

# Hana Bank and its subsidiaries

Consolidated Financial Statements  
for the years ended December 31, 2022 and 2021  
With the Independent Auditor's Report

# Table of contents

Independent Auditor's Report

Consolidated financial statements	Page
Consolidated Statements of Financial Position	1
Consolidated Statements of Profit or Loss and Other Comprehensive Income	3
Consolidated Statements of Changes in Equity	5
Consolidated Statements of Cash Flows	7
Notes to the Consolidated Financial Statements	9

## Independent Auditor's Report

To the Shareholders and Board of Directors  
Hana Bank Co., Ltd. and its subsidiaries:

### Audit Opinion

We have audited the accompanying consolidated financial statements of Hana Bank Co., Ltd. (the "Bank") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as of December 31, 2022, and the related consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cashflows for the year 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 its consolidated financial performance and its consolidated cash flows for the year then ended in accordance with Korean International Financial Reporting Standards ("K-IFRSs").



## **Basis for Audit opinion**

We conducted our audit in accordance with Korean Standards on Auditing ("KSAs"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audit of the consolidated financial statements section of our report. We are independent of the Group in accordance with the ethical requirements that are relevant to our audit of the consolidated financial statements in 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**

The Group's consolidated financial statements for the reporting period ended December 31, 2021, were audited by Ernst & Young Han Young in accordance with K-IFRSs, and in this auditor's report dated March 10, 2022, an unqualified opinion was expressed. Meanwhile, the consolidated financial statements for which the auditor expressed an unqualified opinion are the financial statements before reflecting the adjustments described in Note 2-2-8 to the financial statements, and the financial statements as of and for the year ended December 31, 2021, shown for comparison, are consolidated financial statement that reflect the adjustments.

## **Responsibilities of management and those charged with governance for the consolidated financial statements**

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with K-IFRSs, and for such internal control as management determines is necessary to enable the preparation of the consolidated financial statements that are free from material misstatement, whether due to fraud or error.



In preparing the consolidated financial statements, management is responsible for assessing the Group's ability to continue as a going concern disclosing, as applicable, matters related to going concern and using the going concern basis of accounting unless management either intends to liquidate the Group or to cease operations, or has no realistic alternative but to do so.

Those charged with governance are responsible for overseeing the Group's financial reporting process.

### **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 KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in 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 KSAs, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

# Deloitte.

- 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.

# Deloitte.

- 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.

*Deloitte Idnjin LLC*

March 10, 2023

This audit report is effective as of March 10, 2023, the independent auditor's report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the date of the independent auditor's report to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

HANA BANK CO., LTD.  
and its subsidiaries

Consolidated Financial Statements  
as of and for the years ended December 31, 2022 and 2021  
(With the Independent Auditor's Report)



## Consolidated Statements of Financial Position

As of December 31, 2022 and 2021

Hana Bank Co., Ltd. and its subsidiaries

(Korean won in millions)

Accounts	December 31, 2022	December 31, 2021
<b>Assets</b>		
1. Cash and due from banks (Notes 4, 5, 6, 8, 10, 50)	41,087,857	27,693,932
2. Financial assets at FVTPL (Notes 4, 5, 6, 7, 8, 11, 14, 16)	18,455,415	10,918,562
3. Derivative assets used for hedging (Notes 4, 5, 6, 7, 8, 16)	8,062	68,670
4. Financial assets at FVOCI (Notes 4, 5, 6, 7, 8, 12, 14)	32,960,581	35,234,358
5. Securities at amortized cost (Notes 4, 5, 6, 7, 8, 13, 14)	37,583,487	22,467,884
6. Loans (Notes 4, 5, 6, 7, 8, 15)	330,186,341	309,177,708
7. Investments in associates and a joint venture (Note 17)	2,958,288	2,630,970
8. Property, plant and equipment (Notes 9, 18)	2,426,014	2,004,441
9. Investment properties (Notes 9, 19)	664,942	790,689
10. Intangible assets (Notes 9, 20)	386,107	356,571
11. Net defined benefit assets (Note 27)	77,160	-
12. Current tax assets	24,733	18,141
13. Deferred tax assets (Note 47)	316,018	182,851
14. Other assets (Notes 4, 5, 6, 7, 8, 22)	13,505,955	13,864,730
15. Merchant banking account assets (Notes 4, 5, 6, 8, 22)	4,631,361	4,741,939
16. Non-current assets held for sale (Note 21)	36,423	42,130
<b>Total assets</b>	<b>485,308,744</b>	<b>430,193,576</b>
<b>Liabilities</b>		
1. Deposits (Notes 4, 5, 6, 8, 23)	359,858,481	321,125,300
2. Financial liabilities at FVTPL (Notes 4, 5, 6, 7, 8, 16, 24)	11,228,307	4,188,107
3. Derivative liabilities used for hedging (Notes 4, 5, 6, 7, 8, 16)	516,418	111,192
4. Borrowings (Notes 4, 5, 6, 7, 8, 25, 50)	22,256,597	17,524,480
5. Debentures (Notes 4, 5, 6, 8, 26, 50)	26,233,339	27,699,757
6. Net defined benefit liabilities (Note 27)	9,106	177,077
7. Provisions (Note 28)	564,978	518,964
8. Current tax liabilities	726,579	566,972
9. Deferred tax liabilities (Note 47)	2,259	151,143
10. Other liabilities (Notes 4, 5, 6, 7, 8, 29, 50)	30,280,039	26,465,833
11. Merchant banking account liabilities (Notes 4, 5, 6, 8, 29)	3,667,273	2,908,280
<b>Total liabilities</b>	<b>455,343,376</b>	<b>401,437,105</b>
<b>Equity</b>		
<b>Equity attributable to owners of the parent</b>	<b>29,685,969</b>	<b>28,489,982</b>
1. Capital stock (Note 30)	5,359,578	5,359,578
2. Capital surplus (Note 30)	6,159,820	9,653,868
3. Hybrid equity securities (Note 30)	533,475	533,475
4. Capital adjustments (Note 30)	(37,686)	(38,279)

Accounts	December 31, 2022		December 31, 2021	
5. Retained earnings (Note 32) (Regulatory reserve for bad debts in the amount of: December 31, 2022 : ₩2,714,034 million December 31, 2021 : ₩2,426,281 million Required provision for bad debts in the amount of: December 31, 2022 : ₩(23,926) million December 31, 2021 : ₩287,753 million Planned provision for bad debts in the amount of: December 31, 2022 : ₩(23,926) million December 31, 2021 : ₩287,753 million) (Note 33)	19,236,315		13,897,317	
6. Accumulated other comprehensive loss (Note 31)	(1,565,533)		(915,977)	
Non-controlling interests		279,399		266,489
Total equity		29,965,368		28,756,471
Total liabilities and equity		485,308,744		430,193,576

"See notes to consolidated financial statements."

## Consolidated Statements of Profit or Loss and Other Comprehensive Income

For the years ended December 31, 2022 and 2021

Hana Bank Co., Ltd. and its subsidiaries

(Korean won in millions)

Accounts	2022	2021
I. Net interest income (Notes 9, 34, 35)	7,608,677	6,150,597
1. Interest income	13,347,231	8,786,664
Interest income on financial instruments at FVOCI and AC	13,282,377	8,746,993
Interest income on financial instruments at FVTPL	64,854	39,671
2. Interest expenses	(5,738,554)	(2,636,067)
II. Net fee and commission income (Notes 9, 34, 36)	593,612	552,794
1. Fees and commission income	874,721	837,656
2. Fees and commission expenses	(281,109)	(284,862)
III. Net gain on financial instruments at FVTPL (Notes 16, 34, 37)	124,701	548,567
IV. Net gain (loss) on derivative financial instruments used for hedging (Notes 34, 38)	(63,551)	(47,686)
V. Net gain on financial instruments at FVOCI (Notes 34, 39, 50)	2,162	79,260
VI. Net gain on financial instruments at AC (Notes 13, 34, 40)	4	20
VII. Provision for allowance for credit loss (Notes 34, 41)	(657,649)	(243,339)
VIII. General and administrative expenses (Notes 9, 34, 42)	(3,318,831)	(2,973,063)
IX. Other operating income (Notes 34, 43)	7,615,689	4,791,160
X. Other operating expenses (Notes 34, 44)	(7,838,212)	(5,439,873)
XI. Operating income	4,066,602	3,418,437
XII. Net non-operating income (expenses)	104,884	60,037
1. Non-operating income (Notes 9, 17, 45)	267,293	237,853
Gain from using equity method	221,832	136,687
Other income	45,461	101,166
2. Non-operating expenses (Notes 9, 17, 46)	(162,409)	(177,816)
Loss from using equity method	(32,819)	(9,015)
Other expenses	(129,590)	(168,801)
XIII. Income before income tax expenses	4,171,486	3,478,474
XIV. Income tax expenses (Notes 9, 47)	(1,059,787)	(902,728)
XV. Net income	3,111,699	2,575,746
1. Owners of the parent (Adjusted income after regulatory reserve for bad debt in the amount of December 31, 2022 : ₩3,119,771 million December 31, 2021 : ₩2,282,608 million) (Note 33)	3,095,845	2,570,361
2. Non-controlling interests	15,854	5,385
XVI. Other comprehensive income (loss) (Note 31)	(663,519)	140,698
Items that may be reclassified subsequently to profit or loss:	(600,406)	99,246
1. Gain (Loss) on valuation of debt securities at FVOCI	(578,842)	(313,699)
2. Gain (Loss) on translation of foreign operations	(2,710)	281,829

Accounts	2022		2021	
3. Changes in equity on investments in associates	1,675		171,904	
4. Gain (Loss) on valuation of net investment hedges of foreign operations	(20,529)		(40,788)	
Items that will not be reclassified subsequently to profit or loss:	(63,113)		41,452	
1. Remeasurement of defined benefit plans	6,395		47,643	
2. Gain (Loss) on valuation of equity securities at FVOCI	(57,920)		8,639	
3. Changes in equity on investments in associates	273		(692)	
4. Gain (Loss) on valuation of fair value hedges	(11,861)		(14,138)	
XVII. Total comprehensive income		2,448,180		2,716,444
1. Owners of the parent	2,443,568		2,693,704	
2. Non-controlling interests	4,612		22,740	
XVIII. Earnings per share (Note 48) (Korean won)				
1. Basic earnings per share		2,866		2,389
2. Diluted earnings per share		2,866		2,389

"See notes to consolidated financial statements."

