₩	12,541	27,272	-	-	-	-	(418)	-	39,395
Membership		15,363	920	(1,523)	(947)	-	-	470	-	14,283
Others		148,293	33,405	(78)	20,902	(59,053)	(103)	(388)	6,852	149,830
	₩	176,197	61,597	(1,601)	19,955	(59,053)	(103)	(336)	6,852	203,508

(*) The intangible assets of KDB Life Insurance Co., Ltd. are reclassified from assets held for sale as of December 31, 2022.

2021		January 1, 2021	Acquisition	Disposal	Reclassifi- cation (*)	Amortiza- tion	Impairment loss	Foreign exchange differences	Others	December 31, 2021
Goodwill	₩	12,402	-	(26)	(542)	-	-	707	-	12,541
Customers related		125,965	-	-	(125,965)	-	-	-	-	-
Membership		30,525	1,431	(1,517)	(15,099)	-	-	23	-	15,363
Others		539,048	15,356	(5,767)	(344,447)	(56,262)	-	88	277	148,293
	₩	707,940	16,787	(7,310)	(486,053)	(56,262)	-	818	277	176,197

(*) The intangible assets of Daewoo Engineering & Construction Co., Ltd. are reclassified as assets held for sale as of December 31, 2021.

15. Other Assets

Other assets as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Accounts receivable	₩	2,831,741	3,454,691
Domestic exchange receivables		3,745,979	1,793,452
Accrued income		1,384,170	626,629
Guarantee deposits		322,766	230,379
Trade accounts receivables		28,135	316,058
Inventories		8,337	25,914
Prepaid expenses		78,082	59,959
Advance payments		30,205	57,694
Financial guarantee asset		25,826	20,127
Others		1,058,466	69,039
		9,513,707	6,653,942
Allowance for credit losses		(79,925)	(75,578)
Present value discount		(5,304)	(4,629)
	₩	9,428,478	6,573,735

(*) The carrying amounts of financial assets included in other assets above amounted to ₩8,338,617 million and ₩6,441,337 million as of December 31, 2022 and 2021, respectively, and their fair value amounted to ₩8,266,777 million and ₩6,385,842 million as of December 31, 2022 and 2021, respectively.

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16. Assets and Liabilities Held for Sale

(1) Classification of Daewoo Engineering & Construction Co., Ltd., the Group's subsidiary, as assets and liabilities held for sale

As the Group and Hyundai Heavy Industries Co., Ltd. ("Hyundai Heavy Industries") made the investment contract (hereinafter, "the contract") with an investment in kind on March 8, 2019 and proceeded with the sale for attracting investment in Daewoo Shipbuilding & Marine Engineering Co., Ltd. ("Daewoo Shipbuilding & Marine Engineering") of the Group's subsidiary, the Group classified the disposal group of Daewoo Shipbuilding & Marine Engineering as assets and liabilities held for sale and the gain or loss related to Daewoo Shipbuilding & Marine Engineering as profit from discontinued operations.

The European Commission did not approve the merger between Korea Shipbuilding & Marine Engineering Co., Ltd. and Daewoo Shipbuilding & Marine Engineering on January 13, 2022. As a result of the disapproval, the contract's precondition including governmental permission of different countries was not satisfied and the Group and Korea Shipbuilding & Marine Engineering Co., Ltd. cancelled this contract on March 8, 2022.

On September 26, 2022 Hanwha Aerospace Co., Ltd. and five other companies and Daewoo Shipbuilding & Marine Engineering entered into an investment agreement and based on the agreement, the Group classified the disposal group of Daewoo Shipbuilding & Marine Engineering as assets and liabilities held for sale and the gain or loss related to Daewoo Shipbuilding & Marine Engineering as profit (loss) from discontinued operations.

(2) KDB Life Insurance Co., Ltd., the Group's subsidiary, excluded from assets and liabilities held for sale

Before the previous year, the Group selected JC Partners, local private equity firm, as the preferred bidder for the shares of KDB Life Insurance Co., Ltd. held by KDB Consus Value Private Equity Fund, the Group's subsidiary, and is conducting sale processes based on the agreement of purchase and sale of shares made on December 31, 2020. The Group classified a disposal group of KDB Life Insurance Co., Ltd. as assets and liabilities held for sale and profit or loss on KDB Life Insurance Co., Ltd. as profit or loss from discontinued operations.

For the year ended December 31, 2022, the Group cancelled the agreement of purchase and sale of shares with JC Partners due to the expiration of the transaction closing date. The disposal group of KDB Life Insurance Co., Ltd. were excluded from assets and liabilities held for sale. The gain or loss related to KDB Life Insurance Co., Ltd. was reclassified from profit from discontinued operations to profit from discontinuing operations and the statement of comprehensive income presented for comparative purpose was restated.

(3) Sale of Daewoo Engineering & Construction Co., Ltd., the Group's subsidiary, completed

The Group selected Jungheung consortium as the preferred bidder for the shares of Daewoo Engineering & Construction Co., Ltd. held by KDB Investment PEF No.1, the Group's subsidiary on July 5, 2021, and is conducting sale processes based on the agreement of purchase and sale of shares made on December 9, 2021. The Group classified a disposal group of Daewoo Engineering & Construction Co., Ltd. as assets and liabilities held for sale and profit or loss on Daewoo Engineering & Construction Co., Ltd. as profit or loss from discontinued operations.

For the year ended December 31, 2022, the sale of Daewoo Engineering & Construction Co., Ltd., the Group's sub-subsidiary, was completed and the carrying amount of KDB Investment PEF No.1 was liquidated. Accordingly Daewoo Engineering & Construction Co., Ltd. and KDB Investment PEF No.1 were excluded from the Group.

(4) Classification of Daehan Shipbuilding Co., Ltd., the Group's subsidiary, as assets and liabilities held for sale
On May 20, 2022, Daehan Shipbuilding Co., Ltd. ("Daehan Shipbuilding") and KHI consortium entered into an investment contract (hereinafter, "the contract") to increase the paid-in capital for the purpose of allowing KHI consortium to acquire the status of a major shareholder of Daehan Shipbuilding. KHI consortium completed payment for the shares on August 31, 2022, and Daehan Shipbuilding was subsequently excluded from the Group.

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16. Assets and Liabilities Held for Sale, Continued

(5) Assets and liabilities held for sale as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Assets held for sale			
Cash and cash equivalents	₩	1,058,540	4,568,551
Securities measured at FVTPL		31,809	4,853,630
Securities measured at FVOCI		8,087	7,505,861
Securities measured at amortized cost		16	6,541,467
Investments in associates		3,759	130,022
Property and equipment		4,167,237	4,202,414
Investment property		-	395,542
Intangible assets		1,532	100,219
Other assets		6,781,559	11,999,045
		12,052,539	40,296,751
Liabilities held for sale			
Policy reserves		-	17,742,225
Borrowings		2,449,239	2,619,675
Debentures		121,954	1,389,298
Demand repayment share		-	36,066
Derivative financial instruments		227,912	108,571
Other liabilities		6,572,697	11,104,089
		9,371,802	32,999,924
Net assets	₩	2,680,737	7,296,827

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16. Assets and Liabilities Held for Sale, Continued

(6) Other comprehensive income in relation to assets and liabilities held for sale as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Net gain (loss) on securities measured at FVOCI	₩	(12,095)	(150,723)

(7) Details of profit and loss from discontinued operations and cash flows from discontinued operating activities for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Profit (loss) from discontinued operations			
Profit (loss) before income taxes	₩	(1,139,106)	(779,028)
Income tax expense		(68,683)	260,098
Profit (loss) for the year	₩	(1,070,423)	(1,039,126)
Cash flows from discontinued operations			
Net cash flows from operating activities	₩	(1,167,642)	1,047,011
Net cash flows from investing activities		52,431	9,496
Net cash flows from financing activities		(70,221)	(371,939)
Effects from changes in foreign currency exchange rate for cash and cash equivalents held		(10,169)	5,365
Net cash flows from discontinued operations	₩	(1,195,601)	689,933

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17. Financial Liabilities Designated at Fair Value Through Profit or Loss

(1) Financial liabilities designated at fair value through profit or loss as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Debentures	₩	1,131,310	1,636,163
Deposits		338,414	430,981
		1,469,724	2,067,144

Changes in fair value of structured debentures and deposits 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, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Carrying amount	₩	1,469,724	2,067,144
Contractual cash flow amount		2,101,133	2,110,955
Difference amount	₩	(631,409)	(43,811)

18. Deposits

Deposits as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Amortized cost	Fair value	Amortized cost	Fair value
Deposits in Korean won:					
Demand deposits	₩	122,609	122,609	85,432	85,432
Time and savings deposits		53,970,194	53,909,816	40,145,859	40,109,531
Certificates of deposit		757,471	758,937	342,105	341,901
		54,850,274	54,791,362	40,573,396	40,536,864
Deposits in foreign currencies:					
Demand deposits		2,457,886	2,457,935	2,562,673	2,562,673
Time and savings deposits		4,441,503	4,435,613	5,116,944	5,115,951
Certificates of deposit		6,937,265	6,944,840	4,554,217	4,554,217
		13,836,654	13,838,388	12,233,834	12,232,841
Off-shore deposits in foreign currencies:					
Demand deposits		835,904	835,904	670,777	670,777
Certificates of deposit		765,301	765,794	361,122	360,884
		1,601,205	1,601,698	1,031,899	1,031,661
	₩	70,288,133	70,231,448	53,839,129	53,801,366

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19. Borrowings

(1) Borrowings as of December 31, 2022 and 2021 are as follows:

	December 31, 2022				
	Minimum interest rate (%)	Maximum interest rate (%)		Amortized cost	Fair value
Borrowings in Korean won	-	6.35	₩	7,701,465	7,914,770
Borrowings in foreign currencies	-	6.57		14,962,903	14,882,070
Off-shore borrowings in foreign currencies	0.16	9.40		5,118,598	5,069,938
Share capital repayable on demand	-	-		807,421	820,542
Others	0.05	4.88		1,541,165	1,160,218
				30,131,552	29,847,538
Present value discount				-	
Deferred borrowing costs				(473)	
			₩	30,131,079	

	December 31, 2021				
	Minimum interest rate (%)	Maximum interest rate (%)		Amortized cost	Fair value
Borrowings in Korean won	-	4.62	₩	8,265,608	7,938,340
Borrowings in foreign currencies	-	5.31		14,286,316	14,265,382
Off-shore borrowings in foreign currencies	-	3.35		2,281,488	2,279,425
Share capital repayable on demand	-	-		1,184,034	1,184,034
Others	0.01	3.29		2,549,509	2,392,122
				28,566,955	28,059,303
Present value discount				(5,744)	
Deferred borrowing costs				(148)	
			₩	28,561,063	

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19. Borrowings, Continued

(2) Borrowings in Korean won before adjusting for deferred borrowing costs as of December 31, 2022 and 2021 are as follows:

Lender	Classification	Annual interest rate (%)		December 31, 2022	December 31, 2021
The Bank of Korea	Borrowings from Bank of Korea	0.25 ~ 1.25	₩	375,350	378,160
Ministry of Economy and Finance	Borrowings from government fund (*)	2.94 ~ 3.23		93,155	108,932
Korea SMEs and Startups Agency	Borrowings from small and medium enterprise promotion fund	0.66 ~ 2.91		57,569	61,240
Ministry of Culture, Sports and Tourism	Borrowings from tourism promotion fund	0.09 ~ 2.44		3,182,920	3,005,749
Korea Energy Agency	Borrowings from fund for rational use of energy	0.25 ~ 1.85		268,659	282,178
Local governments	Borrowings from local small and medium enterprise promotion fund	0.00 ~ 2.88		27,167	27,658
Others	Borrowings from petroleum enterprise fund	0.00 ~ 6.35		3,696,645	4,401,691
			₩	7,701,465	8,265,608

(*) Borrowings from government fund are subordinated borrowings.

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19. Borrowings, Continued

(3) Borrowings and off-shore borrowings in foreign currencies before adjusting for deferred borrowing costs as of December 31, 2022 and 2021 are as follows:

Lender	Classification	Annual interest rate (%)		December 31, 2022	December 31, 2021
Mizuho and others	Bank loans from foreign funds	3M Libor + 0.29 ~ 6M Libor + 0.24	₩	1,394,030	355,650
Ministry of Economy and Finance	Exchange equalization fund borrowings in foreign currencies	3M Libor + 0.65 ~ 3M Libor + 0.74		120,761	199,792
Central Bank of the Republic Uzbekistan and others	Off-shore short-term borrowings	0.16 ~ 9.40		3,594,780	1,273,928
China Development Bank and others	Off-shore long-term borrowings	2.34 ~ 3.36		1,523,818	1,007,560
Others	Short-term borrowings in foreign currencies	0.06 ~ 6.57		12,893,295	12,796,587
	Long-term borrowings in foreign currencies	0.10 ~ 5.41		554,817	934,287
			₩	20,081,501	16,567,804

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20. Debentures

Debentures as of December 31, 2022 and 2021 are as follows:

	December 31, 2022				
	Minimum interest rate (%)	Maximum interest rate (%)		Amortized cost	Fair value
Debentures in Korean won:					
Debentures	0.82	6.60	₩	127,075,533	124,521,358
Discount on debentures				(337,875)	
Valuation adjustment for fair value hedges				(419,108)	
				126,318,550	
Debentures in foreign currencies:					
Debentures	0.05	10.87		20,939,433	21,100,328
Discount on debentures				(37,730)	
Premium on debentures				91	
Valuation adjustment for fair value hedges				(1,000,456)	
				19,901,338	
Off-shore debentures:					
Debentures	-	11.15		18,859,840	18,272,508
Discount on debentures				(48,784)	
Valuation adjustment for fair value hedges				(570,086)	
				18,240,970	
			₩	164,460,858	163,894,194

	December 31, 2021				
	Minimum interest rate (%)	Maximum interest rate (%)		Amortized cost	Fair value
Debentures in Korean won:					
Debentures	0.75	6.60	₩	114,231,093	114,044,603
Discount on debentures				(78,927)	
Valuation adjustment for fair value hedges				(89,080)	
				114,063,086	
Debentures in foreign currencies:					
Debentures	-	10.87		19,519,310	20,665,552
Discount on debentures				(40,592)	
Premium on debentures				1,338	
Valuation adjustment for fair value hedges				143,824	
				19,623,880	
Off-shore debentures:					
Debentures	-	7.00		16,242,288	16,420,828
Discount on debentures				(28,401)	
Valuation adjustment for fair value hedges				114,066	
				16,327,953	
			₩	150,014,919	151,130,983

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21. Policy Reserves

Details of policy reserves categorized by insurance type as of December 31, 2022 and 2021 are as follows:

	Classification	December 31, 2022	December 31, 2021 (*)
Premium reserve	Pure endowment	₩ 5,265,159	5,395,804
	Death	7,370,175	6,916,124
	Endowment	4,300,952	4,274,623
	Group	25,964	22,451
		16,962,250	16,609,002
Unearned premium reserve	Pure endowment	1	1
	Death	9,981	9,923
	Group	51	54
		10,033	9,978
Reserve for outstanding claims	Pure endowment	111,101	99,736
	Death	248,218	258,962
	Endowment	632,726	626,189
	Group	2,788	3,526
		994,833	988,413
Reserve for participating policyholders' dividends	Pure endowment	37,899	40,304
	Death	2,653	2,859
	Endowment	1,724	1,782
	Group	2	4
		42,278	44,949
Excess participating policyholders' dividend reserve		3,267	3,503
Reserve for losses on participating insurance		2,905	6,934
Guaranteed benefit reserve		61,244	79,446
		₩ 18,076,810	17,742,225

(*) These are the policy reserves of KDB Life Insurance Co., Ltd. and are included in the liabilities held for sale.

22. Defined Benefit Liabilities

(1) Details of defined benefit liabilities as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Present value of defined benefit obligation	₩ 428,545	440,643
Fair value of plan assets (*)	(517,369)	(431,562)
Net defined benefit liabilities	(88,824)	9,081
Liabilities for other long-term employment benefits	161	165
	₩ (88,663)	9,246

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

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22. Defined Benefit Liabilities, Continued

(2) Changes in defined benefit liabilities for the years ended December 31, 2022 and 2021 are as follows:

2022	Present value of defined benefit obligation	Fair value of plan assets	Net defined benefit liabilities	Liabilities for other long-term employment benefits
Beginning balance	₩ 440,643	(431,562)	9,081	165
Current service costs	47,583	-	47,583	-
Past service costs	34,363	-	34,363	-
Interest expense (income)	13,747	(13,758)	(11)	-
Remeasurements of defined benefit liabilities:				
Demographic assumption	9,167	-	9,167	-
Financial assumption	(97,924)	7,812	(90,112)	-
Return on plan assets	-	472	472	-
Experience adjustment	(1,991)	-	(1,991)	-
	(90,748)	8,284	(82,464)	
Payments from the plan	(48,924)	32,971	(15,953)	-
Reclassification (*)	32,763	(33,535)	(772)	-
Contribution to the plan	-	(80,864)	(80,864)	-
Others	(882)	1,095	213	(4)
Ending balance	₩ 428,545	(517,369)	(88,824)	161

(*) For the year ended December 31, 2022, the amount includes the reclassification from assets held for sale related to KDB Life Insurance Co., Ltd.

2021	Present value of defined benefit obligation	Fair value of plan assets	Net defined benefit liabilities	Liabilities for other long-term employment benefits
Beginning balance	₩ 909,847	(663,192)	246,655	4,839
Current service costs	46,832	-	46,832	-
Interest expense (income)	10,813	(9,741)	1,072	-
Remeasurements of defined benefit liabilities:				
Demographic assumption	15	-	15	-
Financial assumption	(45,986)	-	(45,986)	-
Return on plan assets	-	5,827	5,827	-
Experience adjustment	(10,674)	-	(10,674)	-
	(56,645)	5,827	(50,818)	-
Payments from the plan	(24,394)	22,371	(2,023)	-
Reclassification (*)	(446,551)	269,846	(176,705)	(4,697)
Contribution to the plan	-	(56,673)	(56,673)	-
Others	74	-	741	23
Ending balance	₩ 440,643	(431,562)	9,081	165

(*) For the year ended December 31, 2021, the amount arising from the effect that defined benefit liabilities held by Daewoo Engineering & Construction Co., Ltd. are transferred to assets-held for sale is included.