## Consolidated Statements of Changes in Equity

For the years ended December 31, 2022 and 2021

Hana Bank Co., Ltd. and its subsidiaries

(Korean won in millions)

Accounts	Capital stock	Capital surplus	Hybrid equity securities	Capital adjustments	Retained earnings	Accumulated other comprehensive loss	Equity attributable to equity holder of the parent	Non-controlling interests	Total
I. As of January 1, 2021	5,359,578	9,654,018	179,737	(37,703)	12,414,342	(1,002,192)	26,567,780	243,749	26,811,529
Dividends	-	-	-	-	(714,700)	-	(714,700)	-	(714,700)
Interim dividend	-	-	-	-	(400,000)	-	(400,000)	-	(400,000)
Dividends on hybrid equity securities	-	-	-	-	(9,814)	-	(9,814)	-	(9,814)
Issuance of hybrid equity securities	-	-	353,738	-	-	-	353,738	-	353,738
Stock option	-	-	-	2	-	-	2	-	2
Acquisition of subsidiaries	-	(150)	-	-	-	-	(150)	-	(150)
Paid-in capital increases of subsidiaries	-	-	-	(578)	-	-	(578)	-	(578)
Reclassification of valuation gain or loss on equity securities at FVOCI upon derecognition	-	-	-	-	37,128	(37,128)	-	-	-
Subtotal	5,359,578	9,653,868	533,475	(38,279)	11,326,956	(1,039,320)	25,796,278	243,749	26,040,027
Net income	-	-	-	-	2,570,361	-	2,570,361	5,385	2,575,746
Loss on valuation of financial assets at FVOCI	-	-	-	-	-	(304,299)	(304,299)	(762)	(305,061)
Gain on translation of foreign operations	-	-	-	-	-	263,948	263,948	17,881	281,829
Loss on valuation of net investment hedges of foreign operations	-	-	-	-	-	(40,788)	(40,788)	-	(40,788)
Loss on valuation of fair value hedges	-	-	-	-	-	(14,137)	(14,137)	-	(14,137)
Remeasurement of defined benefit plans	-	-	-	-	-	47,407	47,407	236	47,643
Changes in equity on investments in associates	-	-	-	-	-	171,212	171,212	-	171,212
Total comprehensive income	-	-	-	-	2,570,361	123,343	2,693,704	22,740	2,716,444
II. As of December 31, 2021	5,359,578	9,653,868	533,475	(38,279)	13,897,317	(915,977)	28,489,982	266,489	28,756,471

Accounts	Capital stock	Capital surplus	Hybrid equity securities	Capital adjustments	Retained earnings	Accumulated other comprehensive loss	Equity attributable to equity holder of the parent	Non-controlling interests	Total
I. As of January 1, 2022	5,359,578	9,653,868	533,475	(38,279)	13,897,317	(915,977)	28,489,982	266,489	28,756,471
Dividends	-	-	-	-	(660,400)	-	(660,400)	-	(660,400)
Interim dividend	-	-	-	-	(570,000)	-	(570,000)	-	(570,000)
Dividends on hybrid equity securities	-	-	-	-	(23,770)	-	(23,770)	-	(23,770)
Stock option	-	-	-	15	-	-	15	-	15
Reduction in capital surplus	-	(3,500,000)	-	-	3,500,000	-	-	-	-
Paid-in capital increases of subsidiaries	-	5,952	-	-	-	44	5,996	8,298	14,294
Reclassification of valuation gain or loss on equity securities at FVOCI upon derecognition	-	-	-	-	(2,677)	2,677	-	-	-
Others	-	-	-	578	-	-	578	-	578
Subtotal	5,359,578	6,159,820	533,475	(37,686)	16,140,470	(913,256)	27,242,401	274,787	27,517,188
Net income	-	-	-	-	3,095,845	-	3,095,845	15,854	3,111,699
Loss on valuation of financial assets at FVOCI	-	-	-	-	-	(633,406)	(633,406)	(3,357)	(636,763)

Accounts	Capital stock	Capital surplus	Hybrid equity securities	Capital adjustments	Retained earnings	Accumulated other comprehensive loss	Equity attributable to equity holder of the parent	Non-controlling interests	Total
Gain on translation of foreign operations	-	-	-	-	-	5,158	5,158	(7,867)	(2,709)
Loss on valuation of net investment hedges of foreign operations	-	-	-	-	-	(20,529)	(20,529)	-	(20,529)
Loss on valuation of fair value hedges	-	-	-	-	-	(11,861)	(11,861)	-	(11,861)
Remeasurement of defined benefit plans	-	-	-	-	-	6,413	6,413	(18)	6,395
Changes in equity on investments in associates	-	-	-	-	-	1,948	1,948	-	1,948
Total comprehensive income	-	-	-	-	3,095,845	(652,277)	2,443,568	4,612	2,448,180
II. As of December 31, 2022	5,359,578	6,159,820	533,475	(37,686)	19,236,315	(1,565,533)	29,685,969	279,399	29,965,368

"See notes to consolidated financial statements."

## Consolidated Statements of Cash Flows

For the years ended December 31, 2022 and 2021

Hana Bank Co., Ltd. and its subsidiaries

(Korean won in millions)

Accounts	2022		2021	
I. Net cash flows provided by (used in) operating activities		27,162,831		8,312,411
1. Income before income tax expenses	4,171,486		3,478,474	
2. Adjustments to income and expenses:	(7,619,475)		(6,162,004)	
Interest expenses	5,738,554		2,636,067	
Interest income	(13,347,231)		(8,786,664)	
Dividend income	(10,798)		(11,407)	
3. Adjustments to non-cash items:	2,142,309		1,363,945	
Loss (Gain) on valuation of financial instruments at FVTPL	957,084		135,434	
Loss (Gain) on disposal of financial instruments at FVTPL	17,774		(8,392)	
Loss (Gain) on valuation of derivative instruments used for hedging	77,479		47,083	
Gain on disposal of financial instruments at FVOCI	(2,162)		(79,260)	
Provision for (Reversal of) loss on credit risk of financial instruments at FVOCI	(603)		(194)	
Gain on disposal of financial instruments at amortized cost	(4)		(20)	
Allowance for financial instruments at amortized cost	66,966		10,282	
Net allowance for loans and other assets	591,286		233,251	
Loss (Gain) on disposal of investments in associates and a joint venture	(2,315)		5,512	
Impairment loss on investments in associates and a joint venture	520		628	
Gain on equity method	(189,013)		(127,672)	
Depreciation and amortization	465,049		451,498	
Gain on disposal of property and equipment and intangible assets	(11,923)		(22,976)	
Impairment loss on property and equipment and intangible assets	232		12,835	
Loss on termination of right-of-use assets	360		2,633	
Loss on disposal of right-of-use assets	670		-	
Retirement benefits	144,346		158,520	
Share-based payment expense	10,797		15,197	
Net provisions transferred in	85,264		55,507	
Net loss (gain) on foreign currency translation	(68,484)		473,690	
Others	(1,014)		389	
4. Changes in operating assets and liabilities:	20,866,397		4,170,847	
Financial assets at FVTPL (items held for trading)	(7,437,089)		4,582,096	
Derivative assets used for hedging	731		5,153	
Loans	(15,917,597)		(19,361,233)	
Net defined benefit assets	(77,160)		-	
Other assets	1,152,513		(1,521,997)	
Merchant banking account assets	111,591		(1,277,023)	
Deposits	34,242,815		24,688,523	
Financial liabilities at FVTPL	6,588,007		(4,353,288)	
Derivative liabilities used for hedging	-		(1,848)	
Net defined benefit liabilities	(303,480)		(288,313)	
Provisions	(39,253)		(21,775)	
Other liabilities	1,786,326		1,058,545	
Merchant banking account liabilities	758,993		662,007	
5. Cash provided by operating activities:	12,958,964		8,778,597	
Interest received	12,935,766		8,753,788	
Dividend received	23,198		24,809	

Accounts	2022	2021
6. Cash used in operating activities:	(5,356,850)	(3,317,448)
Interest paid	(4,391,698)	(2,687,735)
Income tax paid	(965,152)	(629,713)
II. Net cash flows provided by (used in) investing activities	(14,765,081)	(7,276,612)
1. Increase in financial assets at FVTPL (other than items held for trading)	(6,985,446)	(14,250,824)
2. Decrease in financial assets at FVTPL (other than items held for trading)	6,213,194	14,304,122
3. Increase in financial assets at FVOCI	(10,734,129)	(18,757,341)
4. Decrease in financial assets at FVOCI	12,359,959	16,853,173
5. Increase in securities at amortized cost	(16,705,097)	(10,360,043)
6. Decrease in securities at amortized cost	1,664,805	5,296,145
7. Increase in investments in associates and a joint venture	(159,719)	(96,523)
8. Decrease in investments in associates and a joint venture	11,664	300
9. Acquisition of property and equipment	(375,988)	(334,946)
10. Disposal of property and equipment	25,559	37,507
11. Disposal of investment properties	19,997	76,501
12. Acquisition of intangible assets	(151,556)	(126,690)
13. Disposal of intangible assets	15	3,153
14. Government grants	1,536	937
15. Disposal of non-current assets held for sale	9,275	3,995
16. Others	40,850	73,922
III. Net cash flows provided by financing activities	1,022,872	1,449,875
1. Net decrease (increase) in borrowings	3,926,509	(510,352)
2. Issuance of debentures	10,945,334	12,181,935
3. Redemption of debentures	(12,410,394)	(9,238,614)
4. Dividends paid	(1,230,400)	(1,114,700)
5. Issuance of hybrid equity securities	-	353,739
6. Dividends on hybrid equity securities	(23,770)	(9,814)
7. Redemption of lease liabilities	(199,280)	(220,521)
8. Change in equity ownership of subsidiaries	14,873	(727)
9. Change in derivative used for hedging	-	8,929
IV. Net increase (decrease) in cash and cash equivalents (I+ II+ III)	13,420,622	2,485,674
V. Cash and cash equivalents at the beginning of the year	25,478,635	22,354,459
VI. Effect of changes in exchange rate on cash and cash equivalents	(398,831)	638,502
VII. Cash and cash equivalents at the end of the year (Note 50)	38,500,426	25,478,635

"See notes to consolidated financial statements."



**Notes to consolidated financial statements**  
as of and for the years ended December 31, 2022 and 2021

1. Company information

General information on Hana Bank Co., Ltd., previously Korea Exchange Bank (the "Bank" or the "Parent company") and its subsidiaries (collectively the "Group") in accordance with K-IFRS 1110 is as follows.

1-1 Summary of the Parent company (The Bank)

The Bank was established on January 30, 1967, as a government-controlled bank to engage in foreign exchange and trade finance business under the *Korea Exchange Bank Act* enacted on July 28, 1966. On December 30, 1989, the *Korea Exchange Bank Act* was repealed, and the Bank was reorganized as a stock company under the Commercial Act of the Republic of Korea. On April 4, 1994, the Bank was listed on the Korea Exchange (previously, Korea Stock Exchange). On February 28, 2004, the Bank merged its subsidiary, Korea Exchange Bank Credit Service Co., Ltd. On August 31, 2014, the Bank spun off its credit card division.

On February 9, 2012, Hana Financial Group Inc. ("HFG") had control over the Bank by acquiring 52.27% equity interest in the Bank, and later on April 5, 2013, the Bank became a wholly owned subsidiary of HFG after HFG acquired the remaining interest in the Bank through an all-inclusive exchange of the shares.

The Bank changed to its current name on September 1, 2015, following the merger of Korea Exchange Bank ("KEB Bank") and Hana Bank.

The Bank provides commercial banking service under the Banking Act of the Republic of Korea, trust banking service under the Financial Investment Services And Capital Markets Act, merchant banking service due to the merger with the Korea International Merchant Bank, foreign exchange business and other related businesses. As of December 31, 2021, the Bank's headquarter is located in Seoul

, with its 593 domestic branches (including 62 satellite offices) and 25 overseas branches (including one satellite offices and four offices).

The Bank is authorized to issue 2,000 million shares (par value amount : ₩5,000) of common stock, and as of December 31, 2022, after a number of capital increases and decreases, stock splits and conversion of preferred shares to common shares, the Bank has 1,071,915,717 shares of common stock issued and outstanding with the total capital stock amounting to ₩5,359,578 million.

The Group's consolidated financial statements as of and for the year ended December 31, 2022 were approved by the Board of Directors on March 6, 2023.