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22. Defined Benefit Liabilities, Continued

(3) Fair value of plan assets for each type as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Quoted market prices	Unquoted market prices	Quoted market prices	Unquoted market Prices
Equity securities	₩	872	-	-	-
Debt securities		23,720	-	3,566	-
Due from banks		18,008	473,766	-	427,776
Others		1,003	-	220	-
	₩	43,603	473,766	3,786	427,776

(4) Defined benefit costs recognized in profit or loss for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Current service costs	₩	47,583	44,020
Past service costs		34,363	-
Interest expense, net		(11)	683
	₩	81,935	44,703

(5) The principal actuarial assumptions used as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Discount rate (%)	4.50 ~ 7.50	0.60 ~ 7.30
Future salary increasing rate (%)	2.00 ~ 5.50	2.00 ~ 5.69

(6) The present value sensitivity of defined benefit obligation as changes in principal actuarial assumptions as of December 31, 2022 is as follows:

	Sensitivity	
	1% increase in assumption	1% decrease in assumption
Discount rate	8.09% decrease	9.36% increase
Future salary increasing rate	9.25% increase	8.15% decrease

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23. Provisions

(1) Provisions as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Provision for payment guarantees	₩	457,215	215,388
Provision for unused commitments		139,433	182,468
Financial guarantee provision		42,650	56,238
Lawsuit provision		491	2,028
Provision for restoration		16,522	16,187
Other provision		33,518	173,020
	₩	689,829	645,329

(2) Changes in provision for payment guarantees for the years ended December 31, 2022 and 2021 are as follows:

		2022			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-Impaired	Credit-impaired	Total
Beginning balance	₩	67,348	14,047	133,993	215,388
Transfer to 12-month expected credit loss		9,037	(191)	(8,846)	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(129,944)	131,290	(1,346)	-
Transfer to credit-impaired exposures		(164)	(2,667)	2,831	-
Provision for payment guarantees		53,620	111,457	17,933	183,010
Foreign currency translation		3,506	219,496	21,462	244,464
Others		-	(185,647)	-	(185,647)
Ending balance	₩	3,403	287,785	166,027	457,215

		2021			
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-Impaired	Credit-impaired	Total
Beginning balance	₩	79,221	98,719	94,878	272,818
Transfer to 12-month expected credit loss		105,507	(105,507)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(90,952)	90,952	-	-
Transfer to credit-impaired exposures		(4,090)	(1,552)	5,642	-
Provision for (reversal of) payment guarantees		(27,213)	(73,778)	23,228	(77,763)
Foreign currency translation		4,874	5,213	10,245	20,332
Others		1	-	-	1
Ending balance	₩	67,348	14,047	133,993	215,388

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23. Provisions, Continued

(3) Changes in provision for unused commitments for the years ended December 31, 2022 and 2021 are as follows:

2022					
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	49,569	124,904	7,995	182,468
Transfer to 12-month expected credit loss		45,756	(45,756)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(18,733)	20,346	(1,613)	-
Transfer to credit-impaired exposures		(1,210)	(4,344)	5,554	-
Reversal of unused commitments		(59,474)	(2,015)	(2,821)	(64,310)
Foreign currency translation		16,600	4,335	194	21,129
Others		146	-	-	146
Ending balance	₩	32,654	97,470	9,309	139,433

2021					
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-impaired	Credit-impaired	Total
Beginning balance	₩	77,088	85,145	-	162,233
Transfer to 12-month expected credit loss		267,476	(267,476)	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(34,669)	34,669	-	-
Transfer to credit-impaired exposures		(3,793)	(3,513)	7,306	-
Provision for (reversal of) unused commitments		(290,224)	275,637	601	(13,986)
Foreign currency translation		33,641	442	88	34,171
Others		50	-	-	50
Ending balance	₩	49,569	124,904	7,995	182,468

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23. Provisions, Continued

(4) Changes of financial guarantee provision for the years ended December 31, 2022 and 2021 are as follows:

2022					
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-Impaired	Credit-impaired	Total
Beginning balance	₩	2,723	15,321	38,194	56,238
Transfer to 12-month expected credit loss		-	-	-	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(282)	1,494	(1,212)	-
Transfer to credit-impaired exposures		(97)	(243)	340	-
Provision for (reversal of) financial guarantee		(1,681)	20,095	(32,002)	(13,588)
Ending balance	₩	663	36,667	5,320	42,650

2021					
			Lifetime expected credit losses		
		12-month expected credit loss	Non credit-Impaired	Credit-impaired	Total
Beginning balance	₩	30,354	26,007	5,846	62,207
Transfer to 12-month expected credit loss		86	(14)	(72)	-
Transfer to lifetime expected credit losses:					
Transfer to non credit-impaired exposures		(1,517)	1,522	(5)	-
Transfer to credit-impaired exposures		(9,226)	(94)	9,320	-
Provision for (reversal of) financial guarantee		(16,975)	(12,100)	23,105	(5,970)
Others		1	-	-	1
Ending balance	₩	2,723	15,321	38,194	56,238

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23. Provisions, Continued

(5) Changes of lawsuit provision, restoration provision and other provision for the years ended December 31, 2022 and 2021 are as follows:

	2022		
	Lawsuit provision	Restoration provision	Other provision
Beginning balance	₩ 2,028	16,187	173,020
Reversal of provision	(1,550)	(2,007)	(44,111)
Provision used	-	(693)	(25)
Foreign exchange differences	(20)	2	8
Reclassification (*)	-	1,415	(91,317)
Others	33	1,618	(4,057)
Ending balance	₩ 491	16,522	33,518

(*) For the year ended December 31, 2022, the amount includes the reclassification from liabilities held for sale to securities measured at FVOCI related to KDB Life Insurance Co., Ltd.

	2021		
	Lawsuit provision	Restoration provision	Other provision
Beginning balance	₩ 26,949	15,717	426,782
Increase (reversal) of provision	1,611	(1,820)	115,432
Provision used	-	(849)	(142)
Reclassification (*)	(26,374)	-	(366,001)
Others	(158)	3,139	(3,051)
Ending balance	₩ 2,028	16,187	173,020

(*) For the year ended December 31, 2021, the amount arising from the effect that lawsuit provision and other provision held by Daewoo Engineering & Construction Co., Ltd. are transferred to assets-held for sale is included.

(6) Provision for payment guarantees and financial guarantee

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 provision for financial guarantee.

(7) 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.

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23. Provisions, Continued

(8) Provision for possible losses from lawsuits

As of December 31, 2022, the Group is involved in 75 lawsuits as a plaintiff and 137 lawsuits as a defendant. The aggregate amounts of claims as a plaintiff and a defendant amounted to ₩679,876 million and ₩562,114 million, respectively. The Group provided a provision against contingent loss from pending lawsuits as of December 31, 2022 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.

Major lawsuits in progress as of December 31, 2022 and 2021 are as follows:

	December 31, 2022		
	Contents	Amounts	Status of lawsuit
Plaintiff:			
Korea Trade Insurance Corporation and one other	Claim for guarantee insurance	₩ 136,538	1st, 2nd trial ruled against the Group; 3rd trial in progress
KAMCO 1st JV Securitization Specialty Co., Ltd.	Transfer of claim	8,792	1st, 2nd trial ruled partially in favor of the Group; 3rd trial in progress
Hana Bank and 6 others	Claim for undue benefit	1,647	1st trial ruled against the Group; 2nd trial in progress
e-RAP KOREA Co., Ltd. and one other	Claim for loans (participate in succession)	1,238	1st trial in progress
Defendant:			
Shinhan Bank and one other	Claim for damages	58,474	1st trial in progress
169 individuals including Mr. Kim	Claim for wage	36,573	1st trial ruled in favor of the 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 ruled against the Group; 3rd trial in progress
Woori Bank	Claim for profit and loss settlement	21,246	1st, 2nd trial ruled against the Group
Dongbu Corporation	Claim for objection of request (participation to support)	19,658	1st trial in progress
Export-Import Bank of Korea	Claim for undue benefit, etc.	9,797	1st trial ruled in favor of the Group; 2nd trial in progress
KAMCO 1st JV Securitization Specialty Co., Ltd.	Claim for transaction amount (counterclaim)	7,000	1st, 2nd trial ruled partially in favor of the Group; 3rd trial in progress

Korea Development Bank and Subsidiaries

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23. Provisions, Continued

	December 31, 2021			
	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
KAMCO 1st JV Securitization Specialty Co., Ltd.	Transfer of claim		8,792	1st trial ruled partially in favor of the Group; 2nd trial in progress
Hana Bank and 6 others	Claim for undue benefit		1,647	1st trial in progress
Kappa Korea and one other	Claim for loans		1,000	1st trial in progress
Plaza Rakyat	Claim for construction cost due to termination of contractor contract		264,198	1st trial in progress
AOA	Claim for construction cost		63,809	1st trial in progress
Defendant:				
Shinhan Bank and one other	Claim for damages		58,474	1st 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 ruled against the Group; 3rd trial in progress
Dongbu Corporation	Claim for objection of request (participation to support)		19,658	1st trial in progress
Hana Bank	Claim for settlement money and others		7,500	1st, 2nd trial ruled in favor of the Group; 3rd trial in progress
KAMCO 1st JV Securitization Specialty Co., Ltd.	Claim for transaction amount		7,000	1st trial ruled partially in favor of the Group

(9) Other provision

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

Korea Development Bank and Subsidiaries

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(In millions of won)

24. Other Liabilities

Other liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Accounts payable	₩	2,798,627	3,447,940
Lease liabilities		221,508	178,997
Accrued expense		2,123,959	1,609,113
Domestic exchange payable		243,620	617,446
Borrowing from trust accounts		714,648	1,009,233
Advance receipts		41,813	317,268
Guarantee money received		1,293,342	577,055
Trade payable		8,926	80,771
Unearned income		457,422	69,166
Deposits withholding tax		49,822	27,749
Foreign exchanges payable		30,231	58,241
Financial guarantee liability		28,874	23,093
Others		903,055	96,879
		8,915,847	8,112,951
Present value discount		(142,485)	(75,686)
	₩	8,773,362	8,037,265

The carrying amount of financial liabilities included in other liabilities above amounted to ₩7,381,131 million and ₩7,564,991 million as of December 31, 2022 and 2021, respectively, and their fair value amounted to ₩7,450,812 million and ₩7,636,399 million as of December 31, 2022 and 2021, respectively.

(2) Details of lease liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Face value	Discount	Carrying amounts
Real estate	₩	208,135	(97,511)	110,624
Vehicles		12,502	(1,037)	11,465
Others		871	(82)	789
	₩	221,508	(98,630)	122,878

		December 31, 2021		
		Face value	Discount	Carrying amounts
Real estate	₩	169,781	(51,278)	118,503
Vehicles		7,769	(793)	6,976
Others		1,447	(148)	1,299
	₩	178,997	(52,219)	126,778

Cash payments for the principal portion of the lease liabilities are ₩42,614 and ₩38,232 million for the years ended December 31, 2022 and 2021, respectively and cash payments for the interest portion of the lease liabilities are ₩2,365 and ₩797 million for the years ended December 31, 2022 and 2021, respectively.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

25. Equity

(1) Issued capital
The Group is authorized to issue up to 6,000 million shares of common stock and has 4,630,311,768 shares and 4,377,311,768 shares issued as of December 31, 2022 and 2021, respectively, and outstanding with a total par value (₩ 5,000 of par value per share) of ₩23,151,559 million ₩21,886,559 million as of December 31, 2022 and 2021, respectively. Due to the Group's paid-capital increase, total number and par value of the shares increased in 2022.

(2) Capital surplus
Capital surplus as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Paid-in capital in excess of par value	₩	40,442	44,142
Surplus from capital reduction		47,973	47,973
Share of capital surplus of associates		122,810	122,810
Other capital surplus		700,363	543,635
	₩	911,588	758,560

(3) Capital adjustments
Capital adjustments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Share of capital adjustment of associates	₩	220,936	220,936
Other capital adjustment		53,521	57,456
	₩	274,457	278,392

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

25. Equity, Continued

(4) Accumulated other comprehensive income
(i) Accumulated other comprehensive income as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Net gain on securities measured at FVOCI:			
Valuation gain on securities measured at FVOCI (before tax)	₩	1,885,098	6,074,595
Loss allowance for securities measured at FVOCI (before tax)		87,097	87,348
Income tax effect		(524,264)	(1,694,708)
		1,447,931	4,467,235
Share of other comprehensive income of associates:			
Share of other comprehensive income of associates (before tax)		1,416,661	756,192
Income tax effect		(4,831)	6,477
		1,411,830	762,669
Exchange differences on translation of foreign operations:			
Exchange differences on translation of foreign operations (before tax)		24,615	(371,866)
Income tax effect		(3,763)	123,419
		20,852	(248,447)
Valuation loss on cash flow hedge:			
Valuation loss on cash flow hedge (before tax)		12,960	(1,154)
Income tax effect		(3,352)	418
		9,608	(736)
Net gain (loss) on hedges of net investments in foreign operations :			
Net gain (loss) on hedges of net investments in foreign operations (before tax)		(96,873)	(29,121)
Income tax effect		25,671	8,008
		(71,202)	(21,113)
Remeasurements of defined benefit liabilities:			
Remeasurements of defined benefit liabilities (before tax)		130,749	23,774
Income tax effect		(35,161)	(8,573)
		95,588	15,201
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)		123,396	657
Income tax effect		(32,699)	(180)
		90,697	477
Others:			
Others (before tax)		881	881
Income tax effect		1,500	1,503
		2,381	2,384
	₩	3,007,685	4,977,670

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

25. Equity, Continued

(ii) Changes in accumulated other comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

2022		January 1, 2022	Increase (Decrease)	Tax Effect	December 31, 2022
Net gain (loss) on securities measured at FVOCI	₩	4,467,235	(4,189,748)	1,170,444	1,447,931
Share of other comprehensive income of associates		762,669	660,469	(11,308)	1,411,830
Exchange differences on translation of foreign operations		(248,447)	396,481	(127,182)	20,852
Valuation gain (loss) on cash flow hedge		(736)	14,114	(3,770)	9,608
Net gain (loss) on hedges of net investments in foreign operations		(21,113)	(67,752)	17,663	(71,202)
Remeasurements of defined benefit liabilities		15,201	106,975	(26,588)	95,588
Fair value changes on financial liabilities designated at fair value due to credit risk		477	122,739	(32,519)	90,697
Others		2,384	-	(3)	2,381
	₩	4,977,670	(2,956,722)	986,737	3,007,685

2021		January 1, 2021	Increase (Decrease)	Tax Effect	December 31, 2021
Net gain (loss) on securities measured at FVOCI	₩	2,046,202	3,346,657	(925,624)	4,467,235
Share of other comprehensive income of associates		442,810	322,307	(2,448)	762,669
Exchange differences on translation of foreign operations		(447,601)	206,761	(7,607)	(248,447)
Valuation gain (loss) on cash flow hedge		(1,006)	372	(102)	(736)
Net gain (loss) on hedges of net investments in foreign operations		35,507	(78,096)	21,476	(21,113)
Remeasurements of defined benefit liabilities		(18,968)	49,006	(14,837)	15,201
Fair value changes on financial liabilities designated at fair value due to credit risk		(5,769)	8,615	(2,369)	477
Others		2,336	-	48	2,384
	₩	2,053,511	3,855,622	(931,463)	4,977,670

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

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25. Equity, Continued

(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, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Legal reserve	₩	2,535,892	1,551,154
Voluntary reserve			
Regulatory reserve for credit losses (*)		247,252	482,885
Unappropriated retained earnings		3,769,216	12,056,067
	₩	6,552,360	14,090,106

(*) 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, 2022 and 2021 are as follows:

		2022	2021
Beginning balance	₩	1,551,154	1,356,142
Transfer from retained earnings		984,738	195,012
Ending balance	₩	2,535,892	1,551,154

(iii) Changes in unappropriated retained earnings for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Beginning balance	₩	12,056,067	9,844,908
Changes in accounting policy		(853)	(31,821)
Profit (loss) attributable to owners of the parent for the year		(6,900,726)	1,926,033
Contribution to legal reserve		(984,738)	(195,012)
Dividends		(833,089)	(209,638)
Reclassification of valuation gain or loss on equity securities measured at FVOCI		193,307	54,172
Transfer from regulatory reserve for credit losses		229,939	672,712
Others		9,309	(5,287)
Ending balance	₩	3,769,216	12,056,067

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25. Equity, Continued

(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, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Beginning balance	₩	272,805	502,744
Planned reversal of regulatory reserve for credit losses		(18,231)	(229,939)
Ending balance	₩	254,574	272,805

(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, 2022 and 2021 are as follows:

		2022	2021
Profit (loss) for the year	₩	(7,624,583)	1,323,469
Obligated amount of reversal of regulatory reserve for loan losses		18,231	229,939
Profit (loss) after adjusting regulatory reserve for loan losses	₩	(7,606,352)	1,553,408
Earnings (loss) per share after adjusting regulatory reserve for loan losses (in won)	₩	(1,699)	360

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December 31, 2022 and 2021

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26. Net Interest Income

Net interest income for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Interest income:			
Due from banks	₩	141,000	81,574
Securities measured at FVTPL		227,345	203,792
Securities measured at FVOCI		830,109	532,560
Securities measured at amortized cost		215,377	163,381
Loans measured at FVTPL		12,471	17,111
Loans measured at amortized cost		6,702,345	4,143,838
		8,128,647	5,142,256
Interest expense:			
Financial liabilities measured at FVTPL		(82,977)	(82,058)
Deposits		(1,166,779)	(369,945)
Borrowings		(671,261)	(206,935)
Debentures		(3,448,057)	(1,992,765)
		(5,369,074)	(2,651,703)
	₩	2,759,573	2,490,553

27. Net Fees and Commission Income

Net fees and commission income for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Fees and commission income:			
Loan commissions	₩	131,168	111,351
Underwriting and investment consulting commissions		131,200	118,749
Brokerage and agency commissions		7,953	7,317
Trust and retirement pension plan commissions		34,240	34,561
Fees on asset management		7,614	12,440
Other fees		351,506	160,926
		663,681	445,344
Fees and commission expenses:			
Brokerage and agency fees		(11,021)	(9,667)
Other fees		(69,351)	(15,108)
		(80,372)	(24,775)
	₩	583,309	420,569

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28. Dividend Income

Dividend income for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Securities measured at FVTPL	₩	295,828	191,091
Securities measured at FVOCI		183,985	129,421
	₩	479,813	320,512

29. Net Gain (loss) on Securities Measured at FVTPL

Net gain (loss) related to securities measured at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Gains on securities measured at FVTPL:			
Gains on redemption	₩	10,119	4,787
Gains on sale		278,000	230,174
Gains on valuation		668,577	480,329
		956,696	715,290
Losses on securities measured at FVTPL:			
Losses on redemption		(703)	(30,647)
Losses on sale		(313,438)	(122,549)
Losses on valuation		(723,877)	(350,584)
Purchase related expense		(325)	(172)
		(1,038,343)	(503,952)
	₩	(81,647)	211,338

30. Net Gain on Financial Liabilities Measured at FVTPL

Net gain related to financial liabilities measured at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Gains on financial liabilities measured at FVTPL:			
Gains on redemption	₩	5,438	625
Gains on sale		-	322
Gains on valuation		459,661	152,245
		465,099	153,192
Losses on financial liabilities measured at FVTPL:			
Losses on redemption		-	(310)
Losses on sale		-	(285)
Losses on valuation		-	(2,679)
		-	(3,274)
	₩	465,099	149,918

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31. Net Loss on Securities Measured at FVOCI

Net loss related to securities measured at FVOCI for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Gains on securities measured at FVOCI:			
Gains on redemption	₩	149	-
Gains on sale		11,448	16,605
Reversal of impairment losses		5,228	-
		16,825	16,605
Losses on securities measured at FVOCI:			
Losses on redemption		(701)	(387)
Losses on sale		(86,662)	(38,592)
Impairment losses		(2,290)	(7,596)
		(89,653)	(46,575)
	₩	(72,828)	(29,970)

32. Net Gain (Loss) on Securities Measured at Amortized Cost

Net gain (loss) related to securities measured at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Gains on securities measured at amortized cost:			
Gains on redemption	₩	-	2,769
Gains on sale		363	-
Reversal of impairment losses		2,575	3
		2,938	2,772
Losses on securities measured at amortized cost:			
Impairment losses		(51)	(4,788)
		(51)	(4,788)
	₩	2,887	(2,016)

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33. Net Loss on Derivatives

Net loss on derivatives for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Net gain on trading purpose derivatives:			
Gains on trading purpose derivatives:			
Interest rate	₩	5,177,045	2,490,212
Currency		16,380,385	10,941,400
Stock		9,773	17,952
Gains on adjustment of derivatives		32,404	77,038
		21,599,607	13,526,602
Losses on trading purpose derivatives:			
Interest rate		(4,539,760)	(2,369,340)
Currency		(16,244,977)	(10,906,238)
Stock		(32,930)	(21,083)
Losses on adjustment of derivatives		(49,306)	(92,246)
		(20,866,973)	(13,388,907)
		732,634	137,695
Net loss on hedging purpose derivatives:			
Gains on hedging purpose derivatives:			
Interest rate		356,634	78,163
Currency		793,297	171,951
Gains on adjustment of derivatives		309	782
		1,150,240	250,896
Losses on hedging purpose derivatives:			
Interest rate		(1,977,057)	(713,067)
Currency		(1,923,104)	(877,685)
Losses on adjustment of derivatives		(501)	(422)
		(3,900,662)	(1,591,174)
		(2,750,422)	(1,340,278)
Net gain on fair value hedged items:			
Gains on fair value hedged items:			
Gains on valuation		2,264,372	773,826
Gains on redemption		101,261	184,599
		2,365,633	958,425
Losses on fair value hedged items:			
Losses on valuation		(475,082)	(271,319)
Losses on redemption		(396,415)	(205,224)
		(871,497)	(476,543)
		1,494,136	481,882
	₩	(523,652)	(720,701)

Related with cash flow hedge, the Group recognized ₩111 million of gain and ₩152 million of gain in the consolidated statement of comprehensive income as the ineffective portion for the years ended December 31, 2022 and 2021, respectively.

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34. Net Foreign Currency Transaction Gain (Loss)

Net foreign currency transaction gain (loss) for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Net gain on foreign exchange transactions:			
Gains on foreign exchange transactions	₩	1,097,278	610,256
Losses on foreign exchange transactions		(1,083,446)	(605,355)
		13,832	4,901
Net gain (loss) on foreign exchange translations:			
Gains on foreign exchange translations		14,353,681	9,004,655
Losses on foreign exchange translations		(14,484,977)	(8,694,941)
		(131,296)	309,714
	₩	(117,464)	314,615

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35. Other Operating Income, net

Other operating income and expense for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Other operating income:			
Insurance income	₩	2,746,585	2,439,089
Gains on sale of investments in associates		59,350	37,414
Gains on sale of loans		41,477	64,484
Gains on disposal of loans measured at FVTPL		8,100	1,860,411
Gains on valuation of loans measured at FVTPL		9,364	83,772
Gains on demand equity redemption		15,328	73,863
Reversal of provisions		47,880	3,781
Gains on bargain purchase		2,518	96
Gains on redemption of debentures		4	1
Others		235,086	224,531
		3,165,692	4,787,442
Other operating expense:			
Insurance losses		(3,374,613)	(3,001,476)
Losses on sale of investments in associates		(129,980)	(325,424)
Losses on sale of loans		(9,164)	(28,332)
Losses on disposal of loans measured at FVTPL		(8,709)	(9,692)
Losses on valuation of loans measured at FVTPL		(88,248)	(4,349)
Losses on demand equity redemption		(280,910)	(126,371)
Increase of provisions		(212)	(10,078)
Losses on redemption of debentures		-	(1)
Others		(477,959)	(385,382)
		(4,369,795)	(3,891,105)
	₩	(1,204,103)	896,337

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36. Provision for Credit Losses

Provision for credit losses for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Provision for loss allowance	₩	522,344	621,071
Provision for other manufacturing-related assets		-	13
Reversal of other assets		(687,406)	(33,295)
Reversal of due from banks		(76)	-
Reversal of unused commitments		(64,310)	(13,986)
Reversal of financial guarantees		(13,588)	(5,970)
Provision for (reversal of) payment guarantees		183,010	(77,763)
	₩	(60,026)	490,070

37. General and Administrative Expenses

General and administrative expenses for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Payroll costs:			
Short-term employee benefits	₩	473,921	458,291
Defined benefit costs		73,368	43,282
Defined contribution costs		10,041	9,021
		557,330	510,594
Depreciation and amortization:			
Depreciation of property and equipment		84,049	82,553
Amortization of intangible assets		59,053	58,070
		143,102	140,623
Other:			
Employee welfare benefits		48,867	43,323
Rent expenses		6,762	6,674
Taxes and dues		50,784	37,460
Advertising expenses		18,516	17,923
Others		191,467	183,352
		316,396	288,732
	₩	1,016,828	939,949

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38. Other Non-Operating Income and Expense

Other non-operating income and expense for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Other non-operating income:			
Interest income of non-financial business	₩	243	38
Gain on assets held for sale		-	3,637
Gain on disposal of property and equipment		2,682	2,129
Rental income on investment property		7,631	6,725
Gain on disposal of intangible assets		768	1,874
Others		9,831	7,546
		21,155	21,949
Other non-operating expense:			
Interest expense of non-financial business		(30)	(4,635)
Loss on assets held for sale		-	(2)
Loss on disposal of property and equipment		(1,453)	(771)
Impairment loss of property and equipment		(1,495)	(2,161)
Depreciation of investment property		(4,382)	(4,424)
Loss on disposal of intangible assets		(78)	(20)
Impairment loss of intangible assets		(103)	-
Donations		(5,825)	(6,750)
Others		(19,892)	(30,091)
		(33,258)	(48,854)
	₩	(12,103)	(26,905)

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39. Income Tax Expenses (Benefits)

(1) Income tax expenses (benefits) for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Current income tax	₩	333,590	(332,396)
Changes in income tax before the prior years		(149,746)	(350,718)
Changes in deferred income taxes on temporary differences		(3,177,558)	2,882,412
Income tax recognized directly to equity:			
Other comprehensive income (owners of the parent)		986,737	(931,463)
Other comprehensive income (non-controlling interests)		(37,185)	(1,746)
Retained earnings (including non-controlling interests)		(74,695)	(20,547)
Income tax expenses (benefits):	₩	(2,118,857)	1,245,542
Continuing operations		(2,050,174)	985,444
Discontinued operations		(68,683)	260,098

(2) Profit (loss) before income taxes and income tax expenses (benefits) for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Profit (loss) before income taxes	₩	(8,604,334)	3,348,039
Income taxes calculated using enacted tax rates		418,329	920,711
Adjustments:			
Non-deductible losses and tax-free gains		(26,659)	(52,087)
Non-recognition effect of deferred income taxes		110,532	257,652
Net adjustments for prior years		(42,515)	(33,707)
Consolidation adjustments		(2,410,945)	(342,775)
Others		(98,916)	235,650
		(2,468,503)	64,733
Income tax expenses (benefits)	₩	(2,050,174)	985,444
Effective tax rate		23.83%	29.43%

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39. Income Tax Expenses (Benefits), Continued

(3) Changes in deferred income taxes recognized directly to equity for the years ended December 31, 2022 and 2021 are as follows:

		2022				
		December 31, 2022		January 1, 2022		
		Amounts before tax	Tax effect	Amounts before tax	Tax effect	Changes in tax effect
Net gain (loss) on securities measured at FVOCI	₩	1,972,195	(524,264)	6,161,943	(1,694,708)	1,170,444
Share of other comprehensive income (loss) of associates		1,416,661	(4,831)	756,192	6,477	(11,308)
Exchange differences on translation of foreign operations		24,615	(3,763)	(371,866)	123,419	(127,182)
Gain (loss) on valuation of cash flow hedge		12,960	(3,352)	(1,154)	418	(3,770)
Net gain (loss) on hedges of net investments in foreign operations		(96,873)	25,671	(29,121)	8,008	17,663
Remeasurements of defined benefit liabilities		130,749	(35,161)	23,774	(8,573)	(26,588)
Fair value changes on financial liabilities designated at fair value due to credit risk		123,396	(32,699)	657	(180)	(32,519)
Others		881	1,500	881	1,503	(3)
	₩	3,584,584	(576,899)	6,541,306	(1,563,636)	986,737

₩74,695 million of income tax benefits which is directly recognized in retained earnings consist of tax effects from ₩271,617 million of realized gain on disposal of equity securities measured at FVOCI.

		2021				
		December 31, 2021		January 1, 2021		
		Amounts before tax	Tax effect	Amounts before tax	Tax effect	Changes in tax effect
Net gain (loss) on securities measured at FVOCI	₩	6,161,943	(1,694,708)	2,815,286	(769,084)	(925,624)
Share of other comprehensive income (loss) of associates		756,192	6,477	433,885	8,925	(2,448)
Exchange differences on translation of foreign operations		(371,866)	123,419	(578,627)	131,026	(7,607)
Gain (loss) on valuation of cash flow hedge		(1,154)	418	(1,526)	520	(102)
Net gain (loss) on hedges of net investments in foreign operations		(29,121)	8,008	48,975	(13,468)	21,476
Remeasurements of defined benefit liabilities		23,774	(8,573)	(25,232)	6,264	(14,837)
Fair value changes on financial liabilities designated at fair value due to credit risk		657	(180)	(7,958)	2,189	(2,369)
Others		881	1,503	881	1,455	48
	₩	6,541,306	(1,563,636)	2,685,684	(632,173)	(931,463)

(*) The effect of changes in accounting policy is included.

₩20,547 million of income tax benefits which is directly recognized in retained earnings consist of tax effects from ₩74,270 million of realized gain on disposal of equity securities measured at FVOCI.

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39. Income Tax Expenses (Benefits), Continued

(4) Changes in temporary differences and deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows:

		2022			
		January 1, 2022	Increase/ decrease	December 31, 2022	Deferred tax assets (liabilities) (*)
Temporary differences from recognized deferred tax assets and liabilities:					
Derivatives	₩	(479,047)	1,679,813	1,200,766	318,136
Investments in associates		(9,481,569)	1,398,751	(8,082,818)	(2,875,881)
Securities measured at FVOCI		(147,306)	41	(147,265)	(31)
Impairment losses on debt securities		65,933	-	65,933	17,472
Impairment losses on equity securities		114,603	(38,879)	75,724	17,961
Others		(11,127,315)	7,948,202	(3,179,113)	(952,457)
		(21,054,702)	10,987,928	(10,066,774)	(3,474,800)
Temporary differences from unrecognized deferred tax assets and liabilities:					
Investments in associates		2,512,727	299,860	2,812,587	-
	₩	(23,567,429)	10,688,068	(12,879,361)	(3,474,800)
Undisposed accumulated deficit by deferred corporate taxes:					
Undisposed accumulated deficit	₩	-	591,011	591,011	156,619

(*) The deferred tax assets (liabilities) classified as assets (liabilities) held for sale are not included.

		2021			
		January 1, 2021	Increase/ decrease	December 31, 2021	Deferred tax assets (liabilities) (*)
Temporary differences from recognized deferred tax assets and liabilities:					
Derivatives	₩	(1,481,550)	1,002,503	(479,047)	(133,262)
Investments in associates		(6,944,717)	(2,536,853)	(9,481,570)	(3,248,670)
Securities measured at FVOCI		(146,517)	(789)	(147,306)	185
Impairment losses on debt securities		65,933	-	65,933	18,132
Impairment losses on equity securities		137,937	(23,334)	114,603	14,666
Others		(3,135,977)	(7,991,338)	(11,127,315)	(3,146,790)
		(11,504,891)	(9,549,811)	(21,054,702)	(6,495,739)
Temporary differences from unrecognized deferred tax assets and liabilities:					
Investments in associates		1,886,720	626,007	2,512,727	-
	₩	(13,391,611)	(10,175,818)	(23,567,429)	(6,495,739)
Undisposed accumulated deficit by deferred corporate taxes:					
Undisposed accumulated deficit	₩	562,673	(562,673)	-	-

(*) The deferred tax assets (liabilities) classified as assets (liabilities) held for sale are not included.

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39. Income Tax Expenses (Benefits), Continued

(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.

40. Earnings (loss) per Share

(1) Basic earnings (loss) per share
The Group's basic earnings per share for the years ended December 31, 2022 and 2021 are computed as follows:

(i) Basic earnings (loss) per share

		2022	2021
Profit (loss) for the year (in won)	₩	(7,624,583,303,425)	1,323,468,650,568
Loss attributable to non-controlling interests (in won)		(723,857,053,498)	(602,564,683,893)
Profit (loss) attributable to ordinary shareholders of the Group (A) (in won)		(6,900,726,249,927)	1,926,033,334,461
Profit (loss) from continuing operations (in won)		(6,598,981,564,656)	2,209,391,514,016
Loss from discontinued operations (in won)		(301,744,685,271)	(283,358,179,555)
Weighted-average number of ordinary shares outstanding (B)		4,477,598,343	4,319,226,656
Basic earnings (loss) per share (A/B) (in won)	₩	(1,541)	446
Basic earnings (loss) per share - continuing operations (in won)		(1,474)	512
Basic loss per share -discontinued operations (in won)		(67)	(66)

(ii) Weighted-average number of ordinary shares outstanding

2022	Number of ordinary shares	Days	Cumulative shares
Number of ordinary shares outstanding at the beginning of the year (A)	4,377,311,768	365	1,597,718,795,320
Increased paid-in capital (B)	78,400,000	318	24,931,200,000
Increased paid-in capital (C)	61,600,000	184	11,334,400,000
Increased paid-in capital (D)	113,000,000	3	339,000,000
Cumulative shares (E = A+B+C+D)			1,634,323,395,320
Weighted-average number of ordinary shares outstanding (E/365)			4,477,598,343

2021	Number of ordinary shares	Days	Cumulative shares
Number of ordinary shares outstanding at the beginning of the year (A)	4,153,145,768	365	1,515,898,205,320
Increased paid-in capital (B)	102,000,000	338	34,476,000,000
Increased paid-in capital (C)	122,166,000	214	26,143,524,000
Cumulative shares (D = A+B+C)			1,576,517,729,320
Weighted-average number of ordinary shares outstanding (D/365)			4,319,226,656

(2) Diluted earnings per share
Diluted and basic earnings per share for the years ended December 31, 2022 and 2021 are equal because there is no potential dilutive instrument.

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41. Pledged Assets

Assets pledged by the Group as collateral as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
		Pledged assets	Related liabilities	Pledged assets	Related liabilities
Cash and due from banks (*1)	₩	6,363	-	-	-
Securities (*2)		7,338,978	432,969	6,838,083	1,685,428
Others (*3)		269,500	186,883	5,905,571	7,374,187
	₩	7,614,841	619,852	12,743,654	9,059,615

(*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.

42. Guarantees and Commitments

Guarantees and commitments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Confirmed acceptances and guarantees:			
Acceptances in foreign currency	₩	224,255	281,354
Guarantees for bond issuance		1,860,754	2,224,142
Guarantees for loans		560,129	570,588
Letter of guarantee		64,924	37,262
Guarantees for on-lending debt		4,877	6,794
Others		3,661,506	3,862,877
		6,376,445	6,983,017
Unconfirmed acceptances and guarantees:			
Letter of credit		1,875,325	1,851,986
Others		3,169,784	2,380,519
		5,045,109	4,232,505
Commitments:			
Commitments on loans		44,947,184	42,266,415
Commitments on purchase of securities		3,155,025	2,533,599
		48,102,209	44,800,014
	₩	59,523,763	56,015,536

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43. Leases

(1) Finance lease
Details of finance lease receivables of the Group as lessor as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Finance lease receivables in Korean won	Finance lease receivables in foreign currency	Total
Within 1 year	₩	458,931	114,167	573,098
Over 1 year through 5 years		1,409,842	159,619	1,569,461
Over 5 years		3,029	-	3,029
Gross investment in the lease		1,871,802	273,786	2,145,588
Unearned finance income		(223,862)	(33,705)	(257,567)
Net investment in the lease (*)	₩	1,647,940	240,081	1,888,021
Contingent rent recognized in the current profit or loss	₩	-	-	-

(*) Finance lease receivables are included in loans measured at amortized cost on the consolidated statements of financial position.