## 1-2 Scope and overview of consolidation

The Group's ownership percentages in its consolidated subsidiaries as of December 31, 2022 are summarized as follows (ownership in %):

Investee	Country	Major business	Share ratio (%)	Reporting date
Subsidiaries of Hana Bank				
Hana Bank (China) Co., Ltd.	China	Bank	100.00	2022.12.31
KEB Hana Bank Canada	Canada	Financial Business	100.00	2022.12.31
KEB Hana Bank (Deutschland) A.G. (KEBDAG)	Germany	Financial Business	100.00	2022.12.31
PT Bank KEB Hana (KEBI)	Indonesia	Financial Business	69.01	2022.12.31
Banco KEB Hana Do Brasil S.A. (KEBB)	Brazil	Financial Business	100.00	2022.12.31
KEB Hana NY Financial Corp (NYFinCo)	USA	Financial Business	100.00	2022.12.31
KEB Hana LA Financial Corp (LAFinCo)	USA	Financial Business	100.00	2022.12.31
KEB Hana Global Finance Limited (KHGF)	HongKong	Financial Business	100.00	2022.12.31
KEB RUS LLC.	Russia	Financial Business	99.99	2022.12.31
Hana Bancorp, Inc.	USA	Financial Business	96.77	2022.12.31
KEB Hana Bank Mexico	Mexico	Financial Business	99.99	2022.12.31
GLN international Inc.	Korea	Other financial business	85.44	2022.12.31
Hana Tech Value-Up Investment Fund (*)	Korea	Other financial business	98.04	2022.12.31
Hana 1Q Startup Investment Fund (*)	Korea	Other financial business	90.91	2022.12.31
Hana UBS Power PEF Invest Trust 21 (*)	Korea	Asset Management Company	100.00	2022.12.31
Hyundai Trust PEF Invest 16 (*)	Korea	Asset Management Company	100.00	2022.12.31
Kyobo AXA Tomorrow PEF Invest Trust KH-1 (*)	Korea	Asset Management Company	100.00	2022.12.31
Sevenstar Co., Ltd. (*)	Korea	Other financial business	-	2022.12.31
Marine Solution Co., Ltd. (*)	Korea	Other financial business	-	2022.12.31

Investee	Country	Major business	Share ratio (%)	Reporting date
Joong-ang star Co., Ltd. (*)	Korea	Other financial business	-	2022.12.31
Hana Display First Co., Ltd. (*)	Korea	Other financial business	-	2022.12.31
Ocean Betts The First Co., Ltd. (*)	Korea	Other financial business	-	2022.12.31
Hana H in the holdings 1st LLC (*)	Korea	Other financial business	-	2022.12.31
H-Plus 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
Hana CK 1st Co., Ltd (*)	Korea	Other financial business	-	2022.12.31
Hana H in the holdings 2nd LLC (*)	Korea	Other financial business	-	2022.12.31
PIOTOWER1st, LLC (*)	Korea	Other financial business	-	2022.12.31
HEONEQ1st, LLC (*)	Korea	Other financial business	-	2022.12.31
HCONEQ1st, LLC (*)	Korea	Other financial business	-	2022.12.31
H-Hotel1Q 1st LLC. (*)	Korea	Other financial business	-	2022.12.31
DPS 2nd Ltd (*)	Korea	Other financial business	-	2022.12.31
BBQ 1Q 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
SK office 1Q 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
Cleanenergy 1Q 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
HANA DL First Co., Ltd (*)	Korea	Other financial business	-	2022.12.31
HANA TERMINUS First Co., Ltd (*)	Korea	Other financial business	-	2022.12.31
THE HAM ONEQ 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
HANA BAY 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
HANA I.S 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
HANA I.G 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
GRAND ONEQ 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
THE MIRAE ONEQ 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
DONG DAEGU TERMINAL 2nd. LLC (*)	Korea	Other financial business	-	2022.12.31
KENDALL NO.9 1st. LLC (*)	Korea	Other financial business	-	2022.12.31
BYK3rd Co., Ltd (*)	Korea	Other financial business	-	2022.12.31
Mini Hana 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
Jinwoori 1Q 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
Hana Double H 1Q 4th Co.,Ltd (*)	Korea	Other financial business	-	2022.12.31
Hana Double H 1Q 5th Co.,Ltd (*)	Korea	Other financial business	-	2022.12.31
H-ECHO 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
HANA STARLORD 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
CLEAN WORLD 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
H-HANA 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
HANA ANANTI 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
One Q B777F 66872 Co., Ltd (*)	Cayman Islands	Other financial business	-	2022.12.31
NAE CHON HANA 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
DRAGON HANA 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
HANA BAEKSA LOGISTICS 1st, LLC (*)	Korea	Other financial business	-	2022.12.31
HANA S ONE Q 1st, LLC (*)	Korea	Other financial business	-	2022.12.31

Investee	Country	Major business	Share ratio (%)	Reporting date
HOME PLUS HANA CONNECT, LLC (*)	Korea	Other financial business	–	2022.12.31
Antarctica 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
Enerbility Hana 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
Hana Plant 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
Gs Hana 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
Cha Cha Hana 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
T A 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
Neostar 6th, Ltd (*)	Korea	Other financial business	–	2022.12.31
Galaxia 1Q 1st, Ltd (*)	Korea	Other financial business	–	2022.12.31
Trust accounts guaranteeing the repayment of principal (*)	Korea	Trust account	–	2022.12.31
Subsidiaries of Hana Bancorp, Inc.				
KEB Hana Bank USA	USA	Bank	100.00	2022.12.31

(\*) Although the entity is a structured special purpose company (SPC), the Group recognized the entity as a subsidiary considering its exposure to variable returns and ability to direct its activities.

Condensed financial statements as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Assets	Liabilities	Equity	Operating income	Net income (loss)	Total Comprehensive income (loss)
Hana Bank (China) Co., Ltd.	10,666,735	9,554,035	1,112,700	526,554	(97,191)	(124,308)
KEB Hana Bank Canada	1,788,935	1,543,596	245,339	76,573	16,039	16,303
KEB Hana Bank (Deutschland) A.G.	1,157,221	1,028,804	128,417	44,421	8,627	9,374
PT Bank KEB Hana	3,841,423	2,979,403	862,020	316,465	51,563	15,327
Banco KEB Hana Do Brasil S.A.	208,558	168,209	40,349	25,795	2,791	6,908
KEB Hana NY Financial Corp.	368,894	296,550	72,344	10,870	980	5,569
KEB Hana LA Financial Corp.	682,091	590,785	91,306	24,511	6,441	11,807
KEB Hana Global Finance Limited	215,235	120,686	94,549	12,119	4,574	10,023
KEB Hana Bank Russia	1,208,118	1,110,804	97,314	67,425	13,862	20,559
Hana Bancorp, Inc. (*)	488,768	366,125	122,643	15,125	(940)	151
KEB Hana Bank Mexico	356,088	250,609	105,479	16,271	346	12,139
GLN International Co., Ltd.	57,439	1,267	56,172	257	(6,132)	(6,132)
Trust accounts guaranteeing the repayment of principal	1,579,252	1,557,875	21,377	39,811	(24,356)	(24,356)

(\*) The amounts are consolidated amounts of the intermediate parent.

<December 31, 2021>

Classification	Assets	Liabilities	Equity	Operating income	Net income (loss)	Comprehensive income (loss)
Hana Bank (China) Co., Ltd.	10,673,261	9,436,252	1,237,009	481,552	57,141	194,157
KEB Hana Bank Canada	1,600,343	1,371,307	229,036	44,760	8,179	26,673
KEB Hana Bank (Deutschland) A.G.	1,117,471	998,428	119,043	28,462	6,390	6,682
PT Bank KEB Hana	3,630,748	2,784,056	846,692	236,060	17,520	72,677
Banco KEB Hana Do Brasil S.A.	214,635	181,193	33,442	15,569	2,675	3,157
KEB Hana NY Financial Corp.	283,007	216,233	66,774	4,767	478	5,946
KEB Hana LA Financial Corp.	469,226	389,727	79,499	13,000	5,286	11,566
KEB Hana Global Finance Limited	218,824	134,298	84,526	9,193	3,820	10,480
KEB Hana Bank Russia	725,579	648,823	76,756	29,521	5,553	2,725
Hana Bancorp, Inc. (*)	347,368	307,601	39,767	11,960	(470)	2,373
KEB Hana Bank Mexico	246,554	153,214	93,340	7,871	756	5,773
GLN International Co., Ltd.	48,592	1,177	47,415	2	(2,009)	(2,009)
Trust accounts guaranteeing the repayment of principal	1,699,941	1,654,207	45,734	35,802	407	407

(\*) The amounts are consolidated amounts of the intermediate parent.

The following entities are excluded from the Group's scope of consolidation as of December 31, 2022 and 2021, since the group aimed at investing in majority owned companies or securities and has no control over the power of investee related activities, exposure to variable profits, and the ability to use power to influence the group's variable profits.

<December 31, 2022>

Company name	Country	Major business	Share ratio (%)
Hana – KMC Unicorn Fund of Funds	Korea	Investment	90.91
All Together Korea Fund 5	Korea	Investment	100.00
Hana-New Deal K-Growth fund	Korea	Investment	90.00
Defense Technology Innovation Private Investment Trust	Korea	Investment	98.33

<December 31, 2021>

Company name	Country	Major business	Share ratio (%)
Hana – KMC Unicorn Fund of Funds	Korea	Investment	90.91
All Together Korea Fund 5	Korea	Investment	100.00
Hana-New Deal K-Growth fund	Korea	Investment	90.00

Subsidiaries included in and excluded from the consolidation scope for the year ended December 31, 2022 are as follows:

Company	Reasons
Included in scope of consolidation:	
Subsidiaries of Hana Bank	
BYK 3rd Co., Ltd.	Newly invested
Mini Hana 1st, LLC	Newly invested
Jinwoori 1Q 1st, LLC	Newly invested
Hana Double H 1Q 4th Co.,Ltd	Newly invested
Hana Double H 1Q 5th Co.,Ltd	Newly invested
H-ECHO 1st, LLC	Newly invested
HANA STARLORD 1st, LLC	Newly invested

Company	Reasons
CLEAN WORLD 1st, LLC	Newly invested
H-HANA 1st, LLC	Newly invested
HANA ANANTI 1st, LLC	Newly invested
One Q B777F 66872 Co., Ltd.	Newly invested
NAE CHON HANA 1st, LLC	Newly invested
DRAGON HANA 1st, LLC	Newly invested
HANA BAEKSA LOGISTICS 1st, LLC	Newly invested
HANA S ONE Q 1st, LLC	Newly invested
HOME PLUS HANA CONNECT, LLC	Newly invested
Antarctica 1st, Ltd	Newly invested
Enerbility Hana 1st, Ltd	Newly invested
Hana Plant 1st, Ltd	Newly invested
Gs Hana 1st, Ltd	Newly invested
Cha Cha Hana 1st, Ltd	Newly invested
T A 1st, Ltd	Newly invested
Neostar 6th, Ltd	Newly invested
Galaxia 1Q 1st, Ltd	Newly invested
Excluded from the scope of consolidation:	
Subsidiaries of Hana Bank	
HI Leading Solution PEF Invest Trust 143 [Bond]	Excluded due to the disposal
BEST ONE Q 1st	Excluded due to the disposal (End of credit offering)
Netoneq 1st L.L.C	Excluded due to the disposal (End of credit offering)
DONGAM TOWER 1st Co., Ltd.	Excluded due to the disposal (End of credit offering)
Hana Double H 1Q 2nd Co., Ltd.	Excluded due to the disposal (End of credit offering)
Hana Double H 1Q 3rd Co., Ltd.	Excluded due to the disposal (End of credit offering)
KSPARTNERSHIP 1st 2020, Inc.	Excluded due to the disposal (End of credit offering)

#### 1-2-1 Hana Bank (China) Co., Ltd. (Hana Bank China)

Hana Bank (China) Co., Ltd. (Hana Bank China) was incorporated in Beijing to engage in commercial banking, foreign currency exchanges and other related operations in China on December 14, 2007. The Bank contributed the assets and liabilities of the branches in Shanghai and Shenyang, and its interests in the International Bank of Qingdao, which is the subsidiary of the Bank, to the Hana Bank China in the form of equity contributions on December 24, 2007. Hana Bank China, one of subsidiaries in China, acquired and merged with KEB China, one of affiliates in the Hana Financial Group, on December 15, 2014. (Before the merger, equity interests in Hana Bank China were 59.7% for Hana Bank and 40.3% for Korea Exchange Bank). Its paid-in capital is 3.35 billion yuan (Share ratio : 100%) as of December 31, 2022.

#### 1-2-2 KEB Hana Bank Canada

KEB Hana Bank Canada was established in Toronto, Canada, on October 6, 1981, to provide financial services to Korean companies and residents in Toronto and the surrounding area. Its paid-in capital is 83,400 thousand Canadian dollars (Share ratio : 100%) as of December 31, 2022.

#### 1-2-3 KEB Hana Bank (Deutschland) A.G.

KEBDAG was established in Frankfurt, Germany, on December 29, 1992, to provide financial services to Korean companies and residents in Frankfurt and the surrounding area. Its paid-in capital is 23,008 thousand euro (Share ratio : 100%) as of December 31, 2022.



#### 1-2-4 PT Bank KEB Hana

PT Bank KEB Hana was established in Jakarta, Indonesia, on November 5, 1990, to provide financial services to Korean companies and residents in Jakarta.