		December 31, 2021		
		Finance lease receivables in Korean won	Finance lease receivables in foreign currency	Total
Within 1 year	₩	429,398	90,723	520,121
Over 1 year through 5 years		1,201,426	117,115	1,318,541
Over 5 years		1,357	-	1,357
Gross investment in the lease		1,632,181	207,838	1,840,019
Unearned finance income		(170,240)	(20,847)	(191,087)
Net investment in the lease (*)	₩	1,461,941	186,991	1,648,932
Contingent rent recognized in the current profit or loss	₩	(383)	-	(383)

(*) Finance lease receivables are included in loans measured at amortized cost on the consolidated statements of financial position.

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43. Leases, Continued

(2) Operating lease
Future minimum lease receivables under non-cancellable operating leases as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Within 1 year	₩	3,361	2,911
Over 1 year through 5 years		4,800	4,208
	₩	8,161	7,119
Contingent rent recognized in the current loss	₩	-	-

(3) Cancellable lease
Cancellable lease as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Cancellable financial lease	₩	4,563	4,414
Allowance for credit losses		(4,220)	(3,796)
	₩	343	618

(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, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Advanced payment for leased assets	₩	26,161	8,076
Allowance for credit losses		-	-
	₩	26,161	8,076

(5) Leasehold deposits
The Group withholds collateral money received from the lessees as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Leasehold deposits	₩	482,281	414,810

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44. Trust Accounts

(1) Trust accounts as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Accrued trust fees	₩	9,799	8,083
Borrowings from trust accounts		492,256	870,168
Accrued interest on deposits		511	574

(2) Transactions with trust accounts for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Fees on trust accounts	₩	28,824	28,977
Interest expenses of borrowings from trust accounts		15,648	6,700

45. Related Party Transactions

(1) The Group's related parties as of December 31, 2022 are as follows:

Classification	Corporate name
Associates	Korea Electric Power Co., Ltd., Korea Tourism Organization, Korea Appraisal Board, GM Korea Company, HMM Co., Ltd., HANJIN KAL, Korean Air Lines Co., Ltd., Korea Ocean Business Corporation and 14 others, Keistone Value Investment 2nd Private Equity Fund and 99 others, Hana K-New Deal Unicorn Fund and 112 others
Others	Key management personnel

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45. Related Party Transactions, Continued

(2) Significant outstanding balances with related parties as of December 31, 2022 and 2021 are as follows:

	Account		December 31, 2022	December 31, 2021
Associates:				
Korea Electric Power Co., Ltd.	Securities	₩	177,317	10,759
	Loans		227,477	236,223
	Allowances for loan losses		(1,151)	(1,428)
	Derivative financial assets		92,381	2,409
	Other assets		4,409	2,074
	Deposits		23,196	400,963
	Borrowings		2,253	2,649
	Derivative financial liabilities		223,611	149,969
	Other liabilities		57,487	3,434
	Other provisions		59	12
KG Dongbu Steel Co., Ltd. (*)	Loans		-	783,695
	Allowances for loan losses		-	(4,093)
	Other assets		-	375
	Deposits		-	12,294
	Other liabilities		-	76
	Other provisions		-	682
HMM Co., Ltd.	Securities		5,233,622	7,315,547
	Loans		164,292	202,509
	Allowances for loan losses		(2,243)	(30,614)
	Other assets		7,123	7,236
	Deposits		509,920	1,876,483
	Other liabilities		10,468	9,145
HANJIN KAL	Loans		373,445	449,252
	Other assets		481	518
	Deposits		70,000	-
	Other liabilities		1,050	-
Korean Air Lines Co., Ltd.	Loans		1,189,100	-
	Allowances for loan losses		(8,798)	-
	Other assets		11,989	-
	Deposits		1,716,833	-
	Other liabilities		23,075	-
	Derivative financial liabilities		73,131	-
Korea Ocean Business Corporation	Loans		-	15,237
	Allowances for loan losses		-	(2)
	Other assets		-	16
	Deposits		25,000	40,000
	Other liabilities		386	237
Others	Securities		-	1,454
	Loans		209,978	445,904
	Allowances for loan losses		(480)	(8,250)
	Other assets		6,472	6,900
	Deposits		323,333	470,808
	Other liabilities		2,215	2,307
	Other provisions		46	76,500

(*) For the year ended December 31, 2022, KG Dongbu Steel Co., Ltd. was excluded from the related parties due to the Group's sale of shares.

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45. Related Party Transactions, Continued

(3) Significant profit or loss from transactions with related parties for the years ended December 31, 2022 and 2021 are as follows:

	Account	2022	2021
Associates:			
Korea Electric Power Co., Ltd.	Interest income	₩ 12,096	2,994
	Dividend income	-	256,862
	Reversal of allowance for loan losses	379	351
	Fees and commission income, other income	136,288	19,298
	Interest expenses	(3,357)	(1,006)
	Other operating expenses	(208,915)	(254,043)
KG Dongbu Steel Co., Ltd. (*1)	Interest income	-	11,889
	Dividend income	-	1,101
	Reversal of allowance for loan losses	-	51,228
	Fees and commission income, other income	-	27,840
	Interest expenses	-	(13)
	Other operating expenses	-	(10,866)
HMM Co., Ltd.	Interest income	42,406	43,330
	Dividend income	60,720	-
	Reversal of allowance for loan losses	28,372	62,402
	Fees and commission income, other income	19,561	1,830,596
	Interest expenses	(7,724)	(3,377)
	Other operating expenses	(192,015)	(85,660)
Hanjin Heavy Industries & Construction Co., Ltd. (*2)	Interest income	-	2,962
	Fees and commission income, other income	-	133,190
	Interest expenses	-	(177)
	Provision for loan losses	-	(3,514)
	Other operating expenses	-	(2,930)
HANJIN KAL	Interest income	6,713	7,012
	Fees and commission income, other income	15	58,399
	Interest expenses	(1,184)	-
	Other operating expenses	(75,807)	-
Korean Air Lines Co., Ltd.	Interest income	44,609	-
	Reversal of allowance for loan losses	13,348	-
	Fees and commission income, other income	62,228	-
	Interest expenses	(41,878)	-
	Other operating expenses	(144,436)	-
Korea Ocean Business Corporation	Interest income	343	213
	Reversal of allowance for loan losses	2	-
	Fees and commission income, other income	2,907	1,338
	Interest expenses	(266)	(237)

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45. Related Party Transactions, Continued

	Account	2022	2021
Associates:			
Others	Interest income	₩ 6,738	20,066
	Dividend income	218,852	606,017
	Reversal of allowance for loan losses	4	348,053
	Fees and commission income, other income	5,639	23,393
	Interest expenses	(6,422)	(2,332)
	Provision for loan losses	(129)	(641)
	Other operating expenses	(329)	(31,566)

(*1) The amounts are profit or loss recognized until KG Dongbu Steel Co., Ltd. was excluded from the related parties due to the Group's sale of shares for the year ended December 31, 2022.

(*2) Hanjin Heavy Industries & Construction Co., Ltd. is excluded from the Group's related parties due to the disposal of shares for the year ended December 31, 2021 and the amounts are profit or loss recognized until the Hanjin Heavy Industries & Construction Co., Ltd. was excluded from the related parties.

(4) Details of guarantees and commitments to the related parties as of December 31, 2022 and 2021 are as follows:

	Account	December 31, 2022	December 31, 2021
Associates:			
KG Dongbu Steel Co., Ltd. (*)	Unconfirmed acceptances and guarantees	₩ -	32,487
	Loan commitments	-	186,021
Korean Air Lines Co., Ltd.	Confirmed acceptances and guarantees	177,367	-
Others	Loan commitments	426,085	221,182
		₩ 603,452	439,690

(*) For the year ended December 31, 2022, KG Dongbu Steel Co., Ltd. was excluded from the related parties due to the Group's sale of shares.

(5) Details of compensation to key management personnel for the years ended December 31, 2022 and 2021 are as follows:

	2022	2021
Short-term employee benefits	₩ 6,453	6,341
Post-employment benefits	766	356
	₩ 7,219	6,697

(6) The Group is not pledged any assets as collaterals to the related parties and from the related parties as of December 31, 2022 and 2021.

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46. 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, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Associates:		
Corporate Liquidity Assistance Agency Co.,Ltd. (*)	₩ 560,000	560,000
Sinoker SF 4th Co., Ltd. (*)	5,625	45,000
K-Five 9th Securitization Specialty Co., Ltd. (*)	-	20,000
KKC 2ND INC. (*)	-	30,000
KDB ESG 1ST INC. (*)	-	100,500
KDB ESG 2ND INC. (*)	-	155,500
KDB ESG 3RD INC. (*)	-	150,800
PROPERTY KDB 1ST INC. (*)	30,000	-
ENMKDB 1ST INC. (*)	50,000	-
	₩ 645,625	1,061,800

(*) 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) Nature and scope of interests in unconsolidated structured entities
Details of unconsolidated structured entities as of December 31, 2022 and 2021 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.

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46. Disclosure of Interests in Other Entities, Continued

(3) Nature of related risks
The carrying amount of and maximum exposure to loss from interests in unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

	December 31, 2022					
	Investment funds and investment trusts	Real estate finance	Asset-backed securitization	Shipping and acquisition finance	Others	Total
Assets:						
Securities	₩ 11,195,851	314,300	54,307	2,114	375	11,566,947
Loans	2,079,727	9,753,470	1,007,058	1,690,082	4,652,124	19,182,461
Derivatives	42,471	520	11,187	-	-	54,178
Others	63,162	45,108	1,882	5,355	24,525	140,032
	13,381,211	10,113,398	1,074,434	1,697,551	4,677,024	30,943,618
Liabilities:						
Provisions	215	1,611	153	72	594	2,645
Financial guarantees	-	-	702	-	1,815	2,517
Derivatives	51,593	1,641	17,474	-	7,653	78,361
Others	9,450	10,456	1,285	275	4,080	25,546
	61,258	13,708	19,614	347	14,142	109,069
Granting of credit and other commitments	282,484	1,602,742	517,848	82,542	853,225	3,338,841
Maximum exposure to loss (*)	₩ 13,663,695	11,716,140	1,592,282	1,780,093	5,530,249	34,282,459

(*) 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.

	December 31, 2021					
	Investment funds and investment trusts	Real estate finance	Asset-backed securitization	Shipping and acquisition finance	Others	Total
Assets:						
Securities	₩ 9,049,362	319,205	190,652	3,727	375	9,563,321
Loans	1,851,419	9,276,341	932,618	1,210,208	5,080,851	18,351,437
Derivatives	9,936	1,898	2,272	-	2,805	16,911
Others	10,390	26,655	1,453	3,105	21,301	62,904
	10,921,107	9,624,099	1,126,995	1,217,040	5,105,332	27,994,573
Liabilities:						
Provisions	138	1,955	168	56	1,003	3,320
Financial guarantees	-	-	10,913	-	439	11,352
Derivatives	15,226	44	15,174	-	662	31,106
Others	7,708	3,510	172	174	2,908	14,472
	23,072	5,509	26,427	230	5,012	60,250
Granting of credit and other commitments	170,070	2,326,019	895,605	73,718	823,647	4,289,059
Maximum exposure to loss (*)	₩ 11,091,177	11,950,118	2,022,600	1,290,758	5,928,979	32,283,632

(*) 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.

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46. Disclosure of Interests in Other Entities, Continued

(4) Significant non-controlling interests
Details of significant non-controlling interests and summary of financial information as of December 31, 2022 and 2021 are as follows:

- Non-controlling interests:

	December 31, 2022				
	Non-controlling interests ownership (%)		Profit (loss) on non-controlling interests	Non-controlling interests	Dividend to non-controlling interests
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	44.32	₩	(773,306)	1,629,074	-

	December 31, 2021				
	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	₩	205,231	1,697,922	-
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	44.32		(753,384)	2,283,106	-

- Summary of financial information:

		December 31, 2022							
		Assets	Liabilities	Operating revenue	Profit (loss) for the year	Total comprehensive Income (loss)	Cash flows from operating activities	Cash flows from investing activities	Cash flows from financing activities
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	₩	12,235,665	11,490,693	4,860,150	(1,744,778)	(1,472,612)	(1,065,433)	87,974	(129,780)

		December 31, 2021							
		Assets	Liabilities	Operating revenue	Profit (loss) for the year	Total comprehensive Income (loss)	Cash flows from operating activities	Cash flows from investing activities	Cash flows from financing activities
Daewoo Engineering & Construction Co. Ltd.	₩	10,457,977	7,241,599	8,685,208	484,685	537,466	1,746,845	(916,461)	(581,481)
Daewoo Shipbuilding & Marine Engineering Co., Ltd.		10,623,210	8,405,626	4,486,586	(1,699,829)	(1,650,289)	485,787	101,326	(157,013)

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47. Statements of Cash Flows

(1) Cash and cash equivalents in the consolidated statements of cash flows as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Cash and due from banks:			
Cash and foreign currencies	₩	730,429	618,444
Due from banks in Korean won		4,402,207	6,448,589
Due from banks in foreign currencies / off-shores		6,304,386	4,786,331
		11,437,022	11,853,364
Less: Restricted due from banks, others		(2,956,324)	(2,560,841)
Add: Financial instruments reaching maturity within three months from date of acquisition			
Securities measured at FVTPL			
Government and public bonds		39,903	-
Loans measured at amortized cost:			
Call loans		2,249,447	499,240
Inter-bank loans		2,494,555	233,898
		4,783,905	733,138
Cash and cash equivalents	₩	13,264,603	10,025,661

(2) Significant transactions not involving cash flows for the years ended December 31, 2022 and 2021 are as follows:

		2022	2021
Decrease in loans due to write-offs	₩	86,785	36,484
Increase in securities measured at FVOCI due to debt-to-equity swap and others		13,505	146,185
Increase in securities measured at FVOCI due to in-kind equity		565,000	-
Increase in investments in subsidiaries due to debt-to-equity swap, etc.		-	2,658,000
Increase (decrease) in accumulated other comprehensive income due to securities valuation		(4,322,313)	3,315,848
Transfer from property and equipment to investment property		937	4,004
Reclassification to assets held for sale		(740,184)	2,579,890
Recognition of right-of-use assets and lease liabilities		102,506	122,850

48. 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, 2022 and 2021 are as follows:

		December 31, 2022		December 31, 2021	
Characteristics of transactions		Carrying amounts for transferred assets	Carrying amounts for related liabilities	Carrying amounts for transferred assets	Carrying amounts for related liabilities
Repurchase agreements	₩	2,373,401	68,894	3,349,080	1,307,268
Loaned securities		-	-	417,640	-
	₩	2,373,401	68,894	3,766,720	1,307,268

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49. 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, 2022 and 2021 are as follows:

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Securities measured at FVTPL	₩	722,449	1,223,780	17,164,180	19,110,409
Securities measured at FVOCI		7,024,255	23,691,362	16,265,065	46,980,682
Loans measured at FVTPL		-	-	542,619	542,619
Derivative financial assets		54	9,377,150	13,768	9,390,972
	₩	7,746,758	34,292,292	33,985,632	76,024,682
Financial liabilities:					
Financial liabilities designated at FVTPL	₩	-	1,469,724	-	1,469,724
Derivative financial liabilities		34	11,360,382	48,834	11,409,250
	₩	34	12,830,106	48,834	12,878,974

		December 31, 2021			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Securities measured at FVTPL	₩	680,895	481,500	10,575,935	11,738,330
Securities measured at FVOCI		2,386,076	17,970,377	18,707,937	39,064,390
Loans measured at FVTPL		-	-	644,412	644,412
Derivative financial assets		1	5,090,886	11,075	5,101,962
	₩	3,066,972	23,542,763	29,939,359	56,549,094
Financial liabilities:					
Financial liabilities designated at FVTPL	₩	-	2,067,144	-	2,067,144
Derivative financial liabilities		2	4,735,732	17,104	4,752,838
	₩	2	6,802,876	17,104	6,819,982

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49. Fair Value of Financial Assets and Liabilities, Continued

(ii) Changes in the fair value of level 3 financial instruments for the years ended December 31, 2022 and 2021 are as follows:

		2022						
		January 1, 2022	Profit or loss	Other comprehen-sive income (loss)	Acquisition / Issue	Sale/ Settlement	Others	December 31, 2022
Financial assets:								
Securities measured at FVTPL	₩	10,575,935	(31,931)	-	7,151,734	(672,039)	140,481	17,164,180
Securities measured at FVOCI		18,707,937	-	(2,325,232)	1,344,705	(853,911)	(608,434)	16,265,065
Loans measured at FVTPL		644,412	(78,884)	-	50,950	(73,859)	-	542,619
Derivatives financial assets		11,075	5,457	850	-	(3,607)	(7)	13,768
	₩	29,939,359	(105,358)	(2,324,382)	8,547,389	(1,603,416)	(467,960)	33,985,632
Financial liabilities:								
Derivatives financial liabilities	₩	17,104	31,952	-	-	-	(222)	48,834

		2021							
		January 1, 2021	Profit or loss	Other comprehen-sive income (loss)	Acquisition / Issue	Sale/ Settlement	Reclassifi-cation	Others	December 31, 2021
Financial assets:									
Securities measured at FVTPL	₩	8,668,833	211,802	-	2,827,011	(848,835)	(235,774)	(47,102)	10,575,935
Securities measured at FVOCI		14,746,377	-	3,770,412	467,451	(157,863)	(13,823)	(104,617)	18,707,937
Loans measured at FVTPL		1,434,514	-	-	-	(790,102)	-	-	644,412
Derivatives financial assets		12,511	7,205	-	-	(8,641)	-	-	11,075
	₩	24,862,235	219,007	3,770,412	3,294,462	(1,805,441)	(249,597)	(151,719)	29,939,359
Financial liabilities:									
Derivatives financial liabilities	₩	13,404	3,421	-	-	-	-	279	17,104