In accordance with the regulations of the Bank Indonesia, two or more local banks with the same ultimate parent company are prohibited to operate as an independent entity in Indonesia. Accordingly, PT Bank KEB Indonesia (KEBI), a subsidiary of the Bank, and PT Bank Hana, a subsidiary of Hana Bank, have completed a merger process on February 20, 2014, and changed the name to PT Bank KEB Hana. PTBank KEB Hana was incorporated into a subsidiary of KEB on February 28, 2014, since KEB owned the major shares of PT Bank KEB Hana after the acquisition. Its paid-in capital is 3,160,093 million rupiah (Share ratio : 69.01%) as of December 31, 2022.

#### 1-2-5 Banco KEB Hana Do Brasil S.A. (KEBB)

KEBB was incorporated on May 21, 1999, to provide investment finance services for foreign clients, advisory services for domestic companies that seek to invest overseas, finance arrangement and security investment trust services. Its paid-in capital is 126,351 thousand reals (Share ratio : 100%) as of December 31, 2022.

#### 1-2-6 KEB Hana NY Financial Corp. (NYFinCo)

NYFinCo was established in New York, USA, on April 8, 2004, to provide financial services to Korean companies and residents in New York and the surrounding area. Its paid-in capital is 1 dollar (Share ratio : 100%) as of December 31, 2022.

#### 1-2-7 KEB Hana LA Financial Corp. (LAFinCo)

LAFinCo was established in Los Angeles, USA, on April 8, 2004, to provide financial services to Korean companies and residents in Los Angeles and the surrounding area. Its paid-in capital is 2 dollars (Share ratio : 100%) as of December 31, 2022.

#### 1-2-8 KEB Hana Global Finance Limited (KHGF)

KHGF was established on July 2, 2009, in Hong Kong to provide investment finance services for foreign clients, advisory services for domestic companies that seek to invest overseas, finance arrangement and security investment trust services. Its paid-in capital is 50,000 thousand dollars (Share ratio : 100%) as of December 31, 2022.

#### 1-2-9 KEB RUS LLC

KEB launched a Moscow representative office in 2008 to provide financial information and consulting services for Korean and local companies in Russia. KEB RUS LLC was established on August 15, 2014, after obtaining permission to operate corporation from Russian supervisory authorities in order to expand the business area. Its paid-in capital is 4.78 billion RUB (Share ratio : 99.99%) as of December 31, 2022.

#### 1-2-10 Hana Bancorp, Inc.

Hana Bancorp, Inc. (previously, BNB Financial Service Corporation) was incorporated on April 8, 1988, to engage in the bank and related businesses. HFG acquired ownership of BNB Financial Service Corporation and incorporated Hana Bancorp, Inc. as its subsidiary on August 30, 2013, and changed the name to Hana Bancorp, Inc. The Bank purchased the securities from HFG on March 28, 2016. Its paid-in capital is 48,596 thousand dollars (Share ratio : 96.77%) as of December 31, 2022.

#### 1-2-11 KEB Hana Bank Mexico

KEB Hana Bank Mexico was established in Mexico City on November 3, 2017, to engage in provision of financial services to Korean companies and local corporations and obtained approval for the commencement of business from the local supervisory agency on January 31, 2019. Its paid-in capital is 1,666,828 thousand Mexican pesos (Share ratio : 99.99%) as of December 31, 2022.

#### 1-2-12 GLN International Co., Ltd.

GLN International Co., Ltd. was established in Korea on July 7, 2021, and primarily engages in the electronic finance business (global payment brokerage, etc.). Its paid-in capital is 58.5 billion Korean won (Share ratio : 85.44%) as of December 31, 2022.

#### 1-3 Structured entities

##### 1-3-1 Consolidated structured entities

##### 1-3-1-1 Hana UBS Power PEF Invest Trust 21 and a set of two other private equity investment vehicles

In accordance with K-IFRS 1110 *Consolidated Financial Statements*, two other private equity investment vehicles and Hana UBS Power PEF Invest Trust 21 were included in consolidation scope because the Group has existing rights that give it the current ability to direct the relevant activities, and is not only exposed, or has rights, to variable returns, but also has the ability to use its power to affect the Group's returns from its involvement with the investee.

#### 1-3-1-2 Sevenstar Co., Ltd. and 50 other special purpose entities

In accordance with K-IFRS 1110 *Consolidated Financial Statements*, 50 special purpose companies and Sevenstar Co., Ltd. were included in consolidation scope because the Group has existing rights that give it the current ability to direct the relevant activities, and is not only exposed, or has rights, to variable returns, but also has the ability to use its power to affect the Group's returns from its involvement with the investee.

#### 1-3-1-3 Trust accounts

In accordance with K-IFRS 1110 *Consolidated Financial Statements*, trust accounts are included in consolidation scope because the Group has existing rights that give it the current ability to direct the relevant activities, and is not only exposed, or has rights, to variable returns, but also has the ability to use its power to affect the Group's returns from its involvement with the investee.

#### 1-3-1-4 Hana Tech Value-Up Investment Fund and one other fund

In accordance with K-IFRS 1110 *Consolidated Financial Statements*, Hana Tech Value-Up Investment Fund and one other fund are included in consolidation scope because the Group has existing rights that give it the current ability to direct the relevant activities, and is not only exposed, or has rights, to variable returns, but also has the ability to use its power to affect the Group's returns from its involvement with the investee.

#### 1-3-1-5 Contractual commitments to consolidated structured entities

The consolidated structured company for the securitization of assets is established for the securitization of loans. The Group is involved in the acquisition of subordinated bonds issued by the consolidated structured company or provided credit for the asset-backed commercial paper and others, and is exposed to the risk of not being able to recover the acquisition amounts based on the investment performance. Characteristics and intentions of contractual commitments offered by the Group to the consolidated structured entities are as follows:

Company name	The characteristics and purposes	Intention
Development trust and other trusts	The Group offers principal conservation commitment to trust accounts. The Group is required to conserve the deficit amount in case the trust account stands below the principal as a result of the operation.	Credit risk mitigation on financial management of trust account
Hana Display First Co., Ltd.	The Group partially purchased asset-backed commercial paper (ABCP) (purchase commitment of ₩200,000 million) from Hana Display First Co., Ltd.	Operating activities
Ocean Betts The First Co., Ltd.	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from Ocean Betts The First Co., Ltd.	Operating activities
Hana H in the holdings 1st LLC.	The Group partially purchased ABCP (purchase commitment of ₩150,000 million) from Hana H in the holdings 1st LLC.	Operating activities
H-Plus 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩100,000 million) from H-Plus 1st, L.L.C.	Operating activities
Hana CK 1st Co., Ltd	The Group partially purchased ABCP (purchase commitment of ₩57,300 million) from Hana CK 1st Co., Ltd	Operating activities
Hana H in the holdings 2nd, LLC.	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from Hana H in the holdings 2nd, LLC	Operating activities
PIOTOWER1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩60,000 million) from PIOTOWER1st, LLC	Operating activities
HEONEQ1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from HEONEQ1st L.L.C	Operating activities
HOONEQ1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from HOONEQ1st L.L.C	Operating activities
DPS 2nd Ltd.	The Group partially purchased ABCP (purchase commitment of ₩45,700 million) from DPS 2nd Ltd.	Operating activities
H+Hotel1Q 1st LLC.	The Group partially purchased ABCP (purchase commitment of ₩48,000 million) from H+Hotel1Q 1st LLC.	Operating activities
BBQ 1Q 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩20,000 million) from BBQ 1Q 1st, LLC	Operating activities
SK Office 1q 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩60,000 million) from SK Office 1q 1st, LLC	Operating activities
Cleanenergy 1Q 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩60,000 million) from Cleanenergy 1Q 1st, LLC	Operating activities
HANA DL First Co., Ltd	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from HANA DL First Co., Ltd	Operating activities
HANA TERMINUS First Co., Ltd	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from HANA TERMINUS First Co., Ltd	Operating activities
THE HAM ONEQ 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩40,000 million) from THE HAM ONEQ 1st, LLC	Operating activities
HANA I.G 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩20,000 million) from HANA I.G 1st, LLC	Operating activities
GRAND ONEQ 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩40,000 million) from GRAND ONEQ 1st, LLC	Operating activities
THE MIRAE ONEQ 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from THE MIRAE ONEQ 1st, LLC	Operating activities
DONG DAEGU TERMINAL 2nd, LLC	The Group partially purchased ABCP (purchase commitment of ₩20,000 million) from DONG DAEGU TERMINAL 2nd, LLC	Operating activities
KENDALL NO.9 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩30,300 million) from KENDALL NO.9 1st, LLC	Operating activities
BYK 3rd Co., Ltd.	The Group partially purchased ABCP (purchase commitment of ₩20,000 million) from BYK 3rd Co., Ltd.	Operating activities
Mini Hana 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩30,000 million) from Mini Hana 1st, LLC	Operating activities
Jinwoori 1Q 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩30,000 million) from Jinwoori 1q 1st, LLC	Operating activities
Hana Double H 1Q 4th Co.,Ltd	The Group partially purchased ABCP (purchase commitment of ₩11,100 million) from Hana Double H 1Q 4th Co.,Ltd	Operating activities

Company name	The characteristics and purposes	Intention
Hana Double H 1Q 5th Co.,Ltd	The Group partially purchased ABCP (purchase commitment of ₩11,100 million) from Hana Double H 1Q 5th Co.,Ltd	Operating activities
H-ECHO 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩80,000 million) from H-ECHO 1st, LLC	Operating activities
HANA STARLORD 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩30,000 million) from HANA STARLORD 1st, LLC	Operating activities
CLEAN WORLD 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩20,000 million) from CLEAN WORLD 1st, LLC	Operating activities
H-HANA 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩90,000 million) from H-HANA 1st, LLC	Operating activities
HANA ANANTI 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from HANA ANANTI 1st, LLC	Operating activities
NAE CHON HANA 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩49,600 million) from NAE CHON HANA 1st, LLC	Operating activities
DRAGON HANA 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩30,000 million) from DRAGON HANA 1st, LLC	Operating activities
HANA BAEKSA LOGISTICS 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩34,600 million) from HANA BAEKSA LOGISTICS 1st, LLC	Operating activities
HANA S ONE Q 1st, LLC	The Group partially purchased ABCP (purchase commitment of ₩30,000 million) from HANA S ONE Q 1st, LLC	Operating activities
HOME PLUS HANA CONNECT, LLC	The Group partially purchased ABCP (purchase commitment of ₩60,000 million) from HOME PLUS HANA CONNECT, LLC	Operating activities
Antarctica 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩60,000 million) from Antarctica 1st, Ltd	Operating activities
Enerbility Hana 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩50,000 million) from Enerbility Hana 1st, Ltd	Operating activities
Hana Plant 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩100,000 million) from Hana Plant 1st, Ltd	Operating activities
Gs Hana 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩60,000 million) from Gs Hana 1st, Ltd	Operating activities
Cha Cha Hana 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩30,000 million) from Cha Cha Hana 1st, Ltd	Operating activities
T A 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩10,000 million) from T A 1st, Ltd	Operating activities
Neostar 6th, Ltd	The Group partially purchased ABCP (purchase commitment of ₩40,000 million) from Neostar 6th, Ltd	Operating activities
Galaxia 1Q 1st, Ltd	The Group partially purchased ABCP (purchase commitment of ₩26,300 million) from Galaxia 1Q 1st, Ltd	Operating activities
Hana Tech Value-Up Investment Fund	The Group is providing an additional commitment of 15 billion won to Hana Tech Value-Up Investment Fund	Operating activities

## 1-3-2 Unconsolidated structured entities

### 1-3-2-1 The nature of the Group's interests in unconsolidated structured entities

Details of the nature of the Group's interests in unconsolidated structured entities as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Type	Characteristics and purposes	Major method of financing arrangement	Total assets	
			December 31, 2022	December 31, 2021
Special purpose company securitization	Securitization of backed asset	Issuing ABL/ABCP and others	7,029,016	6,712,934
Real estate finance	Operation for real estate (including social overhead capital (SOC)) development	Investment and borrowing	114,016,572	21,698,071
Shipping finance and primary market finance	Building or purchasing ships and non performing loan (NPL) purchase, M&A	Investment and borrowing	40,597,660	16,377,650
Investment fund and trust	Managing investment property	Issuing beneficiary certificates	135,837,775	114,822,595

### 1-3-2-2 Maximum exposure to loss from interests in unconsolidated structured entities (Korean won in millions)

<December 31, 2022>

Classification	Special purpose company	Real estate finance	Shipping finance and primary market finance	Investment fund and trust
Assets				
Loans (A)	772,224	3,594,661	1,523,953	1,022,347
Securities (B)	1	65,156	-	11,640,474
Derivatives (C)	8,778	6,104	19,536	-
Others (D)	1,430	16,301	8,883	-
Liabilities				
Derivative liabilities	41,255	2,347	6,460	-
Provisions	206	2,365	490	63
Others	17	61	45	-
Carrying amount of net asset	740,955	3,677,449	1,545,377	12,662,758
Maximum exposure to loss	1,077,495	4,508,450	1,906,570	15,013,673
Financial assets (A+B+C+D)	782,433	3,682,222	1,552,372	12,662,821
Credit and other commitment	295,062	826,228	354,198	2,350,852

<December 31, 2021>

Classification	Special purpose company	Real estate finance	Shipping finance and primary market finance	Investment fund and trust
Assets				
Loans (A)	352,998	2,123,688	1,095,757	952,946
Securities (B)	1	29,347	–	9,774,345
Derivatives (C)	4,391	3,782	12,639	–
Others (D)	1,253	6,988	4,694	–
Liabilities				
Derivative liabilities	6,574	170	1,200	–
Provisions	2,198	2,265	979	241
Others	24	124	61	–
Carrying amount of net asset	349,847	2,161,246	1,110,850	10,727,050
Maximum exposure to loss	1,185,938	3,109,342	1,575,275	12,188,753
Financial assets (A+B+C+D)	358,643	2,163,805	1,113,090	10,727,291
Credit and other commitment	827,295	945,537	462,185	1,461,462



## 2. Basis of preparation and significant accounting policies

### 2-1 Basis of preparation

The Group prepares statutory financial statements in Korean in accordance with Korean International Financial Reporting Standards ("K-IFRS") enacted by the Act on External Audit of Stock Companies. The accompanying consolidated financial statements have been translated into English from statements prepared in Korean. In the event of any differences in interpreting the financial statements or the independent auditor's report thereon, Korean version, which is used for regulatory reporting purposes, shall prevail.

### 2-2 Changes in significant accounting policies

The significant accounting policies used for the preparation of the consolidated financial statements are the same as those adopted in preparing consolidated financial statements for the year ended December 31, 2021, except for the adoption of new standards and interpretations effective as of January 1, 2022.

Changes in accounting policies in accordance with the adoption of new standards and interpretations for the current reporting period are as follows:

#### 2-2-1 K-IFRS 1103 *Business Combinations - Reference to the Conceptual Framework (Amendment)*

The amendments update K-IFRS 1103 so that it refers to the Conceptual Framework (2018) instead of the Framework (2007). They also add to K-IFRS 1103 a requirement that, for obligations within the scope of K-IFRS 1037, an acquirer applies K-IFRS 1037 to determine whether at the acquisition date a present obligation exists as a result of past events. For a levy that would be within the scope of K-IFRS 2121 *Levies*, the acquirer applies K-IFRS 2121 to determine whether the obligating event that gives rise to a liability to pay the levy has occurred by the acquisition date. Finally, the amendments add an explicit statement that an acquirer does not recognize contingent assets acquired in a business combination.

The amendments are effective for business combinations for which the date of acquisition is on or after the beginning of the first annual period beginning on or after January 1, 2022. There is no material impact of this amendment on the Group's consolidated financial statements.

*2-2-2 K-IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets - Onerous Contracts - Cost of Fulfilling a Contract (Amendment)*

The amendment specifies that the 'cost of fulfilling a contract' comprises the 'costs that relate directly to the contract.' Costs that relate directly to a contract consist of both the incremental costs of fulfilling that contract (examples would be direct labor or materials) and an allocation of other costs that relate directly to fulfilling contracts (an example would be the allocation of the depreciation charge for an item of property, plant and equipment used in fulfilling the contract).

The amendment applies to contracts for which the entity has not yet fulfilled all its obligations at the beginning of the annual reporting period in which the entity first applies the amendments. Comparatives are not restated. Instead, the entity shall recognize the cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings or other component of equity, as appropriate, at the date of initial application. There is no material impact of this amendment on the Group's consolidated financial statements.

## 2-2-3 Annual Improvements to K-IFRSs 2018-2020

The annual improvements include amendments to four standards such as K-IFRS 1101 *First-Time Adoption of K-IFRSs*, K-IFRS 1109 *Financial Instruments*, K-IFRS 1116 *Leases*, and K-IFRS 1041 *Agriculture*.

### 2-2-3-1 K-IFRS 1101 *First-time Adoption of K-IFRSs (Amendment)*

The amendment provides additional exemption to a subsidiary, which becomes a first-time adopter later than its parent in respect of accounting for cumulative translation differences. As a result of the amendment, a subsidiary that uses the exemption in K-IFRS 1101 paragraph D16(1) can now also elect to measure cumulative translation differences for all foreign operations at the carrying amount that would be included in the parent's consolidated financial statements, based on the parent's date of transition to K-IFRSs, if no adjustments were made for consolidation procedures and for the effects of the business combination in which the parent acquired the subsidiary. A similar election is available to an associate or joint venture that uses the exemption in K-IFRS 1101 paragraph D16(1). There is no material impact of this amendment on the Group's consolidated financial statements.

### 2-2-3-2 K-IFRS 1109 *Financial Instruments (Amendment)*

The amendment clarifies that in applying the '10 percent' test to assess whether to derecognize 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. The amendment is applied prospectively to modifications and exchanges that occur on or after the date the entity first applies the amendment. There is no material impact of this amendment on the Group's consolidated financial statements.

### *2-2-3-3 K-IFRS 1116 Leases (Amendment)*

The amendment removes the illustration of the reimbursement of leasehold improvements. There is no material impact of this amendment on Group's consolidated financial statements.

The new and amended standards and interpretations that are issued, but not yet effective, up to the date of issuance of the Group's consolidated financial statements are disclosed below.

### *2-2-4 K-IFRS 1001 Presentation of Financial Statements and IFRS Practice Statement 2 Making Materiality Judgements – Disclosure of Accounting Policies (Amendments)*

The amendment changes the requirements in K-IFRS 1001 with regard to disclosure of accounting policies. The amendments replace all instances of the term 'significant accounting policies' with 'material accounting policy information.' ' Accounting policy information is material if, when considered together with other information included in an entity's financial statements, it can reasonably be expected to influence decisions that the primary users of general purpose financial statements make on the basis of those financial statements.

The supporting paragraphs in K-IFRS 1001 are also amended to clarify that accounting policy information that relates to immaterial transactions, other events or conditions is immaterial and need not be disclosed. Accounting policy information may be material because of the nature of the related transactions, other events or conditions, even if the amounts are immaterial. However, not all accounting policy information relating to material transactions, other events or conditions is itself material. The board has also developed guidance and examples to explain and demonstrate the application of the 'four-step materiality process' described in IFRS Practice Statement 2. The amendment to K-IFRS 1001 is effective for annual periods beginning on or after January 1, 2023, with earlier application permitted and are applied prospectively. The amendments to IFRS Practice Statement 2 do not contain an effective date or transition requirements.

*2-2-5 K-IFRS 1001 Presentation of Financial Statements– Disclosure of financial liabilities with condition to adjust exercise price (Amendment)*

The amendments require disclosure of valuation gains or losses (limited to those recognized in the profit or loss) of the conversion options or warrants (or financial liabilities including them), if all or part of the financial instrument with exercise price that is adjusted depending on the issuer's share price change is classified as financial liability as defined in paragraph 11 (2) of K-IFRS 1032.

The amendments are applied retrospectively for annual periods beginning on or after January 1, 2023, with early application permitted.

*2-2-6 K-IFRS 1008 Accounting Policies, Changes in Accounting Estimates and Errors – Definition of Accounting Estimates (Amendments)*

The amendment replaces the definition of a change in accounting estimates with a definition of accounting estimates. Under the new definition, accounting estimates are "monetary amounts in financial statements that are subject to measurement uncertainty."

The definition of a change in accounting estimates was deleted. However, the IASB retained the concept of changes in accounting estimates in the Standard with the following clarifications:

- A change in accounting estimate that results from new information or new developments is not the correction of an error
- The effects of a change in an input or a measurement technique used to develop an accounting estimate are changes in accounting estimates if they do not result from the correction of prior period errors

The amendment is effective for annual periods beginning on or after January 1, 2023, to changes in accounting policies and changes in accounting estimates that occur on or after the beginning of that period, with earlier application permitted.

*2-2-7 K-IFRS 1012 Income Taxes – Deferred Tax related to Assets and Liabilities arising from a Single Transaction (Amendments)*

The amendment reduces the scope of the initial recognition exception. Under the amendment, an entity does not apply the initial recognition exemption for transactions that give rise to equal taxable and deductible temporary differences. Depending on the applicable tax law, equal taxable and deductible temporary differences may arise on initial recognition of an asset and liability in a transaction that is not a business combination and affects neither accounting nor taxable profit. For example, this may arise upon recognition of a lease liability and the corresponding right-of-use asset applying K-IFRS 1116 at the commencement date of a lease. Following the amendment to K-IFRS 1012, an entity is required to recognize the related deferred tax asset and liability, with the recognition of any deferred tax asset being subject to the recoverability criteria in K-IFRS 1012.

The amendments apply to transactions that occur on or after the beginning of the earliest comparative period presented. In addition, at the beginning of the earliest comparative period an entity recognizes:

- A deferred tax asset (to the extent that it is probable that taxable profit will be available against which the deductible temporary difference can be utilised) and a deferred tax liability for all deductible and taxable temporary differences associated with:
  - Right-of-use assets and lease liabilities
  - Decommissioning, restoration and similar liabilities and the corresponding amounts recognized as part of the cost of the related asset
- The cumulative effect of initially applying the amendments as an adjustment to the opening balance of retained earnings (or other component of equity, as appropriate) at that date.

The amendment is effective for annual reporting periods beginning on or after January 1, 2023, with earlier application permitted.

2-2-8 K-IFRS 1007 *Statement of Cash Flows - Cash and Cash Equivalents*

The Group has applied an accounting policy that excludes demand deposits whose use is restricted in accordance with relevant regulations, such as reserve deposits, etc., from cash and cash equivalents. However, in accordance with the result of the IFRS Interpretations Committee's agenda decision 'Demand Deposits with Restrictions on Use arising from a Contract with a Third Party' in March 2022, the Group changed its accounting policy to classify deposits with restrictions on use, such as reserve deposits, etc., corresponding to demand deposits, as cash equivalents, although their use is restricted in accordance with relevant regulations.

This change in accounting policy has no impact on the statement of financial position and statement of profit or loss and other comprehensive income, and the statement of cash flows has been rewritten retrospectively. The major changes in the statement of cash flows for the previous year are as follows.

(Korean won in millions):

Classification	Before the change	After the change	Increase (decrease)
IV. Net increase in cash and cash equivalents (I+ II+ III)	(1,756,934)	2,485,674	4,242,608
V. Cash and cash equivalents at the beginning of the period	6,290,488	22,354,459	16,063,971
VI. Effect of changes in exchange rate on cash and cash equivalents	158,160	638,502	480,342
VII. Cash and cash equivalents at the end of the period	4,691,714	25,478,635	20,786,921

## 2-3 Scope and principles of consolidation

Significant methods of accounting for consolidation when preparing consolidated financial statements are as follows:

### 2-3-1 Subsidiaries

The Bank has the ability to determine the financial and operating policies of subsidiaries. Generally, the Bank classified the entity as subsidiary in case the Bank has existing rights that give it the current ability to direct the relevant activities, and is not only exposed, or has rights, to variable returns, but also has the ability to use its power to affect the Group's returns from its involvement with the investee. Subsidiaries are fully consolidated from the date on which the control is transferred to the Group and excluded from the subsidiaries at the point when the Group loses the control.