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49. Fair Value of Financial Assets and Liabilities, Continued

(iii) Changes in deferred day one profit or loss for the years ended December 31, 2022 and 2021 are as follows:

	2022	2021
Beginning balance	₩ 3,989	4,375
Amortization	(385)	(386)
Ending balance	₩ 3,604	3,989

(iv) Details of valuation technique and inputs used in the fair value measurement categorized within level 2 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2022 and 2021 are as follows:

	Valuation technique	Input
Securities measured at FVTPL:		
Equity securities	Net asset value approach	Underlying asset price
Debt securities	Discounted cash flow method	Discount rate
Securities measured at FVOCI:		
Equity securities	Net asset value approach	Underlying asset price
Debt securities	Discounted cash flow method	Discount rate
Derivatives financial assets:		
Interest rate swaps	Discounted cash flow method,	Discount rate, Exchange rate,
Currency forwards and swaps	Black-Scholes model,	Volatility, Commodity index,
Currency options	Modified Black model,	etc.
Commodities options	Formula model	
Financial liabilities measured at FVTPL:		
Debentures	Discounted cash flow method	Discount rate

(v) Details of valuation technique and quantitative information about unobservable inputs used in the fair value measurement categorized within level 3 of the fair value hierarchy of financial instruments measured at fair value as of December 31, 2022 and 2021 are as follows:

	December 31, 2022		
	Valuation technique	Unobservable input	Range (%)
Securities measured at FVTPL:			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	6.35 ~ 41.31
		Rate of increase in liquidation value	-
		Rate of increase in property disposal price	-
		Volatility	16.89 ~ 44.54
Securities measured at FVOCI:	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	9.08 ~ 18.51
Equity securities		Growth rate	-
		Volatility	16.52 ~ 46.53
Loans measured at FVTPL			
Convertible bonds, etc.	LSCM, Binomial model	Volatility	16.89 ~ 44.54
Derivatives financial assets:			
Interest rate swaps	Discounted cash flow method	Volatility	80.87 ~ 102.80
		Correlation coefficient	0.87 ~ 0.95
Interest rate options	Modified Black model	Volatility	80.87 ~ 102.80
Stock index options	Black-Scholes model	Volatility	8.70 ~ 72.20

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49. Fair Value of Financial Assets and Liabilities, Continued

	December 31, 2021		
	Valuation technique	Unobservable input	Range (%)
Securities measured at FVTPL:			
Equity securities	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	6.52 ~ 13.22
		Rate of increase in liquidation value	-
		Rate of increase in property disposal price	-
		Volatility	17.89 ~ 41.50
Securities measured at FVOCI:	Discounted cash flow method, Relative value approach, Net asset value approach	Discount rate	7.70 ~17.56
Equity securities		Growth rate	-
		Volatility	19.48 ~ 33.20
Loans measured at FVTPL			
Convertible bonds, etc.	LSCM, Binomial model	Volatility	17.89 ~ 34.16
Derivatives financial assets:			
Interest rate swaps	Discounted cash flow method	Volatility	38.23 ~ 49.07
		Correlation coefficient	0.43 ~ 0.87
Interest rate options	Modified Black model	Volatility	38.23 ~ 49.07
Stock index options	Black-Scholes model	Volatility	5.40 ~ 71.40
Equity options	Discounted cash flow method and others	Volatility	18.87 ~ 25.49

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49. Fair Value of Financial Assets and Liabilities, Continued

(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.
- Securities measured at amortized cost: The fair value of securities measured at amortized cost is computed by widely-accepted appraisal agencies upon request.
- Loans measured at amortized cost: The fair value of loans measured at amortized cost is the expected future cash flows, reflecting premature redemption ratio, discounted by the market interest rate, adjusted by a spread sheet considering the probability of default. Exceptions to this method include loans with credit line facilities, loans with a maturity of three months or less left and impaired loans, which the Group assumes the carrying amount as the fair value.
- Deposits: The fair value of deposits is computed using the discounted cash flow method. However, for deposits, whose cash flows cannot be estimated reasonably, the Bank assumes the carrying amount as the fair value.
- Borrowings: The fair value of industrial financial debentures is computed using the discounted cash flow method by the Group's Fair Value Evaluation System. 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 is computed using the discounted cash flow method by the Group's Fair Value Evaluation System.
- Other financial assets and liabilities: The fair value of other financial assets and liabilities is computed using the discounted cash flow method. However, in cases cash flow cannot be estimated reasonably, the Group assumes the carrying amount as the fair value.

(ii) The fair value hierarchy of financial instruments measured at amortized costs as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Cash and due from banks (*)	₩	8,480,698	2,956,324	-	11,437,022
Securities measured at amortized cost		2,964,285	7,036,358	-	10,000,643
Loans measured at amortized cost (*)		-	2,249,447	206,941,611	209,191,058
Other financial assets (*)		-	6,343,473	1,923,304	8,266,777
	₩	11,444,983	18,585,602	208,864,915	238,895,500
Financial liabilities:					
Deposits (*)	₩	-	3,416,449	66,814,999	70,231,448
Borrowings (*)		-	2,182,613	27,664,925	29,847,538
Debentures		-	163,894,194	-	163,894,194
Other financial liabilities (*)		-	2,837,612	4,613,200	7,450,812
	₩	-	172,330,868	99,093,124	271,423,992

(*) 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.

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49. Fair Value of Financial Assets and Liabilities, Continued

		December 31, 2021			
		Level 1	Level 2	Level 3	Total
Financial assets:					
Cash and due from banks (*)	₩	9,292,523	2,560,841	-	11,853,364
Securities measured at amortized cost		1,437,496	4,766,362	-	6,203,858
Loans measured at amortized cost (*)		-	499,240	178,256,343	178,755,583
Other financial assets (*)		-	5,095,939	1,289,903	6,385,842
	₩	10,730,019	12,922,382	179,546,246	203,198,647
Financial liabilities:					
Deposits (*)	₩	-	3,318,883	50,482,483	53,801,366
Borrowings (*)		-	2,025,900	26,033,403	28,059,303
Debentures		-	151,130,983	-	151,130,983
Other financial liabilities (*)		-	3,920,893	3,715,506	7,636,399
	₩	-	160,396,659	80,231,392	240,628,051

(*) 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, 2022 and 2021 are as follows:

	Valuation technique	Input
Level 2		
Financial assets:		
Securities measured at amortized cost	Discounted cash flow method	Discount rate
Financial liabilities:		
Debentures	Discounted cash flow method	Discount rate
Level 3		
Financial assets:		
Loans measured at amortized cost	Discounted cash flow method	Credit spread, Other spread, Prepayment rate
Other financial assets	Discounted cash flow method	Other spread
Financial liabilities:		
Deposits	Discounted cash flow method	Other spread
Borrowings	Discounted cash flow method	Other spread
Other financial liabilities	Discounted cash flow method	Other spread

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50. Categories of Financial Assets and Liabilities

Categories of financial assets and liabilities as of December 31, 2022 and 2021 are as follows:

	December 31, 2022							
	Cash and cash equivalents	Financial instruments measured at FVTPL	Financial instruments designated at FVTPL	Financial instruments measured at FVOCI	Financial instruments designated at FVOCI	Financial instruments measured at amortized cost	Hedging purpose derivative instruments	Total
Financial assets:								
Cash and due from banks	₩ 8,480,698	-	-	-	-	2,956,324	-	11,437,022
Securities measured at FVTPL	39,903	19,070,506	-	-	-	-	-	19,110,409
Securities measured at FVOCI	-	-	-	29,827,980	17,152,702	-	-	46,980,682
Securities measured at amortized cost	-	-	-	-	-	10,212,258	-	10,212,258
Loans measured at FVTPL	-	542,619	-	-	-	-	-	542,619
Loans measured at amortized cost	4,744,002	-	-	-	-	206,113,624	-	210,857,626
Derivative financial assets	-	8,751,738	-	-	-	-	639,234	9,390,972
Other financial assets	-	-	-	-	-	8,338,617	-	8,338,617
	₩ 13,264,603	28,364,863	-	29,827,980	17,152,702	227,620,823	639,234	316,870,205
Financial liabilities:								
Financial liabilities measured at FVTPL	₩ -	-	1,469,724	-	-	-	-	1,469,724
Deposits	-	-	-	-	-	70,288,133	-	70,288,133
Borrowings	-	-	-	-	-	30,131,079	-	30,131,079
Debentures	-	-	-	-	-	164,460,858	-	164,460,858
Derivative financial liabilities	-	10,066,680	-	-	-	-	1,342,570	11,409,250
Other financial liabilities	-	-	-	-	-	7,381,131	-	7,381,131
	₩ -	10,066,680	1,469,724	-	-	272,261,201	1,342,570	285,140,175

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

50. Categories of Financial Assets and Liabilities, Continued

	December 31, 2021							
	Cash and cash equivalents	Financial instruments measured at FVTPL	Financial instruments designated at FVTPL	Financial instruments measured at FVOCI	Financial instruments designated at FVOCI	Financial instruments measured at amortized cost	Hedging purpose derivative instruments	Total
Financial assets:								
Cash and due from banks	₩ 9,292,523	-	-	-	-	2,560,841	-	11,853,364
Securities measured at FVTPL	-	11,738,330	-	-	-	-	-	11,738,330
Securities measured at FVOCI	-	-	-	20,181,099	18,883,291	-	-	39,064,390
Securities measured at amortized cost	-	-	-	-	-	6,203,858	-	6,203,858
Loans measured at FVTPL	-	644,412	-	-	-	-	-	644,412
Loans measured at amortized cost	733,138	-	-	-	-	178,449,217	-	179,182,355
Derivative financial assets	-	4,560,320	-	-	-	-	541,642	5,101,962
Other financial assets	-	-	-	-	-	6,441,337	-	6,441,337
	₩ 10,025,661	16,943,062	-	20,181,099	18,883,291	193,655,253	541,642	260,230,008
Financial liabilities:								
Financial liabilities measured at FVTPL	₩ -	-	2,067,144	-	-	-	-	2,067,144
Deposits	-	-	-	-	-	53,839,129	-	53,839,129
Borrowings	-	-	-	-	-	28,561,063	-	28,561,063
Debentures	-	-	-	-	-	150,014,919	-	150,014,919
Derivative financial liabilities	-	4,496,682	-	-	-	-	256,156	4,752,838
Other financial liabilities	-	-	-	-	-	7,564,991	-	7,564,991
	₩ -	4,496,682	2,067,144	-	-	239,980,102	256,156	246,800,084

Korea Development Bank and Subsidiaries

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(In millions of won)

51. Offsetting of Financial Assets and Liabilities

Details of financial instruments subject to offsetting, enforceable master netting agreements or similar agreements as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Gross amounts of recognized financial asset	Gross amounts of recognized financial liabilities set off in the statement of financial position	Net amounts of financial assets presented in the statement of financial position	Related amounts not set off in the statement of financial position: Financial instruments	Related amounts not set off in the statement of financial position: Cash collateral received	Net amounts
Derivative financial assets (*)	₩	9,390,972	-	9,390,972	5,806,085	71,536	3,513,351
Unsettled spot exchange receivables (*)		2,597,494	-	2,597,494	2,593,577	-	3,917
Unsettled domestic exchange receivables		6,007,285	2,261,306	3,745,979	-	-	3,745,979
Security pledged as collateral for repurchase agreements		2,373,401	-	2,373,401	68,894	-	2,304,507
Reverse repurchase agreements		2,247,487	-	2,247,487	2,247,487	-	-
Receivables from securities transaction		11,940	-	11,940	11,940	-	-
	₩	22,628,579	2,261,306	20,367,273	10,727,983	71,536	9,567,754

		December 31, 2022					
		Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets set off in the statement of financial position	Net amounts of financial liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position: Financial instruments	Related amounts not set off in the statement of financial position: Cash collateral pledged	Net amounts
Derivative financial liabilities (*)	₩	11,409,250	-	11,409,250	5,544,291	501	5,864,458
Unsettled spot exchange payables (*)		2,593,992	-	2,593,992	2,593,577	-	415
Unsettled domestic exchange payables		2,504,926	2,261,306	243,620	-	-	243,620
Repurchase agreements		68,894	-	68,894	68,894	-	-
Payables from securities transaction		18,305	-	18,305	18,305	-	-
	₩	16,595,367	2,261,306	14,334,061	8,225,067	501	6,108,493

(*) 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.

Korea Development Bank and Subsidiaries

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(In millions of won)

51. Offsetting of Financial Assets and Liabilities, Continued

		December 31, 2021					
		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: Financial instruments	Related amounts not set off in the statement of financial position: Cash collateral received	Net amounts
Derivative financial assets (*)	₩	5,101,962	-	5,101,962	3,774,948	17,515	1,309,499
Unsettled spot exchange receivables (*)		3,302,487	-	3,302,487	3,301,014	-	1,473
Unsettled domestic exchange receivables		3,500,909	1,707,457	1,793,452	-	-	1,793,452
Security pledged as collateral for repurchase agreements		3,349,080	-	3,349,080	1,307,268	-	2,041,812
Reverse repurchase agreements		818,442	-	818,442	818,442	-	-
Loaned securities		417,640	-	417,640	417,640	-	-
Receivables from securities transaction		12,553	-	12,553	12,553	-	-
	₩	16,503,073	1,707,457	14,795,616	9,631,865	17,515	5,146,236

		December 31, 2021					
		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: Financial instruments	Related amounts not set off in the statement of financial position: Cash collateral pledged	Net amounts
Derivative financial liabilities (*)	₩	4,752,838	-	4,752,838	2,993,406	105,989	1,653,443
Unsettled spot exchange payables (*)		3,303,447	-	3,303,447	3,301,014	-	2,433
Unsettled domestic exchange payables		2,324,903	1,707,457	617,446	-	-	617,446
Repurchase agreements		1,307,268	-	1,307,268	1,307,268	-	-
Payables from securities transaction		10,036	-	10,036	10,036	-	-
	₩	11,698,492	1,707,457	9,991,035	7,611,724	105,989	2,273,322

(*) 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.

(In millions of won)

52. 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, 2022 and 2021 are as follows:

2022

	Bank industry								
	Corporate finance	Investment finance	Asset management	Others	Insurance	Overseas	Other subsidiaries	Adjustment	Total(*)
Operating income (loss) from external customers	₩ (557,322)	(2,636,244)	32,111	3,495,076	467,399	84,575	448,590	-	1,334,185
Operating income (loss) from intersegment transactions	1,138,291	2,407,248	-	(2,121,462)	161,357	45,409	46,818	(1,677,661)	-
	₩ 580,969	(228,996)	32,111	1,373,614	628,756	129,984	495,408	(1,677,661)	1,334,185

(*) Profit from discontinued operations is not included.

2021

	Bank industry								
	Corporate finance	Investment finance	Asset management	Others	Insurance	Overseas	Other subsidiaries	Adjustment	Total(*)
Operating income (loss) from external customers	₩ (924,406)	1,195,329	20,822	1,745,729	77,740	75,253	430,669	-	2,621,136
Operating income (loss) from intersegment transactions	864,685	1,407,971	-	(759,974)	-	4,280	(148,669)	(1,368,293)	-
	₩ (59,721)	2,603,300	20,822	985,755	77,740	79,533	282,000	(1,368,293)	2,621,136

(*) Profit from discontinued operations is not included.

(In millions of won)

52. Operating Segments, Continued

(3) Details of segment results for the Group's reportable segments for the years ended December 31, 2022 and 2021 are as follows:

2022

	Bank industry								
	Corporate finance	Investment finance	Asset management	Others	Insurance	Overseas	Other subsidiaries	Adjustment	Total(*3)
Net interest income (expense)	₩ 871,204	(463,883)	9,421	1,327,073	536,627	176,374	358,206	(55,449)	2,759,573
Non-interest income (expense)									
Income (expense) related to securities (*1)	(17,602)	(136,455)	-	57,390	(153,814)	4,124	52,842	41,331	(152,184)
Other non-interest income (expense)	512,909	778,925	36,351	934	(443,355)	(3,270)	170,159	(1,306,938)	(254,285)
	495,307	642,470	36,351	58,324	(597,169)	854	223,001	(1,265,607)	(406,469)
Provision for loan losses and others (*2)	(42,977)	(297,285)	-	(1,936)	691,423	9,594	(4,843)	(356,067)	(2,091)
General and administrative expenses	(742,565)	(110,298)	(13,661)	(9,847)	(2,125)	(56,838)	(80,956)	(538)	(1,016,828)
Operating income (loss)	₩ 580,969	(228,996)	32,111	1,373,614	628,756	129,984	495,408	(1,677,661)	1,334,185

2021

	Bank industry								
	Corporate finance	Investment finance	Asset management	Others	Insurance	Overseas	Other subsidiaries	Adjustment	Total(*3)
Net interest income (expense)	₩ 1,181,059	(158,369)	2,328	633,590	503,442	99,756	(208,436)	437,183	2,490,553
Non-interest income (expense)									
Income (expense) related to securities (*1)	63,729	17,194	-	26,455	(13,828)	17,404	138,505	(70,107)	179,352
Other non-interest income (expense)	602,797	2,807,532	36,449	(21,532)	(412,371)	10,324	432,906	(2,173,972)	1,282,133
	666,526	2,824,726	36,449	4,923	(426,199)	27,728	571,411	(2,244,079)	1,461,485
Provision for loan losses and others (*2)	(924,878)	95,316	-	4,232	2,529	1,450	5,617	424,781	(390,953)
General and administrative expenses	(982,428)	(158,373)	(17,955)	343,010	(2,032)	(49,401)	(86,592)	13,822	(939,949)
Operating income (loss)	₩ (59,721)	2,603,300	20,822	985,755	77,740	79,533	282,000	(1,368,293)	2,621,136

(*1) Income related to securities is composed of net gain (loss) on securities measured at FVTPL, securities measured at FVOCI and securities measured at amortized cost.

(*2) Provision for loan losses and others comprises provision for loan losses, provision for derivative credit risks, gains (losses) on sales of loans, and increase (reversal) of provision.