### 2-3-2 Offset of the investment accounts of the Group and the corresponding equity accounts

The investment accounts of the Group and the corresponding equity accounts of the subsidiaries are eliminated in consolidation.

### 2-3-3 Process of difference between the costs of investment

The consolidated financial statements reflect on only the share of the consolidated subsidiaries post application of purchase accounting method. When applying the acquisition method, if the transfer consideration, the amount of non-controlling interest in the acquiree, and the total fair value of the parent's previous holdings exceed the fair value of the subsidiary's asset liabilities, the difference is recognized as goodwill and is considered for impairment at the end of each reporting period.

Changes in the parent's ownership interest in a subsidiary that does not lose control after the date of acquisition of control are treated as capital transactions.



2-3-4 Elimination of intercompany transactions and the unrealized gain or loss, etc.

All significant intercompany transactions and the account balances among the consolidated companies are eliminated on consolidation. Unrealized gains or losses included in loans and borrowings arising from transactions between consolidated companies are eliminated on consolidation. The related accounts receivable and payable are also eliminated on consolidation.

#### 2-3-5 Investments in associates and a joint venture

Investments in entities over which the Group has control or significant influence are accounted for using the equity method. Under the equity method of accounting, the Group's initial investment in an investee is recorded at acquisition cost. Subsequently, a share of changes in equity (the Group's share of amount of the changes in associates' net assets) is adjusted to reflect in the carrying value. The share of changes in equity is accounted differently per sources. If the change in net asset has occurred due to net income or loss, it is accounted for as gain or loss on equity method. If it has occurred due to unappropriated retained earnings carried over from prior years, it is accounted for as changes in retained earnings under equity method. The change in net assets due to changes in equity, except those mentioned above, is accounted for as equity adjustments in equity method or negative equity changes in equity method.

If the carrying amount of investments in associates is equal or under '0,' it suspends equity method and carries the investments value at '0.' If the Group has investment assets, such as preferred shares and long-term bonds of associates, it continues recognizing its share of further losses to the extent of the carrying amount of such assets value '0.' The Group resumes the application of the equity method if the Group's share of income or change in equity of an investee exceeds the Group's share of losses accumulated during the period of suspension of the equity method of accounting.

At the date of acquisition, the excess of the cost of the investment over the Group's share of the net fair value of the investee's identifiable assets and liabilities is accounted for as goodwill or negative goodwill. The goodwill is not amortized, and if there is any indication that investment shares in associates and joint ventures, including those, have been impaired, it is being considered against the recoverable value (greater of net fair value and value in use). In addition, the difference between the fair value and the carrying amount of the identifiable assets and liabilities of the investee at the time of stock acquisition is amortized or reversed according to the equity method of the investee.

The Group's share in the investee's unrealized profits and losses resulting from transactions between the Group and its investee is eliminated to the extent of the interest in the investee.

#### 2-3-6 Special reserve on trust accounts

A special reserve provided under the arrangement of guaranteed fixed rate of return and guaranteed repayment of the principal is included under the retained earnings in the consolidated financial statements.

#### 2-3-7 Non-controlling interests

Subsidiaries' equity that is not included in the Group's share is accounted as non-controlling interests. In case, subsidiaries' non-controlling interests are below '0', negative non-controlling interests are presented as deduction of equity.

## 2-4 Foreign currency transaction

### 2-4-1 Functional currency

When preparing for the consolidated financial statements, the Group measures and recognizes all items and transactions according to the functional currency. The term, functional currency, is defined as the monetary unit of account of the principal economic environment in which the entity operates, and trades between entities using its own functional currency and other currencies that are converted to the Group's functional currency to be measured and recognized.

### 2-4-2 Transactions and balances at the end of the reporting period

Transactions in foreign currencies are initially recognized as functional currency, applying spot or average exchange rates. Monetary assets and liabilities denominated in foreign currencies are retranslated at the functional currency spot rate of exchange at the reporting date and differences arising on settlement or translation of monetary items are recognized in profit or loss. Non-monetary assets and liabilities at fair value in a foreign currency are translated at the exchange rates at the end of the reporting date. When a gain or loss on a non-monetary item is recognized in profit or loss, any exchange differences of that gain or loss is recognized in profit or loss and when a gain or loss on a non-monetary item is recognized in other comprehensive income, any exchange differences of that gain or loss are recognized in other comprehensive income. Non-monetary items not measured at fair value in a foreign currency are translated using the exchange rates as at the dates of the initial transactions and thus there are no exchange differences.

However, an item for which settlement is neither planned nor likely to occur in the foreseeable future is, in substance, a part of the entity's net investment in that foreign operation. Exchange differences arising on a monetary item that forms a part of a reporting entity's net investment in a foreign operation are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal of the net investment.

### 2-4-3 Translation of the presentation currency

As of the reporting date, the assets and liabilities of overseas branches are translated into the Group's presentation currency, Korean won (KRW).

The Group's assets and liabilities are translated at the rate of exchange prevailing at the reporting date, and the Group's consolidated statements of profit or loss and other comprehensive income and changes in equity are translated using the exchange rates at transaction date or the average exchange rates for the period. The exchange differences arising on translation are recognized in other comprehensive income.

### 2-5 Cash and cash equivalents

Cash and cash equivalents in the consolidated statements of financial position comprise of cash at bank and on hand, etc. The purpose of cash and cash equivalents is not to make short-term investments, but to meet short-term cash demands. Cash and cash equivalents are highly liquid, easily convertible and subject to an insignificant risk of changes in value.

Deposits restricted from use by the Group under contracts with third parties are included as part of cash, unless such restrictions prevent deposits from meeting the definition of cash any longer. Contractual restrictions affecting the use of cash and deposits are described in Note 10-2.

### 2-6 Financial assets-classification and subsequent measurement

At initial recognition, financial assets are classified as measured at fair value through profit or loss ("FVTPL"), fair value through other comprehensive income ("FVOCI") and amortized cost, financial liabilities are classified as measured at FVTPL and amortized cost, and in accordance with their characteristics and purposes.

Regular-way purchase or sale of financial assets is recognized at the trade date that an entity commits itself to purchase or sell an asset. Regular-way purchase or sale of financial assets means purchase or sale of financial assets under a

contract, whose terms require delivery of the asset within the time frame established generally by regulation or convention in the marketplace concerned.

Financial assets and liabilities are initially measured at fair value, and the transaction costs directly attributable to the acquisition (issuance) of financial assets (liabilities) are added to (deducted from) the fair value at initial recognition if they are not measured at FVTPL. The fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date. The fair value of financial instruments is generally measured at the transaction price (the fair value of the consideration received or transferred) at initial recognition.

#### 2-6-1 Financial assets at FVTPL

Financial assets held for trading or designated as at FVTPL and financial assets that are not classified as at FVOCI or amortized cost are classified as FVTPL.

Also, the Bank may designate a financial asset as measured at FVTPL, if doing so eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on a different base.

Financial assets at FVTPL are measured at fair value and the gain or loss on valuation is recognized as profit or loss. Dividends and interest income from the financial assets are also recognized as profit or loss.

#### 2-6-2 Financial assets at FVOCI

The Group classifies debt securities, which are held within a business model, whose objective is achieved by both collecting contractual cash flows and selling financial assets, and meet the assessment of contractual cash flow characteristics and equity securities designated as measured at FVOCI, which are held not with intention to sell, but for strategic purpose, as financial assets at FVOCI. Financial assets at FVOCI are measured at fair value after initial recognition. Gain or loss

arising from changes in the fair value is recognized as other comprehensive income, except for interest income under the effective interest method, dividends and foreign exchange differences on monetary assets that are directly recognized in profit or loss.

When financial assets at FVOCI are disposed of, the cumulative income recognized in other comprehensive income is transferred to the current profit or loss. However, the cumulative income recognized for equity securities designated as financial assets at FVOCI is not transferred to the current profit or loss.

The fair value of financial assets at FVOCI presented in foreign currencies is translated using the exchange rate at the end of the reporting period. Changes in the fair value from exchange differences due to changes in amortized cost are recognized in the current profit or loss, while other changes are recognized directly in equity.

#### 2-6-3 Financial assets at amortized cost

Financial assets within a business model, whose objective is achieved by collecting contractual cash flows which meet the contractual cash flow characteristics, are classified as financial assets at amortized cost. After initial recognition, the financial assets are measured at amortized cost using the effective interest rate ("EIR") method and presented by deducting from the amortized cost the allowance for loan losses. Interest income is recognized by using the effective interest rate method.

The Group defers loan origination fees ("LOF")/ loan origination costs ("LOC") associated with originating loans and LOCs that have future economic benefits. Loanbalances are reported net of these LOF/LOCs. The deferred LOF/LOCs are amortized based on the effective interest rate method, with the amortization recognized as adjustments to interest income.

## 2-7 Derivative financial instruments and hedge accounting

Derivative instruments are initially recognized at fair value on the date on which a derivative contract is entered into and are classified as trading derivatives or hedging derivatives depending on whether hedge accounting is applied. After initial recognition, derivative instruments are subsequently remeasured at fair value. Any gains or losses arising from changes in fair value on derivatives are taken directly to the consolidated financial statements, except for the effective portion of cash flow hedges or hedges of net investment in a foreign operation, which is recognized in other comprehensive income.

The Group applies fair value hedge accounting to hedge the changes in fair value, as a whole or some parts, of recognized assets or liabilities from particular risks or an unrecognized firm commitment. Cash flow hedge is accounted to hedge the changes in cash flows of recognized assets or liabilities from particular risks or a highly probable forecast transaction.

The Group documents the hedge relationship, risk management objective, strategy, the nature of the risk being hedged and method to assess the effectiveness of hedge to apply hedge accounting. The effectiveness of hedge means the effect of offsetting the exposure to changes in fair value or cash flow of hedged items by changes in fair value or cash flow of derivatives attributed by the hedged risk. The Group assesses and documents whether such hedges are expected to be highly effective and if they actually have been highly effective at the end of the reporting period.

An ineffective part of the hedge may be due to differences between underlying variables, such as acquisition date, credit risk, or liquidity, and the hedging instruments that the entity accepts to achieve an effective cost-to-cost hedging relationship.

### 2-7-1 Fair value hedges

When fair value hedge accounting is applied, the unrealized gain or loss on hedged items that are attributable to a hedged risk and hedging instruments is symmetrically recognized in the consolidated financial statements as current income or other comprehensive income for the same reporting period to ensure that changes in the fair value of the hedged items are offset by changes in the fair value of the hedging instruments. If an application of hedge accounting is no longer valid, the Group discontinues the hedge accounting prospectively. Any adjustment to the carrying amount of hedged items is amortized to profit or loss in the consolidated statements of comprehensive income over the remaining maturity using the effective interest method.

### 2-7-2 Cash flow hedges

When cash flow hedge accounting is applied, the effective portion of the unrealized gain or loss on the hedging instrument is directly recognized in other comprehensive income (loss) in the consolidated statements of financial position to ensure that changes in the cash flows of the hedged items are offset by change in the cash flows of the hedging instruments, while any ineffective portion is recognized immediately in the consolidated statements of comprehensive income. Amounts recognized as other comprehensive income are transferred to the statement of comprehensive income when the hedged transaction affects profit or loss. If an application of hedge accounting no longer meets the criteria, the Group discontinues the hedge accounting prospectively and the cumulative gain or loss on the hedging instrument previously recognized in other comprehensive income is transferred to profit or loss in the consolidated statements of profit or loss and other comprehensive income.

### 2-7-3 Hedge accounting of net investment in a foreign operation

When applying hedge accounting of net investment in a foreign operation, the effective portion of changes in fair value of the hedging instrument is recognized in other comprehensive income and the ineffective portion of the hedge is recognized as current profit or loss in order to offset changes in the fair value of



the hedged item caused by the hedging with changes in the fair value of the hedging instrument. The effective portion of hedge recognized in other comprehensive income will be reclassified from other comprehensive income to current profit or loss in accordance with K-IFRS 1021 *The Effects of Changes in Foreign Exchange Rates* at the time of disposal of a foreign operation or disposal of a portion of its foreign operations in the future.