(*3) Profit from discontinued operations is not included.

Korea Development Bank and Subsidiaries

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52. Operating Segments, Continued

(4) Geographical revenue information for the years ended December 31, 2022 and 2021 and the geographical non-current asset information as of December 31, 2022 and 2021 are as follows:

		Revenues (*1)		Non-current assets (*2)	
		2022	**2021**	**December 31, 2022**	**December 31, 2021**
Domestic	₩	52,206,828	34,615,636	23,570,664	33,095,736
Overseas		2,699,481	1,050,037	110,165	132,814
	₩	54,906,309	35,665,673	23,680,829	33,228,550

(*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.

Korea Development Bank and Subsidiaries

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53. 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 three 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

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.

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53. Risk Management, Continued

(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, 2021, the key activities of the Risk Management Committee are as follows:

- Major decision
  - Risk management plan for 2022
  - Contingency funding plan for 2022
  - Setting and managing exposure limits by country for 2022
  - Increase of internal capital limit for interest rate risk of Korean won
- Major reporting
  - Result of integrated crisis analysis for the second half of 2021
  - Resolution of Credit Committee for the fourth quarter of 2021
  - Result of ex-post validation of credit rating system and default rates, and verification of risk measurement factors for internal purposes
  - Setting management limit of credit portfolios of 2022
  - Allocation of internal capital limits of 2022
  - Resolution of Credit Committee for the first quarter of 2022
  - Changes the period of the additional allowance for loan losses for COVID-19 forbearance companies
  - Increase of industry limits for feed manufacturing considering external factors
  - Result of operation of corporate credit rating system in 2022
  - Result of integrated crisis analysis for the first half of 2022
  - Resolution of Credit Committee for the second quarter of 2022
  - Verification of risk-weighted assets for BIS ratio as of December 31, 2021
  - Review of the outlook and management plan for the BIS ratio
  - Result of assessment of suitability for internal capital for 2022
  - Result of BCP training for 2022
  - Result of integrated crisis analysis for the second half of 2022
  - Resolution of Credit Committee for the third quarter of 2022

(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
  - Development of the application system for timely calculation of LCR and NSFR
  - Rebuilding the Corporate Credit Rating System (approved by Financial Supervisory Services on October 26, 2017)
  - Establishment of the system to calculate Basel Interest Rate Risk in the Banking Book coming to domestic in September 2018
  - Establishment of the system to comply with the amended regulation relating to risk-weighted assets under Basel III in December 2020
  - Development of system related to Fundamental Review of the Trading Book (FRTB) under Basel III in August 2022
  - Development of system related to operational risk under Basel III in September 2022

- Expansion of risk management infrastructure to the global IB level
  - Establishment of the RAPM system to reflect risks to the Bank's business and support decision-making upon management, and application of performance assessment at the branch level since 2010
  - Enforcement of risk management related to irregular compound derivatives and validation of the derivative pricing model developed by the Bank's Front Office
  - Establishment of IFRS 9 accounting system to calculate a loan loss allowances under IFRS 9 in March 2017 and, since then, run of IFRS 9 accounting system in January 2018

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53. Risk Management, Continued

(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	Oct. 2017	Rebuilding the Corporate Credit Rating System
Market Risk Management System	Risk Watch	Jun. 2002 Feb. 2019	Summarize position, manage exposure limits and calculate Market VaR
	RS Model	Sep. 2012	Calculate regulatory capital by Standardized Approach
	Murex M/O	Apr. 2013	Supplement of Risk Watch to calculate VaR
Interest/Liquidity Risk Management System	In-house	May. 2019	Calculation of interest risk, liquidity risk, etc.
Operational Risk Management System	Standardized Approach	May. 2006	Manage process and calculate CSA, KRI and OP VaR, etc.
BIS Capital Ratio Calculation/Credit Risk Measurement System	Fermat RaY (*)	Sep. 2006 Dec. 2013	Calculate equity, credit risk-weighted assets and credit risk, etc.
Loan Loss Allowance Calculation System	IFRS IFRS 9	Jan. 2011 Mar. 2017	Incurred loss model Expected loss model

(*) To comply with the amended regulation relating to risk-weighted assets under Basel III, the upgrade of relevant systems was completed in March 2021.

(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. In addition, from the end of 2015, the Group has applied the uniform standards for the public announcement of financial business for Basel compliance.

The Group completed revised standards such as capital requirements for banks' investments in funds in 2017, capital requirements for securitization in 2018, and the Standardised Approach for measuring counterparty credit risk (SA-CCR) in 2019.

To comply with the amended regulation relating to risk-weighted assets under Basel III, the Group completed the consultation and the development of the relevant systems and the amended regulation has been applied since the calculation of the BIS ratio at the end of 2020.

The Group has completed IT consulting and system development related to Market Risk Regulation (Fundamental Review of the Trading Book , FRTB) and Operational Risk Regulation under Basel III during the second half of 2022, and plans to respond to the regulatory changes smoothly starting from 2023.

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53. Risk Management, Continued

(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. The internal capital adequacy report including the assessment results at the end of the year is prepared and reported to the Risk Management Policy Committee.

- Internal capital adequacy assessment

For the internal capital adequacy assessment, the Group calculates its aggregated internal capital by evaluating all significant risks and available capital considering the quality and components of capital, and then assesses the internal capital adequacy by comparing the aggregated internal capital with the available capital.

In addition, the 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 three stages of ‘normal-pessimistic-serious’ and is preparing countermeasures such as checking the adequacy of capital by each stage.

- Goal setting of internal capital management

The Group sets up and manages an internal capital limit on an annual basis, through the approval of the Risk Management Committee, to maintain internal capital adequacy by managing internal capital (integrated risks) within the extent of available capital.

The prior year’s internal capital, analysis of domestic and foreign environment changes in the current year, and the direction and size of operations are all reflected in the goal setting of internal capital management to calculate the integrated internal capital scale. Moreover, Bank for International Settlements(BIS) capital adequacy ratio and risk appetite are taken into consideration in the goal setting of internal capital management.

- Allocation of internal capital

The Group’s Risk Management Committee approves entire internal capital and the Risk Management Policy Committee allocates the capital to each segment and department, considering the extent of possible risk faced and size of operations. The allocated internal capital is monitored regularly and managed using various management methods. The results of monitoring and managing the allocated internal capital are reported to the Risk Management Committee. In case of any material changes in the 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.

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53. Risk Management, Continued

(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 frequently to prevent the generation of new bad debts and to stabilize the number of debt recoveries.

In addition, an early warning system is operated to spot borrowers that are highly likely to be insolvent. The early warning system provides financial information, financial transaction information, public information and market information of the borrower, and such information is used by the RM and the CO to monitor and manage changes in the borrower’s credit rating.

A borrower that is likely to be insolvent is classified as an early warning borrower, depending on the level of insolvency risk. The 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.

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, 2022 and 2021 are as follows:

< Corporate >

		December 31, 2022			
				Lifetime expected credit losses	
		Carrying amounts	12-month expected credit loss	Non credit-impaired loans	Credit-impaired loans
AAA ~ BBB1	₩	178,632,409	158,993,514	19,624,521	14,374
BBB2 ~ CCC		32,343,398	11,446,445	18,811,407	2,085,546
Below CC		1,145,876	59,332	59,528	1,027,016
	₩	212,121,683	170,499,291	38,495,456	3,126,936

Korea Development Bank and Subsidiaries

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(In millions of won)

53. Risk Management, Continued

		December 31, 2021			
			12-month expected credit loss	Lifetime expected credit losses	
		Carrying amounts		Non credit-impaired loans	Credit-impaired loans
AAA ~ BBB1	₩	145,246,104	129,624,321	15,607,391	14,392
BBB2 ~ CCC		34,873,228	13,309,599	19,879,966	1,683,663
Below CC		1,509,612	114,972	35,195	1,359,445
	₩	181,628,944	143,048,892	35,522,552	3,057,500

< Non-corporate >

		December 31, 2022			
				Lifetime expected credit losses	
		Carrying amounts	12-month expected credit loss	Non credit-impaired loans	Credit-impaired loans
Grade 1~ Grade 6	₩	902,132	891,490	9,703	939
Grade 7~ Grade 8		1,114,611	1,110,595	3,915	101
Grade 9~ Grade 10		13,189	264	833	12,092
	₩	2,029,932	2,002,349	14,451	13,132

		December 31, 2021			
				Lifetime expected credit losses	
		Carrying amounts	12-month expected credit loss	Non credit-impaired loans	Credit-impaired loans
Grade 1~ Grade 6	₩	851,665	832,543	17,233	1,889
Grade 7~ Grade 8		10,031	4,821	5,146	64
Grade 9~ Grade 10		16,653	182	1,529	14,942
	₩	878,349	837,546	23,908	16,895

Details of payment guarantees (including financial guarantees) and unused commitments by credit rating as of December 31, 2022 and 2021 are as follows:

< Corporate >

		December 31, 2022			
				Lifetime expected credit losses	
		Exposures	12-month expected credit loss	Non credit-impaired exposures	Credit-impaired exposures
Unused commitments:					
AAA ~ BBB1	₩	42,037,907	38,248,653	3,789,254	-
BBB2 ~ CCC		2,823,624	1,272,304	1,499,090	52,230
Below CC		25,396	25,396	-	-
	₩	44,886,927	39,546,353	5,288,344	52,230
Payment guarantees (including financial guarantees):					
AAA ~ BBB1	₩	6,981,777	6,068,393	913,384	-
BBB2 ~ CCC		4,433,552	1,927,550	1,157,938	1,348,064
Below CC		6,225	-	154	6,071
	₩	11,421,554	7,995,943	2,071,476	1,354,135

Korea Development Bank and Subsidiaries

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(In millions of won)

53. Risk Management, Continued

		December 31, 2021			
				Lifetime expected credit losses	
		Exposures	12-month expected credit loss	Non credit-impaired exposures	Credit-impaired exposures
Unused commitments:					
AAA ~ BBB1	₩	36,900,089	34,446,238	2,453,851	-
BBB2 ~ CCC		5,262,853	3,472,941	1,736,397	53,515
Below CC		2	2	-	-
	₩	42,162,944	37,919,181	4,190,248	53,515
Payment guarantees (including financial guarantees):					
AAA ~ BBB1	₩	7,586,234	6,890,331	695,903	-
BBB2 ~ CCC		3,620,260	1,610,162	1,487,244	522,854
Below CC		9,028	158	-	8,870
	₩	11,215,522	8,500,651	2,183,147	531,724

< Non-corporate >

		December 31, 2022			
				Lifetime expected credit losses	
		Exposures	12-month expected credit loss	Non credit-impaired exposures	Credit-impaired exposures
Unused commitments:					
Grade 1~ Grade 6	₩	60,224	59,773	451	-
Grade 7~ Grade 8		20	-	20	-
Grade 9~ Grade 10		13	13	-	-
	₩	60,257	59,786	471	-

		December 31, 2021			
				Lifetime expected credit losses	
		Exposures	12-month expected credit loss	Non credit-impaired exposures	Credit-impaired exposures
Unused commitments:					
Grade 1~ Grade 6	₩	103,445	102,947	498	-
Grade 7~ Grade 8		9	-	9	-
Grade 9~ Grade 10		17	17	-	-
	₩	103,471	102,964	507	-

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

53. Risk Management, Continued

(iii) Measurement methodology of credit risk

Pursuant to Basel III, 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-	20.0%	0.0%	20.0%
A+ ~ A-	50.0%	20.0%	30.0%
BBB+ ~ BBB-	75.0%	50.0%	50.0%
BB+ ~ BB-	100.0%	100.0%	100.0%
B+ ~ B-	150.0%	100.0%	100.0%
Below B-	150.0%	150.0%	150.0%
Unrated	100.0% (*)	100.0%	Rating based on due diligence

(*) In case of small and medium-sized business, 85.0% is applied.

The OECD is designated as foreign ECAI and Korea 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.

Korea Development Bank and Subsidiaries

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53. Risk Management, Continued

Internal Ratings-Based Approach (IRB)

To use the Internal Ratings-Based Approach, a bank must be approved by the FSS and should also meet the requirement pre-set by the FSS.

In relation to Basel II that has been adopted domestically as of January 2008, the 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.

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, 2022.

The Standardized Approach is applied to country exposures, public institution exposures and bank exposures permanently and applied to overseas subsidiary and the Bank's branch pursuant to prior consultation with the FSS.

<Approved measurement method>

Measurement method		Exposure
Standardized Approach	Permanent SA	- Countries, public institutions, banks and equity
	SA	- Overseas subsidiaries and branches, and other assets, retail, residential mortgage, commercial properties
Foundation Internal Ratings-Based Approach		- Corporate, small and medium enterprises and asset securitization (at each credit level)
Application of IRB by phase		- Special lending, non-residence and others

The mitigated effect of credit risks reflects the related policies which consider eligible collateral and guarantees. The 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

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(In millions of won)

53. Risk Management, Continued

Credit rating model

The results of credit rating are presented as grades through an assessment of the debt repayment capacity that the principal and interest of debt securities or loans are redeemed while complying with contractual redemption schedule.

Using the 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 (SRO) are independently operated.
- Independent control of credit rating system: The control of credit rating system including the development of credit rating model is independently implemented by the Bank's Risk Management Department.
- Independent verification of credit rating system: Credit rating system is independently verified by Risk Validation Team of the Financial Planning Department.
- Internal audit of credit rating process: Credit rating process is audited by the Bank's internal audit department.
- Role of the Board of Directors and the Bank's management: Major issues relating to credit 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, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Securities measured at FVTPL	₩	268	1,254
Securities measured at FVOCI		72,739	71,668
Loans measured at amortized cost		3,109,764	3,098,440
Other assets		14,221	15,493

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

(iv) *Credit exposure*

Geographical information of credit exposure as of December 31, 2022 and 2021 are as follows:

		December 31, 2022									
		Korea	Hong Kong	Ireland	Uzbekistan	Brazil	Hungary	UK	US	Others	Total
Due from banks (excluding due from BOK)	₩	2,087,746	92,873	144	3,183	1	225,639	547,703	3,340,017	1,238,801	7,536,107
Securities measured at FVOCI:											
Bonds (excluding government bonds)		17,178,625	344,049	25,095	-	-	135,325	366,557	5,170,151	3,045,917	26,265,719
Securities measured at amortized cost:											
Bonds (excluding government bonds)		3,769,472	-	-	-	39,676	-	-	-	42,779	3,851,927
Loans		172,479,352	2,997,928	801,457	912,348	168,821	1,097,670	1,602,886	5,800,712	46,100,079	231,961,253
Derivative financial assets		145,811	3,572	-	-	156	54	8,681	18,656	47,800	224,730
Other financial assets		4,962,827	7,013	394	1,705	18,400	11,723	24,254	2,433	6,534,690	11,563,439
		200,623,833	3,445,435	827,090	917,236	227,054	1,470,411	2,550,081	14,331,969	57,010,066	281,403,175
Guarantees		10,880,998	-	-	53,518	-	54,564	312	241,660	190,502	11,421,554
Commitments		39,417,548	279,222	110,971	25,475	126,730	22,529	422,246	2,422,676	2,119,787	44,947,184
		50,298,546	279,222	110,971	78,993	126,730	77,093	422,558	2,664,336	2,310,289	56,368,738
	₩	250,922,379	3,724,657	938,061	996,229	353,784	1,547,504	2,972,639	16,996,305	59,320,355	337,771,913

		December 31, 2021									
		Korea	Hong Kong	Ireland	Uzbekistan	Brazil	Hungary	UK	US	Others	Total
Due from banks (excluding due from BOK)	₩	986,888	87,706	658	19,383	2	204,510	113,337	2,933,625	913,069	5,259,178
Securities measured at FVOCI:											
Bonds (excluding government bonds)		8,365,200	435,529	40,057	-	627	69,724	350,644	3,903,883	2,634,803	15,800,467
Securities measured at amortized cost:											
Bonds (excluding government bonds)		3,196,288	-	-	-	22,189	-	-	-	16,504	3,234,981
Loans		139,966,901	2,106,550	398,486	708,402	130,688	677,906	1,045,014	2,442,512	29,963,677	177,440,136
Derivative financial assets		174,859	45,847	-	-	166	2,878	3,922	80,543	223,656	531,871
Other financial assets		7,678,538	3,079	323	1,689	225	8,839	11,776	645	219,020	7,924,134
		160,368,674	2,678,711	439,524	729,474	153,897	963,857	1,524,693	9,361,208	33,970,729	210,190,767
Guarantees		10,488,411	-	-	37,883	-	51,599	-	347,919	289,710	11,215,522
Commitments		35,122,646	138,107	148,185	33,042	-	51,285	775,645	979,541	5,017,964	42,266,415
		45,611,057	138,107	148,185	70,925	-	102,884	775,645	1,327,460	5,307,674	53,481,937
	₩	205,979,731	2,816,818	587,709	800,399	153,897	1,066,741	2,300,338	10,688,668	39,278,403	263,672,704

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

Industry information of credit exposure as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			
	Manufacturing	Service	Others	Total
Due from banks (excluding due from BOK)	₩ 12,373	6,621,518	902,216	7,536,107
Securities measured at FVOCI:				
Bonds (excluding government bonds)	3,707,485	18,214,945	4,343,289	26,265,719
Securities measured at amortized cost:				
Bonds (excluding government bonds)	2,464	923,664	2,925,799	3,851,927
Loans	86,302,780	120,393,062	25,265,411	231,961,253
Derivative financial assets	-	223,505	1,225	224,730
Other financial assets	276,553	1,954,268	9,332,618	11,563,439
	90,301,655	148,330,962	42,770,558	281,403,175
Guarantees	8,904,746	2,116,966	399,842	11,421,554
Commitments	20,578,500	23,527,141	841,543	44,947,184
	29,483,246	25,644,107	1,241,385	56,368,738
	₩ 119,784,901	173,975,069	44,011,943	337,771,913

	December 31, 2021			
	Manufacturing	Service	Others	Total
Due from banks (excluding due from BOK)	₩ 3,681	4,186,636	1,068,861	5,259,178
Securities measured at FVOCI:				
Bonds (excluding government bonds)	2,693,912	9,913,375	3,193,180	15,800,467
Securities measured at amortized cost:				
Bonds (excluding government bonds)	18,645	45,357	3,170,979	3,234,981
Loans	74,648,047	83,700,172	19,091,917	177,440,136
Derivative financial assets	-	531,871	-	531,871
Other financial assets	195,335	278,983	7,449,816	7,924,134
	77,559,620	98,656,394	33,974,753	210,190,767
Guarantees	7,318,154	3,050,808	846,560	11,215,522
Commitments	19,661,928	21,124,029	1,480,458	42,266,415
	26,980,082	24,174,837	2,327,018	53,481,937
	₩ 104,539,702	122,831,231	36,301,771	263,672,704

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

The detail of credit exposures by industry affected by the pandemic of COVID-19 as of December 31, 2022 and 2021 are as follows and the exposures by industries could be changed according to economic fluctuations.

	December 31, 2022									
	Due from banks (excluding due from BOK)	Securities measured at FVOCI Bonds (excluding government bonds)	Loans	Derivative financial assets	Other assets	Subtotal	Guarantees	Commit-ments	Subtotal	Total
Manufacturing:										
Display	₩ -	-	1,289,473	-	5,100	1,294,573	382	33,564	33,946	1,328,519
Semiconductor /Mobile phone	-	226,042	4,267,310	-	16,770	4,510,122	152,023	1,564,613	1,716,636	6,226,758
Automotive	-	325,472	12,191,177	-	29,695	12,546,344	580,123	1,716,017	2,296,140	14,842,484
Refinery/Chemical /Energy	-	1,077,431	18,430,754	-	60,552	19,568,737	201,296	6,409,868	6,611,164	26,179,901
Steel/Metal	-	182,739	10,022,074	-	22,002	10,226,815	650,497	2,873,421	3,523,918	13,750,733
Others	-	1,830,777	38,497,346	-	109,924	40,438,047	12,659,944	9,556,061	22,216,005	62,654,052
	-	3,642,461	84,698,134	-	244,043	88,584,638	14,244,265	22,153,544	36,397,809	124,982,447
Service:										
Air transportation	-	5,624	3,085,579	-	13,785	3,104,988	221,159	3,000	224,159	3,329,147
Sea transportation	-	-	2,493,475	-	31,018	2,524,493	78,278	374,025	452,303	2,976,796
Other transportation	-	166,659	8,724,268	-	23,326	8,914,253	16,597	2,583,356	2,599,953	11,514,206
Leisure/Travel industry	-	-	12,277	-	59	12,336	-	1,700	1,700	14,036
Food/Accommoda -tion	-	11,589	2,043,522	-	4,873	2,059,984	39,249	347,915	387,164	2,447,148
Automotive-related	-	-	563,657	-	1,672	565,329	7,127	112,440	119,567	684,896
Finance/Insurance and others	7,636,352	14,248,178	100,615,399	185,477	393,798	123,079,204	1,708,272	20,055,125	21,763,397	144,842,601
	7,636,352	14,432,050	117,538,177	185,477	468,531	140,260,587	2,070,682	23,477,561	25,548,243	165,808,830
Other:										
Construction	-	285,970	4,067,049	-	8,889	4,361,908	348,557	1,561,312	1,909,869	6,271,777
Others	606,556	3,483,303	15,111,240	-	7,071,110	26,272,209	43,757	13,556	57,313	26,329,522
	606,556	3,769,273	19,178,289	-	7,079,999	30,634,117	392,314	1,574,868	1,967,182	32,601,299
	₩ 8,242,908	21,843,784	221,414,600	185,477	7,792,573	259,479,342	16,707,261	47,205,973	63,913,234	323,392,576

Responding to the COVID-19 pandemic, the Bank recalculates the forward-looking information and recognises additional allowance for loan losses and provisions amounting to ₩220,618 million for the year ended December 31, 2022.

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(In millions of won)

53. Risk Management, Continued

		December 31, 2021									
		Due from banks (excluding due from BOK)	Securities measured at FVOCI Bonds (excluding government bonds)	Loans	Derivative financial assets	Other assets	Subtotal	Guarantees	Commit-ments	Subtotal	Total
Manufacturing:											
Display	₩	-	-	730,259	-	2,917	733,176	1,641	267,574	269,215	1,002,391
Semiconductor /Mobile phone		-	204,679	5,059,874	-	7,958	5,272,511	115,211	365,071	480,282	5,752,793
Automotive		-	231,343	10,721,833	-	15,286	10,968,462	435,597	1,685,997	2,121,594	13,090,056
Refinery/Chemical /Energy		-	620,186	13,875,360	-	27,904	14,523,450	150,371	5,520,913	5,671,284	20,194,734
Steel/Metal		-	146,239	9,985,811	-	13,814	10,145,864	617,066	2,343,478	2,960,544	13,106,408
Others		-	1,395,470	32,703,381	-	53,372	34,152,223	9,268,619	11,055,744	20,324,363	54,476,586
		-	2,597,917	73,076,518	-	121,251	75,795,686	10,588,505	21,238,777	31,827,282	107,622,968
Service:											
Air transportation		-	5,844	3,200,683	-	9,284	3,215,811	291,880	21,000	312,880	3,528,691
Sea transportation		-	-	2,083,099	-	21,353	2,104,452	74,721	751,613	826,334	2,930,786
Other transportation		-	140,164	6,261,103	-	12,895	6,414,162	9,110	3,576,532	3,585,642	9,999,804
Leisure/Travel industry		-	-	59,072	-	66	59,138	-	1,700	1,700	60,838
Food/Accommoda-tion		-	72,427	1,990,730	-	3,651	2,066,808	36,674	318,921	355,595	2,422,403
Automotive-related		-	-	513,522	-	876	514,398	12,322	84,891	97,213	611,611
Finance/Insurance and others		5,529,904	9,395,925	68,744,507	528,827	179,047	84,378,210	2,588,124	17,408,058	19,996,182	104,374,392
		5,529,904	9,614,360	82,852,716	528,827	227,172	98,752,979	3,012,831	22,162,715	25,175,546	123,928,525
Other:											
Construction		-	236,235	2,640,398	-	3,628	2,880,261	195,956	1,640,764	1,836,720	4,716,981
Others		655,841	2,411,285	12,062,217	-	5,572,707	20,702,050	155,971	1,548,876	1,704,847	22,406,897
		655,841	2,647,520	14,702,615	-	5,576,335	23,582,311	351,927	3,189,640	3,541,567	27,123,878
	₩	6,185,745	14,859,797	170,631,849	528,827	5,924,758	198,130,976	13,953,263	46,591,132	60,544,395	258,675,371

Responding to the COVID-19 pandemic, the Bank recalculates the forward-looking information and recognises additional allowance for loan losses and provisions amounting to ₩924,176 million for the year ended December 31, 2021.

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53. Risk Management, Continued

Credit exposures of debt securities by credit rating as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
			12-month expected credit loss	Lifetime expected credit losses	
		Carrying amounts		Non credit-impaired	Credit-impaired
AAA ~ BBB1	₩	39,624,719	39,280,297	344,422	-
BBB2 ~ CCC		385,256	362,821	22,435	-
Below CC		37,354	37,354	-	-
	₩	40,047,329	39,680,472	366,857	-

		December 31, 2021			
			12-month expected credit loss	Lifetime expected credit losses	
		Carrying amounts		Non credit-impaired	Credit-impaired
AAA ~ BBB1	₩	26,072,019	25,742,390	329,629	-
BBB2 ~ CCC		322,173	322,173	-	-
Below CC		-	-	-	-
	₩	26,394,192	26,064,563	329,629	-

(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 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 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, 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.

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

The BIS capital adequacy ratio and capital in accordance to Basel III standards as of December 31, 2022 and 2021 are as follows:

BIS capital adequacy ratio

		December 31, 2022	December 31, 2021
Equity capital based on BIS (A):			
Tier 1 capital:			
Common Equity Tier 1	₩	35,125,348	41,131,484
Additional Tier 1 capital		-	-
		35,125,348	41,131,484
Tier 2 capital		3,197,936	3,454,548
	₩	38,323,284	44,586,032
Risk-weighted assets (B):			
Credit risk-weighted assets	₩	277,265,026	291,238,386
Market risk-weighted assets		1,329,603	1,692,127
Operational risk-weighted assets		7,458,674	6,750,345
	₩	286,053,303	299,680,858
BIS capital adequacy ratio (A/B):		13.40%	14.88%
Tier 1 capital ratio:		12.28%	13.73%
Common Equity Tier 1 ratio		12.28%	13.73%
Additional Tier 1 capital ratio		-	-
Tier 2 capital ratio		1.12%	1.15%

Equity capital based on BIS

		December 31, 2022	December 31, 2021
Tier 1 capital (A=C+D):			
Common Equity Tier 1 (C)			
Capital stock	₩	23,151,559	21,886,559
Capital surplus		748,121	738,802
Retained earnings		7,355,027	14,226,652
Non-controlling interests		-	-
Accumulated other comprehensive income		4,185,537	5,289,110
Common stock deductibles		(314,896)	(1,009,639)
		35,125,348	41,131,484
Additional Tier 1 capital (D)			
Non-controlling interests		-	-
		35,125,348	41,131,484
Tier 2 capital (B):			
Allowance for doubtful accounts, etc.		972,578	924,935
Qualified capital securities		2,244,000	2,312,000
Non-qualified capital securities		-	258,060
Non-controlling interests		-	-
Additional stock deductibles		(18,642)	(40,447)
		3,197,936	3,454,548
Equity capital (A+B)	₩	38,323,284	44,586,032

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

(4) Market risk

(i) Concept

Market risk is defined as the possibility of potential loss resulting from fluctuations in interest rates, foreign exchange rates and the price of stocks and commodities. Trading position is exposed to risks, such as interest rate, stock price, and foreign exchange rate, etc. Non-trading position is mostly exposed to interest rates. Accordingly, the 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

In estimating market risk, the Standardized Approach and the internal model are used. The Standardized Approach is used to calculate the required capital from market risk and the internal model is used 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 daily.

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.

Capital Requirements for Market risk

The Group's Capital Requirements for Market risk as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Interest rate	₩	73,860	94,917
Stock price		148	27
Foreign exchange rate		21,112	20,164
Option		11,248	20,262
Total	₩	106,368	135,370

(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 IRRBB (Interest Rate Risk in Banking Book), △EVE (change in Economic Value of Equity) and △NII (change in Net Interest Income).

△EVE represents fluctuations in the economic value of equity capital that may occur due to changes in interest rates affecting the present values of assets, liabilities and off-balance sheet items. △NII represents changes in net interest income that may occur over a certain period of time (e.g. one year) in the future due to changes in interest rates.

The Group's Risk Management Committee sets and manages interest rate risk limits on a yearly basis and interest rate risk is monthly measured and monitored.

△EVE and △NII of the Group's non-trading positions as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
△EVE	₩	1,344,581	700,092
△NII		355,645	181,243

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

(iv) *Foreign currency risk*

Outstanding balances by currency with significant exposure as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		USD	EUR	JPY	GBP	Others	Total
Financial assets:							
Cash and due from banks	₩	6,240,654	68,209	52,243	15,169	609,085	6,985,360
Securities measured at FVTPL		1,237,226	96,881	2,218	13,654	60,168	1,410,147
Securities measured at FVOCI		9,631,280	287,606	376,526	-	1,452,085	11,747,497
Securities measured at amortized cost		766,561	185,114	-	-	40,135	991,810
Loans		54,647,365	4,252,704	1,698,597	1,069,062	2,841,923	64,509,651
Derivative financial assets		2,778,263	69,802	22,321	175,821	64,288	3,110,495
Other financial assets		2,428,719	55,005	51,078	16,876	70,121	2,621,799
		77,730,068	5,015,321	2,202,983	1,290,582	5,137,805	91,376,759
Financial liabilities:							
Financial liabilities designated at FVTPL		180,007	-	-	-	-	180,007
Deposits		13,944,916	462,440	464,052	1,091	565,360	15,437,859
Borrowings		20,282,874	359,462	1,101,061	15,240	1,487,583	23,246,220
Debentures		27,684,924	2,752,363	209,550	97,197	7,398,273	38,142,307
Derivative financial liabilities		3,181,849	122,539	8,662	218,257	76,772	3,608,079
Other financial liabilities		2,211,964	36,898	31,422	16,993	230,500	2,527,777
		67,486,534	3,733,702	1,814,747	348,778	9,758,488	83,142,249
Net financial position	₩	10,243,534	1,281,619	388,236	941,804	(4,620,683)	8,234,510

		December 31, 2021					
		USD	EUR	JPY	GBP	Others	Total
Financial assets:							
Cash and due from banks	₩	4,642,754	64,208	52,635	17,748	588,217	5,365,562
Securities measured at FVTPL		827,055	-	1,101	-	98,832	926,988
Securities measured at FVOCI		7,509,649	25	311,837	-	670,443	8,491,954
Securities measured at amortized cost		48,513	-	-	-	22,544	71,057
Loans		43,467,636	3,731,252	1,474,839	798,920	2,596,369	52,069,016
Derivative financial assets		1,157,191	2,562	2,460	30,772	30,871	1,223,856
Other financial assets		1,884,015	292,338	25,873	8,015	51,246	2,261,487
		59,536,813	4,090,385	1,868,745	855,455	4,058,522	70,409,920
Financial liabilities:							
Financial liabilities designated at FVTPL		255,902	-	-	-	-	255,902
Deposits		12,185,398	312,629	344,342	972	422,393	13,265,734
Borrowings		16,982,298	349,623	1,037,802	9,600	761,525	19,140,848
Debentures		26,634,144	1,704,147	290,391	791,815	6,531,337	35,951,834
Derivative financial liabilities		733,250	4,569	4,297	16,166	20,835	779,117
Other financial liabilities		2,224,048	13,869	18,401	1,119	152,720	2,410,157
		59,015,040	2,384,837	1,695,233	819,672	7,888,810	71,803,592
Net financial position	₩	521,773	1,705,548	173,512	35,783	(3,830,288)	(1,393,672)

Korea Development Bank and Subsidiaries

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(In millions of won)

53. Risk Management, Continued

(v) *Interest rate risk management*

The Group is closely monitoring the outputs prepared by the industrial working groups which is managing the transition to alternative benchmark rates and the markets related the rates. The outputs include the information published by regulatory authorities related to IBORs. The authorities have made it clear that after the end of 2021, they will no longer persuade or force banks to submit IBORs. Responding the transition, the Group organized a task force led by the head of the risk management division and the task force has established the LIBOR transition plan that consists of workflows such as alternative interest rate determination, application development, customer communication management, risk management, taxation, finance, legal, and accounting system establishment. The important progress of the plan is reported to the management and may also be reported to the board of directors if necessary. The purpose of the task force is to review where exposure to IBOR occurs within the Group's business, and to develop and implement the plan to transit to the alternative benchmark rates. As of December 31, 2021, the Group has completed the transition and the application of the alternative benchmark rates and plans to complete the transition to the alternative benchmark rates before June 2023 for existing contracts contracted in USD with a contract maturity after June 2023.

The financial instruments that have yet to transition to alternative benchmark rates as of December 31, 2022 and 2021 are as follows. The amounts of the non-derivative financial instruments are the carrying amounts and the amounts of the derivatives, the commitments and the guarantees are the nominal amounts.

		December 31, 2022		
		USD	Others	Total
Non-derivative financial assets:				
Financial assets measured at FVOCI	₩	6,342	-	6,342
Financial assets measured at amortized cost		13,724,781	935,582	14,660,363
Privately placed corporate bonds		-	45,153	45,153
		13,731,123	980,735	14,711,858
Non-derivative financial liabilities:				
Financial liabilities measured at amortized cost		781,924	150,000	931,924
Derivative:				
Trading purpose				
Interest rate		76,158,628	-	76,158,628
Currency		42,670,815	-	42,670,815
Hedging purpose				
Interest rate		16,209,017	-	16,209,017
Currency		5,025,604	-	5,025,604
		140,064,064	-	140,064,064
Commitments and guarantees	₩	75,022	-	75,022

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

		December 31, 2021				
		USD	EUR	GBP	Others	Total
Non-derivative financial assets:						
Financial assets measured at FVOCI	₩	109,601	-	-	-	109,601
Financial assets measured at amortized cost		13,865,453	117,123	383,002	437,635	14,803,213
Privately placed corporate bonds		-	-	-	48,771	48,771
		13,975,054	117,123	383,002	486,406	14,961,585
Non-derivative financial liabilities:						
Financial liabilities measured at amortized cost		707,744	-	-	30,000	737,744
Derivative:						
Trading purpose						
Interest rate		60,032,707	-	71,024	-	60,103,731
Currency		41,685,284	-	-	-	41,685,284
Hedging purpose						
Interest rate		15,078,608	-	-	-	15,078,608
Currency		4,701,218	-	-	-	4,701,218
		121,497,817	-	71,024	-	121,568,841
Commitments and guarantees	₩	1,819,774	-	25,620	-	1,845,394

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

53. Risk Management, Continued

(5) Liquidity risk management

(i) Concept

Liquidity risk is defined as the possibility of potential loss due to a temporary shortage in funds caused by a maturity mismatch or an unexpected capital outlay. Liquidity risk soars when funding rates rise, assets are sold below a normal price, or a good investment opportunity is missed.

(ii) Approach to liquidity risk management

The Group manages its liquidity risks as follows:

Allowable limit for liquidity risk

- The allowable limit for liquidity risk sets LCR, NSFR and Mid- to long-term foreign currency fund management ratio
- The management standards with regards to the allowable limit for liquidity risk should be set using separate and stringent set ratios in accordance with the FSS guidelines.

<Measurement Methodology>

- LCR: (High quality liquid assets / Total net cash outflows over the next 30 calendar days) X 100
- NSFR: Available Stable Funding / Required Stable Funding X 100
- Mid- to long-term foreign currency fund management ratio: Foreign currency funding being repaid after 1 year / Foreign currency lending being collected after 1 year X 100

Early warning indicator

In order to identify prematurely and cope with worsening liquidity risk trends, the Group has set up 16 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.