#### 2-7-4 Embedded derivatives

An embedded derivative is a component of a hybrid contract that also includes a non-derivative host, with the effect that some of the cash flows of the combined instrument vary in a way similar to a stand-alone derivative. Derivatives embedded in other financial instruments or other host contracts are accounted for as separate derivatives when their risks and characteristics are not closely related to those of the host contracts and the host contracts are not measured at FVTPL.

#### 2-7-5 'Day 1' profit or loss

In case of derivatives in Level 3, fair value is determined using data that is not observable from markets. The difference between the transaction price and fair value at initial recognition (a 'Day 1' profit or loss) is deferred and amortized up to its maturity by using the straight-line method.

#### 2-7-6 Credit risk valuation adjustment

When assessing derivatives at fair value, expected loss from credit risk is measured and deducted from derivative assets to reflect credit risk of counterparties.

## 2-8 Expected credit loss (ECL) for financial assets

Loss allowance is recognized for financial assets at FVOCI and amortized cost using the ECL model.

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 or effort.

The ECL can be measured in three following ways:

- General approach: When financial assets do not fall into below two categories and are off-balance-sheet undrawn commitments
- Simplified approach: When financial assets are trade receivables, contract assets or lease receivables
- Credit-impaired approach: When financial assets are credit-impaired at initial recognition

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, the Bank shall measure the loss allowance for that financial instrument at an amount equal to 12-month ECL. If the credit risk on that financial instrument has increased significantly since initial recognition, the Bank shall measure the loss allowance for a financial instrument at an amount equal to the lifetime ECL at each reporting date.

The loss allowance is measured at an amount equal to lifetime ECL for the simplified approach, and the Bank shall only recognize the cumulative changes in lifetime ECL since initial recognition as a loss allowance for purchased or originated credit-impaired financial assets at each reporting date for the credit-impaired approach.

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
- 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 behavioral scoring used to assess credit risk internally
- An actual or expected significant change in the operating results of the borrower
- Past-due information, etc.

#### 2-8-1 Reflecting forward-looking information

The Group measures the significance of the increase of the credit risk and the ECL using forward-looking information.

The Group assumes that the risk component is correlated with changes in market conditions and calculates the ECL using the forward-looking information by modeling macroeconomic variables and risk components.

The forward-looking information used to measure the ECL is derived from 'stress-case' or 'worst-case' scenarios.

## 2-8-2 Measurement of ECL for financial assets at amortized cost

ECL for financial assets at amortized cost is measured as the present value of the difference between the contractual cash flows that are due to the Bank under the contract and the cash flows that the Bank expects to receive. For this purpose, the Group calculates expected contractual cash flows for individually significant financial assets (allowance for loan losses on an individual assessment)

Financial assets insignificant in value individually are measured on a collective basis with financial assets with similar credit risks (allowance for loan losses on a collective assessment).

### 2-8-2-1 Allowance for loan losses on an individual assessment basis

Allowance for loan losses on an individual assessment basis is based on the best estimates of management in regard to the present value of cash flows expected to be recovered from receivables. In estimating the cash flows, the Group uses all available information, including the financial conditions, such as the operating cash flows of counterparties and the net realizable value of collateral provided.

### 2-8-2-2 Allowance for loan losses on a collective assessment basis

Allowance for loan losses on a collective assessment basis uses the estimation model that accounts for the forward-looking information based on the past loss rate to measure the ECL. The model considers the probability of default ("PD") and the loss given default ("LGD") reflecting the type of instruments and borrowers, credit rating, portfolio size and collection period. Also, certain assumptions are applied to model the expected credit loss measurement and to determine input variables based on past experiences and forward-looking information. Methodologies and assumptions for this model are regularly reviewed to minimize the difference between the allowance for loan losses and the actual loss.

The ECL for financial assets at amortized cost is recognized as the allowance for

loan losses, and when the financial asset is determined to be irrecoverable, the carrying amount and allowance for loan losses are decreased. If financial assets previously written off are recovered, the allowance for loan losses is increased, and the difference is recognized in the current profit or loss.

#### 2-8-3 ECL measurement for financial assets at FVOCI

The measurement method is the same as the one for financial assets at amortized cost, but the change in the allowance is recognized as other comprehensive income. The allowance for financial assets at FVOCI is reclassified from other comprehensive income to current profit or loss when the assets are disposed of or repaid.

#### 2-9 Derecognition of financial assets

A financial asset is derecognized when the contractual rights to the cash flows from the financial asset expire, or the Group transfers substantially all the risks and rewards of ownership of the financial asset. If the Group neither transfers nor retains substantially all the risks and rewards of ownership of the financial asset, but has retained control, the Group recognizes the asset and the associated liability to the extent of the Group's continuing involvement in the financial asset. If most of the risks and rewards of owning a financial asset are controlled without holding or transferring it, the Group recognizes them in its consolidated statement of financial position as the Group continues to be involved in the financial asset and related liabilities to be paid.

#### 2-10 Classification and measurement of financial liabilities

All financial liabilities are classified as financial liabilities at FVTPL, borrowings or others are measured initially at their fair value, minus transaction costs, except in the case of financial liabilities recorded at FVTPL.

##### 2-10-1 Financial liabilities at FVTPL

Financial liabilities at FVTPL include financial liabilities held for trading and financial liabilities designated upon initial recognition as at FVTPL. Financial liabilities

are classified as held for trading if they are acquired for the purpose of selling in the near term. All derivatives, including an embedded derivative separated from the host contract, are reclassified as financial liabilities at FVTPL, except for financial liabilities designated as effective hedging instruments or financial guarantee contracts. After initial recognition, the changes in the fair value of the financial liabilities at FVTPL and the related interest expenses are recognized as profit or loss.

The Group performs securities lending and borrowing classified as held for trading financial liabilities. When the Group borrows securities from Korea Securities Depository, securities borrowed are managed as memorandum value and, when selling them, they are recorded as securities sold. At closing, the difference in the price securities are sold and the market price prevailing on the closing date is taken into account as valuation gain or loss on securities sold, and at the time of selling the securities, the difference in book value and the price securities are purchased is recorded as trading gain or loss on securities sold.

#### 2-10-2 Deposits, borrowings and debentures

Interest-bearing deposits, borrowings and debentures are subsequently measured at amortized cost using the effective interest method. The difference between the consideration received after deducting transaction costs and the amount repayable on maturity is amortized by the effective interest method and recognized in profit or loss for the relevant period.

#### 2-11 Derecognition of financial liabilities

A financial liability is derecognized when the obligation under the liability is discharged, canceled or expired. 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 derecognition of the original liability and the recognition of a new liability, and the difference in the respective carrying amounts is recognized in the consolidated statements of profit or loss and other comprehensive income.

## 2-12 Offsetting of financial assets and liabilities

Financial assets and financial liabilities are offset, and the net amount reported in the consolidated statements of financial position if, and only if, there is a currently enforceable legal right to offset the recognized amounts and there is an intention to settle on a net basis, or to realize the asset and settle the liability simultaneously.

## 2-13 Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that 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. If the obligation is expected, it is unlikely or the amount of the loss cannot be estimated reliably, the amount is disclosed. If the effect of the time value of money is material, provisions are stated at present value.

The Group accounts for the payment guarantee provision in the same way in accounting allowance for loan losses on a collective assessment basis, by applying the Cash Conversion Factor, to the confirmed/unconfirmed payment guarantees and bills endorsed. The Group provides an allowance for loan losses on a certain portion of unused credit line. The Group records the provision for such unused balances as an allowance for loan losses on unused commitments, which are calculated by applying a Credit Conversion Factor ("CCF") and provision rates.

## 2-14 Financial guarantee contract

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument and is measured at fair value on the date of initial recognition. After initial recognition, the Group, as an issuer of such a contract, measures it at the higher of (i) the amount determined in accordance with K-IFRS1109 *Financial Instruments* or (ii) the amount initially recognized

less, when appropriate, cumulative amortization recognized in accordance with K-IFRS 1115 *Revenue from Contract with Customer*.

2-15 Bonds purchased under resale agreements and bonds sold under repurchase agreements

Bonds purchased under resale agreements and bonds sold under repurchase agreements are included in loans and borrowings, respectively, in the accompanying consolidated statements of financial position. Interest income and expenses from purchase or sale are recognized as interest income on loans and interest expenses on borrowings.

2-16 Property, plant and equipment

Property, plant and equipment are measured at cost, and the carrying amount after initial recognition is expressed as the amount of the acquisition cost minus the accumulated depreciation and the accumulated impairment loss. The cost of property, plant and equipment is an expenditure directly related to the purchase or construction of the asset, including the cost directly related to the location and condition required to operate the asset in the manner intended by management, and the cost initially estimated to be required to dismantle, remove, or restore the site.

The subsequent costs are recognized as an asset when it is probable that future economic benefits associated with the asset will flow to the Group and the costs of the asset can be measured reliably. The other maintenances and repairs are expensed in the year in which they are incurred, and the carrying amount of certain parts that are replaced is derecognized.

Land is not depreciated. For depreciation of other assets, amount of acquisition cost, less residual value is calculated on a straight-line basis and declining-balance basis over the following estimated useful life of the asset:



Classification	Depreciation method	Years
Buildings, building components and structures	Straight-line method	5 to 55
Leasehold improvements	Straight-line method	3 to 10
Equipment and vehicles	Declining-balance method	3 to 20

If the recoverable amount of an asset is estimated to be less than its carrying amount, the carrying amount of the asset is immediately reduced to its recoverable amount.

The residual value and economic useful life are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for, if necessary. Any gain or loss arising on derecognition of the asset is recognized in 'Non-operating income' or 'Non-operating expenses' in the consolidated statements of comprehensive income in the year the asset is derecognized.

#### 2-17 Investment properties

Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are stated using the cost model.

Investment properties are derecognized when either they have been disposed of or 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 consolidated statements of profit or loss and other comprehensive income in the period of derecognition, and transfers are made to or from investment property only when there is a change in use. Land is not depreciated among investment properties, and the depreciation method of the building is a straight-line method, and the useful life is five to 55 years. The depreciation method, residual value, and useful life of investment property are reviewed at the end of each reporting period, and if it is deemed appropriate to change it, it is accounted for as a change in accounting estimates.

## 2-18 Intangible assets

An intangible asset, which comprises industrial property right, software, development costs and others, is recognized as an asset only if it is probable that future economic benefits associated with the asset will flow to the Group and the costs of the asset can be measured reliably. Intangible assets acquired individually are measured on initial recognition at cost. The cost of intangible assets acquired in a business combination is its fair value as of the date of acquisition in accordance with KIFRS 1103 *Business Combination*. Amortization of intangible assets with definite useful lives is calculated on the following amortization method over the estimated useful life of the assets:

Classification	Depreciation method	Years
Industrial property right, software and system development costs	Straight-line method	5
Core deposits	Straight-line method	14
Other intangible assets	Straight-line method	1 to 12

Intangible assets with indefinite useful lives are not amortized, but are annually tested for impairment or whenever there is an indication that the intangible asset may be impaired. The assessment of indefinite life is reviewed annually to determine whether the indefinite life continues to be supportable.

## 2-19 Impairment of non-financial assets

The Group tests the depreciable asset for impairment whenever there is a change of environment or an event that the carrying amount may not be recoverable. The Group recognizes an excess of the carrying amount over the recoverable amount as an impairment loss. The Group defines recoverable amount as the higher of an asset's or cash-generating unit ("CGU")'s fair value, less costs to sell, or its value in use. For the purposes of assessing impairment, assets are grouped at the lowest levels (CGUs) for which there are separate and identifiable cash flows. The Group assesses reversal of an impairment loss recognized for the non-financial assets other than goodwill at the end of the reporting period.