Korea Development Bank and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

(iii) Analysis on remaining contractual maturity of financial instruments

Remaining contractual maturity analysis for non-derivative financial instruments as of December 31, 2022 and 2021 are as follows:

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 Years	Over 5 years	Total
Financial assets:						
Cash and due from banks	₩ 10,585,855	653,607	1,111,496	936,053	33	13,287,044
Securities measured at FVTPL	2,271,567	129,876	365,188	3,767,596	13,984,207	20,518,434
Securities measured at FVOCI	191,002	1,370,709	4,843,649	15,932,002	20,520,154	42,857,516
Securities measured at amortized cost	249,997	534,893	2,980,984	5,515,048	895,390	10,176,312
Loans	15,235,854	22,995,656	71,078,960	86,909,565	18,290,212	214,510,247
Other financial assets	6,592,424	66,022	64,076	148,851	1,642,050	8,513,423
	₩ 35,126,699	25,750,763	80,444,353	113,209,115	55,332,046	309,862,976
Financial liabilities:						
Financial liabilities designated at FVTPL	₩ 60,946	123,270	388,313	290,403	88,371	951,303
Deposits	30,947,918	13,079,140	21,342,095	5,248,876	511,107	71,129,136
Borrowings	3,644,481	7,054,362	13,762,492	4,988,536	995,319	30,445,190
Debentures	5,063,003	11,958,019	56,583,088	86,690,246	4,589,279	164,883,635
Other financial liabilities	4,109,690	2,147,134	84,784	1,574,493	997,768	8,913,869
	₩ 43,826,038	34,361,925	92,160,772	98,792,554	7,181,844	276,323,133

	December 31, 2021					
	Within 1 month	1~3 months	3~12 months	1~5 Years	Over 5 years	Total
Financial assets:						
Cash and due from banks	₩ 10,675,868	821,136	556,908	1,029,932	6	13,083,850
Securities measured at FVTPL	888,146	44,825	1,124,769	2,843,518	8,083,770	12,985,028
Securities measured at FVOCI	405,305	1,485,286	4,269,519	11,558,567	15,120,443	32,839,120
Securities measured at amortized cost	10,000	342,645	1,433,943	4,370,661	37,900	6,195,149
Loans	10,569,371	14,952,649	64,409,196	74,652,720	16,280,055	180,863,991
Other financial assets	5,286,452	35,033	42,566	94,468	809,859	6,268,378
	₩ 27,835,142	17,681,574	71,836,901	94,549,866	40,332,033	252,235,516
Financial liabilities:						
Financial liabilities designated at FVTPL	₩ 8,854	125,618	682,882	348,104	214,802	1,380,260
Deposits	26,009,526	8,199,725	17,001,758	3,139,514	526,148	54,876,671
Borrowings	3,167,649	5,502,750	13,839,316	3,786,868	1,075,726	27,372,309
Debentures	4,899,919	11,927,892	48,235,329	79,124,189	6,148,738	150,336,067
Other financial liabilities	5,110,000	1,589,201	70,881	341,262	539,254	7,650,598
	₩ 39,195,948	27,345,186	79,830,166	86,739,937	8,504,668	241,615,905

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December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

Remaining contractual maturity analysis for derivative financial instruments as of December 31, 2022 and 2021 are as follows:

Net settlement of derivative financial instruments

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 Years	Over 5 years	Total
Trading purpose derivatives:						
Currency	₩ 15,373	6,555	217	-	-	22,145
Interest rate	14,379	56,438	122,389	(239,828)	329,021	282,399
Stock	1	-	-	-	-	1
Hedging purpose derivatives:						
Interest rate	(43,682)	(20,611)	265,185	907,552	912,990	2,021,434
	₩ (13,929)	42,382	387,791	667,724	1,242,011	2,325,979

	December 31, 2021					
	Within 1 month	1~3 months	3~12 months	1~5 Years	Over 5 years	Total
Trading purpose derivatives:						
Currency	₩ 206	(468)	-	(728)	-	(990)
Interest rate	(11,454)	(23,490)	9,271	(153,077)	535,475	356,725
Hedging purpose derivatives:						
Interest rate	33,896	115,454	180,556	631,338	687,222	1,648,466
	₩ 22,648	91,496	189,827	477,533	1,222,697	2,004,201

Korea Development Bank and Subsidiaries

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December 31, 2022 and 2021

(In millions of won)

53. Risk Management, Continued

Gross settlement of derivative financial instruments

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 Years	Over 5 years	Total
Trading purpose derivatives:						
Currency						
Inflow	₩ 52,376,416	31,340,410	63,562,432	77,238,222	7,031,148	231,548,628
Outflow	52,275,177	31,419,674	63,702,102	76,565,253	6,968,341	230,930,547
Interest						
Inflow	-	-	20,280	29,798	-	50,078
Outflow	-	-	20,280	28,887	-	49,167
Hedging purpose derivatives:						
Currency						
Inflow	382,471	331,797	8,713,900	15,749,336	3,656,288	28,833,792
Outflow	725,128	497,526	8,797,007	16,576,149	3,577,128	30,172,938
Total inflow	₩ 52,758,887	31,672,207	72,296,612	93,017,356	10,687,436	260,432,498
Total outflow	₩ 53,000,305	31,917,200	72,519,389	93,170,289	10,545,469	261,152,652

	December 31, 2021					
	Within 1 month	1~3 months	3~12 months	1~5 Years	Over 5 years	Total
Trading purpose derivatives:						
Currency						
Inflow	₩ 56,146,660	34,469,849	99,560,680	89,938,571	8,452,901	288,568,661
Outflow	56,090,442	34,338,644	99,230,057	90,332,369	8,476,594	288,468,106
Interest						
Inflow	-	-	-	41,860	-	41,860
Outflow	-	-	-	41,860	-	41,860
Hedging purpose derivatives:						
Currency						
Inflow	16,920	76,028	4,791,344	14,245,183	4,727,452	23,856,927
Outflow	16,786	79,183	6,083,666	14,902,210	4,624,965	25,706,810
Total inflow	₩ 56,163,580	34,545,877	104,352,024	104,225,614	13,180,353	312,467,448
Total outflow	₩ 56,107,228	34,417,827	105,313,723	105,276,439	13,101,559	314,216,776

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(In millions of won)

Remaining contractual maturity analysis for guarantees and commitments as of December 31, 2022 and 2021 are as follows:

	December 31, 2022					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Guarantees	₩ 994,382	1,284,030	2,713,574	6,009,532	420,036	11,421,554
Commitments	410,918	82,369	833,354	2,226,910	44,548,658	48,102,209
	₩ 1,405,300	1,366,399	3,546,928	8,236,442	44,968,694	59,523,763

	December 31, 2021					
	Within 1 month	1~3 months	3~12 months	1~5 years	Over 5 years	Total
Guarantees	₩ 1,314,744	1,012,325	2,923,833	4,026,986	1,937,634	11,215,522
Commitments	595,596	34,051	963,075	2,899,777	40,307,515	44,800,014
	₩ 1,910,340	1,046,376	3,886,908	6,926,763	42,245,149	56,015,536

Organization

9 Division | 7 Center | 9 Regional Head Office | 59 Department

- **Board of Directors**
  - Risk Management Committee
- **Chairman & CEO**
  - Chief Executive Committee
- **Auditor**
  - Audit Department
- **Vice Chairman & COO**
  - Secretariat
  - Public Relations Department
  - **Chief Compliance Officer**
    - Compliance Department
    - Legal Affairs Department
  - **Chief Consumer Officer**
    - Financial Consumer Protection Department

Regional Development Division
- Regional Development Support Department
- Southeast Investment Finance Center

Regional Head Office
- Gangnam, Gangbuk, Gyeongin, Jungbu, Southeast, DaeguGyeongbuk, Chungcheong, Honam
- * Domestic Branches

Maritime Finance Center
- Maritime Finance Department I
- Maritime Finance Department II

Innovation & Growth Banking Division
- Indirect Investment Banking Department
- On-lending Banking Department
- KDB NextRound Department

Venture Finance Center
- Venture & Technology Banking Department
- Scale-up Banking Department

Corporate Banking Division
- KDB Alliance Center
- 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

Global Business Division
- Global Business Department
- Trade Finance Department
- Global Securiteis Trading Department
- F/X & Derivatives Trading Department
- * Global Network Branches (Ex Asia)

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

Credit Review Division
- Credit Review Department I
- Credit Review Department Ⅱ
- Credit Review Department Ⅲ
- Credit Rating Department

Pension & Trust Business Center
- Pension Business Department
- Trust Department

Risk Management Division
- Risk Management Department
- Loan Review Department
- Operations Department
- Security Control Department

IDT Center
- Digital Transformation Department
- Information Systems Department
- Core Banking System Department
- e-Banking System Department

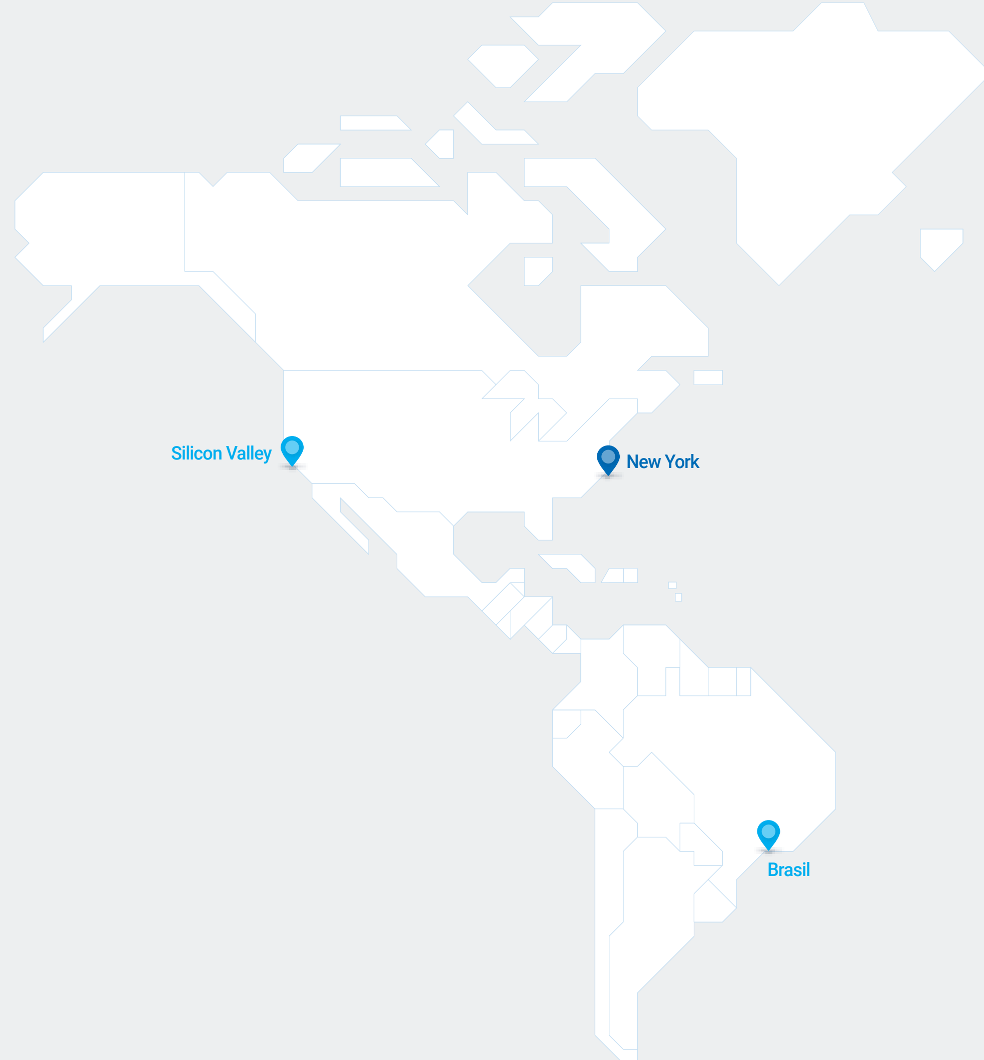
Planning & Administration Division
- Planning Department
- Business Planning Department
- Green Finance Planning Department
- Personnel Department
- General Affairs Department

Financial Management Division
- Financial Planning Department
- Treasury Department
- Deposit Planning Department
- Key Industry Stabilization Fund Bureau

KDB Future Strategy Research Institute
- Future Strategy Development Department
- Industry & Technology Research Center
- Development Finance Research Center

Chief Information Security Officer (CISO)
- Information Security Department

Global Network



HEADQUARTERS

14 Eunhaeng-ro, Yeongdeungpo-gu, Seoul 07242, Korea

KDB Digital Square

177 Misagangbyeonhangang-ro, Hanam-si, Gyeonggi-do 12902, Korea

- OVERSEAS BRANCHES
- REPRESENTATIVE OFFICES
- SUBSIDIARIES

OVERSEAS BRANCHES

Asia Regional Head Office

138 Market Street, #35-02/03, Capitagreen, Singapore 048946
Singapore 048946
Tel: +65-6322-1700
Fax: +65-6322-1709

Singapore Branch

138 Market Street, #35-02/03, Capitagreen, Singapore 048946
Tel: +65-6320-7400
Fax: +65-6320-7413

London Branch

Floor 11(West Side), 22 Bishopsgate, London, United Kingdom, EC2N 4BQ
Tel: +44-20-7426-3550
Fax: +44-20-7426-3567

New York Branch

320 Park Ave. 32nd Floor, New York, NY 10022
Tel: +1-212-688-7686
Fax: +1-212-758-3296

Hong Kong Branch

Suites 2009-2010, Two International Finance Center,
8 Finance Street, Central, Hong Kong
Tel: +852-2234-2188
Fax: +852-3702-1357

Tokyo Branch

GranTokyo North Tower 36F 1-9-1, Marunouchi, Chiyoda-ku, Tokyo, 100-6736, Japan
Tel: +81-3-3214-4541
Fax: +81-3-3214-6933

Shanghai Branch

35th Floor SWFC, 100 Century Avenue, Pudong New Area, Shanghai, China 200120
Tel: +86-21-6887-1234
Fax: +86-21-6877-5556

Beijing Branch

26th Floor, China Central Place T1, 81 Jianguo Road Chaoyang District, Beijing, China 100025
Tel: +86-10-6568-8858
Fax: +86-10-6568-6978

Guangzhou Branch

3201, International Finance Place, No.8 Huaxia Road, Pearl River New Town, Guangzhou, 510623, China
Tel: +86-20-8550-6008
Fax: +86-20-8550-6010

Qingdao Branch

Room 01-06, 43rd Floor, The HNA Center, No.234 Yan'an 3rd Road, Shinan District, Qingdao, Shandong Province, China 266071
Tel: +86-532-8288-7700
Fax: +86-532-8288-7318

Shenyang Branch

31F, CR Building, No. 286, Qingnian Street, Heping District, Shenyang, Liaoning Province 110004, China
Tel: +86-24-3125-9988
Fax: +86-24-3125-5096

Yangon Branch

19th F, JunctionCityTower No.3/A, Corner of Bogyoke Aung San Road, Pabedan Township, Yangon, Myanmar
Tel: +95-1-925-3670
Fax: +95-1-925-3679

REPRESENTATIVE OFFICES

Frankfurt Representative Office

7th Floor, Bockenheimer Landstrasse 51-53, 60325 Frankfurt am Main, Germany
Tel: +49-69-9207-1300
Fax: +49-69-9207-1399

Ho Chi Minh Representative Office

Unit 604, M(Kumho Asiana) Plaza, 39 Le Duan St., District 1, TP HCM, Vietnam
Tel: +84-28-6291-7870
Fax: +84-28-6291-7672

Abu Dhabi Representative Office

Unit No.1302, Etihad Tower 3, Corniche Rd., Abu Dhabi, U.A.E. PO Box 63057
Tel: +971-2-666-7173

Moscow Representative Office

#804C, Entrance 3, World Trade Center, Krasnopresnenskaya nab.12, 123610, Moscow, Russia
Tel: +7-985-545-3893

Bangkok Representative Office

15th Fl. Athenee Tower, 63 Wireless Road (Witthayu), Lumphini, Pathumwan, Bangkok 10330, Thailand
Tel: +66-2-168-8498
Fax: +66-2-168-8500

Sydney Representative Office

Suite 3304, MLC Centre, 19-29 Martin Place, Sydney, NSW 2000, Australia
Tel: +61-2-9221-3638
Fax: +61-2-9221-9332

Jakarta Representative Office

Equity Tower 39th Fl, Jl. Jend. Sudirman Kav 52-53, Jakarta Selatan 12190, Indonesia
Tel: +62-21-5094-1141
Fax: +62-21-5094-1149

SUBSIDIARIES

KDB Asia Ltd. (Hong Kong)

Suites 2005-2008, Two International Finance Center,
8 Finance Street, Central, Hong Kong
Tel: +852-2524-7011
Fax: +852-2537-3989

KDB Ireland DAC

Ground Floor, Russell House, Stokes Place, St. Stephen's Green, Dublin 2, Ireland
Tel: +353-1-4753-644
Fax: +353-1-4753-658

KDB Bank Europe Ltd.

H-1054 Budapest V., Bajcsy-Zsilinsky ut 42-46, Hungary
Tel: +36-1-374-9903
Fax: +36-1-328-5454

Banco KDB do Brasil S.A.

Av. Faria Lima, 3400, 15 Andar Conj. 152, Ed. FARIA LIMA FINANCIAL CENTER, Itaim Bibi, Sao Paulo, SP, Brasil, CEP: 04538-132
Tel: +55-11-2138-0000
Fax: +55-11-2138-0150

KDB Bank Uzbekistan

3 Bukhoro street, Mirobod district, Tashkent, Uzbekistan 100047
Tel: +998-78-120-8000
Fax: +998-78-120-6970

PT KDB Tifa Finance Tbk

Equity Tower 39th Fl, Jl. Jend. Sudirman Kav 52-53, Jakarta Selatan 12190, Indonesia
Tel: +62-21-5094-1140
Fax: +62-21-5094-1149

KDB Silicon Valley LLC

888 Villa St, 5th Floor, Mountain View, CA
Tel: +1-408-549-5714

KDB Bank