## 2-20 Net defined benefit liabilities (assets)

The Group calculates defined benefit liabilities and pension benefit expenses based on defined benefit plan and defined contribution plan when an employee retires in accordance to pension-related regulations. For defined benefit plans, the cost of retirement benefits is measured by an actuary services company, using the projected unit credit method. The present value of defined benefit obligation is computed by discounting expected future cash outflows with market rate of return measured against the yield of high-graded corporate bond, whose date of payment and maturity is similar to that of a defined benefit obligation. Actuarial gains and losses, incurred from the change in actuarial assumptions and the difference between the assumptions and the actual results, are recognized in other comprehensive income for the period. Past service cost is recognized immediately to the extent that the benefits are already vested and otherwise is amortized on a straight-line basis over the period until the benefits become vested.

The Group has entered into retirement trust fund and retirement pension plan agreements to pay retirement benefits to its employees. The retirement benefit obligation represents the present value of the defined benefit obligation as adjusted for unrecognized past service cost and as reduced by the fair value of plan assets. Any asset resulting from this calculation is limited to unrecognized actuarial losses and past service cost, plus the present value of available refunds and reductions in future contributions to the plan.

## 2-21 Share-based payment

In the case of equity-settled share-based payment, the goods or services received and the corresponding increase in equity are measured directly at the fair value of the goods or services and accounted for as compensation costs and equity. If the goods or services provided cannot be reliably measured, the endowed equity is indirectly estimated at fair value and the Group accounts for compensation costs and equity (capital adjustment). The cost of cash-settled transactions is measured initially at fair value at the grant date, taking into

account the terms and conditions upon which the instruments were granted. This fair value is expensed over the period until vesting with recognition of a corresponding liability. The liability is remeasured to fair value at each reporting date up to, and including the settlement date, with changes in fair value recognized in the consolidated statements of comprehensive income. Also, in the case of a selectable share-based payment transaction in which the employees have a choice between a cash-settled transaction and an equity-settled transaction, the Group records the amount depending on its substance.

## 2-22 Employee benefits

### 2-22-1 Short-term employee benefits

When employees have rendered services to the Group during an accounting period, the Group recognizes the undiscounted amount of short-term employee benefits. This amount is expected to be settled in whole before 12 months after the end of the reporting period, in exchange for those services.

### 2-22-2 Termination benefits

The Group recognizes an expense for termination benefits when an employee accepts the offer or when a restriction on the Group's ability to withdraw the offer takes effect.

## 2-23 Recognition of income tax expenses and deferred tax assets and liabilities

Income taxes are composed of current and deferred taxes. All items related to taxes, other than those recognized directly in equity, are accounted for in the consolidated statements of comprehensive income. Accordingly, items recognized directly in equity and the related taxes are accounted for as other comprehensive income in the consolidated statements of comprehensive income.

The tax rates and tax laws used to compute the amount are those that are enacted, or substantively enacted, by the reporting date, in the countries where the Group operates and generates taxable income. If the applied tax laws require

an interpretation, the Group calculates income tax payable expected to be paid to the taxation authorities based on the opinion made when the taxes were reported.

Deferred tax is provided on the temporary differences at the reporting date between the tax bases of assets and liabilities and their carrying amounts for financial reporting purposes.

When the initial recognition of an asset or a liability in a transaction is not a business combination and, at the time of the transaction, affects neither accounting profit nor taxable profit, the Group does not recognize a deferred tax asset or liability. The Group measures deferred tax assets and liabilities at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax rates (and tax laws) that have been enacted, or substantively enacted, by the end of the reporting period.

The Group recognizes a deferred tax asset for all deductible temporary differences to the extent that it is probable that taxable profit will be available against which the deductible temporary differences can be utilized.

The Group recognizes a deferred tax liability for all taxable temporary differences with investments in subsidiaries and associates, except to the extent that both of the following conditions are satisfied: (a) the Bank is able to control the timing of the reversal of the temporary difference and (b) it is probable that the temporary difference will not reverse in the foreseeable future.

The Group offsets deferred tax assets and liabilities if, and only if, the Group has a legally enforceable right to set off current tax assets against current tax liabilities, and the deferred tax assets and the deferred tax liabilities relate to income taxes levied by the same taxation authority on either on the same taxable entity or different taxable entities, which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred

tax liabilities or assets are expected to be settled or recovered.

## 2-24 Equity

### 2-24-1 Classification of equity

The Group classifies financial instruments at initial recognition as either financial liabilities or financial equity depending on the contractual materiality. In the case where it is possible to avoid the related contractual obligations, the financial item is classified as a financial equity. An equity is any contract that evidences a residual interest in the assets of the Group after deducting all of its liabilities.

### 2-24-2 Stock issuance costs

New stock issuance costs or incremental costs related to the stock issuance for business combinations are recorded as a deduction from paid-in capital, net of tax effects.

### 2-25 Earnings per share

Basic and diluted earnings per share ("EPS") are computed by dividing net income by the weighted-average number of shares of common stock outstanding during the year.

### 2-26 Accounting basis for trust accounts

The Group accounts for trust operations (the "trust accounts") separately from the Group's accounts in accordance with the *Financial Investment Services and Capital Markets Act*. In this regard, the funds lent by the Group to the trust account are accounted as due to trust accounts of the Group's accounts, and the funds borrowed by the Group from the trust account are accounted as due from trust accounts of the Group's accounts. Trust compensation paid to the trustee (the Group) in connection with the operation, management and disposal of trust property is accounted as trust operation profits. The Group recognizes trust commissions earned from trust accounts as income from trust operations in connection with the operation, management and disposal of trust property. In

addition, in the case of a joint operation money trust with a "guarantee contract of the principal or profits" of the trust account, if the operating profit falls short of the "principals to be preserved or profits to be guaranteed" and this shortage is more than covered by the trust compensation and special reserves, the Group accounts the amount paid to the trust account as trust accounts operating losses.

## 2-27 Lease accounting

Under KIFRS 1116 *Leases*, the Group applies a single recognition and measurement method for all leases, except for leases of low-value assets. This standard provides guidance on specific requirements and simplified methods applied by an entity.

The Group recognized the right-of-use assets and the lease liabilities that were previously classified as operating leases, except for leases of low-value assets. Right-of-use assets for most leases were recognized as carrying amounts measured as if they had been applying the standards from the inception of the lease, except that they were discounted at the lessee's incremental borrowing rate as of the date of initial application. In some leases, the right-of-use asset was recognized based on the amount equal to the lease liabilities, adjusted for any related prepaid and accrued lease payments previously recognized. The lease liability was measured at the present value of the remaining lease payments, discounted at the incremental borrowing rate as of the date of initial application.

The practical expedients that the Group applied are as follows:

- Application of a single discount rate to a portfolio of leases with significantly similar characteristics
- Replacement of impairment review by determining whether leases are onerous before the initial application date
- Exclusion of initial direct costs from the measurement of the right-of-use asset at the initial application date
- Using hindsight for lessee

## 2-28 Merchant banking account

As permitted by the Restructuring of Financial Institutions Act, the Group may continue its merchant banking operations, including leasing business, until the existing contracts acquired from the Korea International Merchant Bank upon merger are terminated.

Significant accounting policies applied to the Bank's merchant banking operations are summarized as follows:

### 2-28-1 Revenue recognition on discounted notes

Interest income on discounted notes is accrued over the term of the notes. Income from the sale of discounted notes is recognized at the date of transaction based on the difference between the purchase prices and sales prices of the notes, adjusted for interest earned during the holding period.

### 2-28-2 Cash Management Accounts (CMA)

The Group recognizes interest income from CMA investments and interest expenses from CMA deposits as operating income and operating expenses, respectively.

## 2-29 Interest income and interest expenses

Interest income and interest expenses are recognized over time using the effective interest method.

The effective interest method is a method of calculating the amortized cost of a financial asset or a financial liability and allocating the interest income or interest expenses over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument or, when appropriate, a shorter period to the net carrying amount of the financial asset or financial liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument, but does not consider future



credit losses. Cash flows at the time of the calculation include all the fees and points paid to, or received from, parties to the contract that are an integral part of the effective interest rate, including transaction costs, and all other premiums or discounts.

If income recognition on an accrual basis is deemed inappropriate due to low possibility of realizing interest income, the interest income is recognized when interest is actually received.

#### 2-30 Fees and commission income

The Group's revenue recognition standard varies depending on the type of service provided to customers. Fee income, which is an integral part of the effective interest rate ("EIR") of financial instruments, is adjusted using the EIR and recognized as interest income.

Fee income is recognized using the five-stage revenue recognition model (Identification of a contract with a customer → Identification of performance obligations in the contract → Determination of the transaction price → Allocation of the transaction price to the separate performance obligations in the contract → Recognition of revenue upon satisfying the performance obligations) in accordance with K-IFRS 1115.

#### 2-31 Dividend income

Dividend income is recognized when the Group's right to receive the payment is established.

## 2-32 Government grants

Government grants are recognized at fair value when there is a reasonable assurance that the entity will comply with the conditions attaching to it and that the grant will be received. Grants related to income are recognized as revenue on a systematic basis over the period necessary to match the related costs that the grant is intended to cover. On the other hand, grants related to an asset are presented by subtracting the carrying amount of the asset and accounting for by deducting depreciation expenses over the useful life of the asset.

## 3. Significant judgments and accounting estimates

In the application of the Group's accounting policies, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily observable from objective sources. The estimation and assumption are based on other factors that are related to historical experience. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future period if the revision affects both current period and future period.

In the process of applying the Group's accounting policies, management has made the following judgments that have a significant effect on the amounts recognized in the consolidated financial statements.

### 3-1 Fair value of financial instruments

The fair value of financial instruments is determined by referencing quoted market prices in active markets in the first place. For financial instruments not traded in an active market, the fair value is determined using appropriate valuation techniques, including (i) between knowledgeable and willing parties in a recent arm's-length transaction, (ii) reference to the current fair value of another instrument that is substantially the same, (iii) discounted cash flow ("DCF") analysis and (iv) option-pricing models.

### 3-2 Expected credit loss of financial assets

The Group recognizes impairment losses on debt instruments, lease receivables, loan commitment and financial guarantee contracts that were accounted for at amortized cost, or FVOCI, based on the ECL impairment model using a three-stage model for 12-month ECL, or lifetime ECL, based on changes in credit risk since initial recognition of financial assets.

Classification		Loss allowance
STAGE 1	Credit risk on a financial instrument has not increased significantly since initial recognition.	12-month ECL: Expected credit losses that result from default events on a financial instrument that are possible within the 12 months after the reporting date.
STAGE 2	Credit risk on a financial instrument has increased significantly since initial recognition.	Lifetime ECL: Expected credit losses that result from all possible default events over the expected life of a financial instrument.
STAGE 3	Credit-impaired.	

The cumulative changes in lifetime ECL since initial recognition are recognized as loss allowance for a financial asset that is considered credit impaired at initial recognition.

### 3-3 Retirement benefit

The cost of providing benefits under the defined benefit plans is determined using the actuarial valuation. Actuarial assumptions were made for the discount rate and an increase in the future pay rate. Retirement benefits include significant uncertainties in the estimates due to the longer duration of the period.

### 3-4 Impairment of non-financial assets

The Group assesses at the end of each reporting period, whether there is an indication that non-financial assets may be impaired. An intangible asset with an indefinite useful life is tested for impairment annually or tested whenever there is an indication that the intangible asset may be impaired. Other non-financial assets are tested for impairment whenever there is an indication that the book value cannot be recovered. For the calculation of value in use, management estimates an expected future cash flow incurred from the asset or CGU. For the calculation of present value of the expected future cash flow, appropriate discount rate is selected.

### 3-5 Income tax

There have been various transactions and tax accounting methods, which have made computing the final tax expenses for the period uncertain. The contingent liability from any future tax assessments is based on the estimates of the likelihood of additional taxes imposed and has been included in the Group's consolidated financial statements for the current period. When the finalized tax expenses assessments are different from the appropriated amounts, the differences, if any, are recognized in current deferred tax assets, liabilities and expenses for the period.

#### 4. Fair value measurement of financial assets and liabilities

The standards the Group applies when measuring fair values of financial assets and liabilities are described below:

- a. Quoted market prices as of the settlement date in an active market are the best evidence of fair value and should be used when available.
- b. If a market for a financial instrument is not active, the Group establishes fair value by using a valuation technique that makes maximum use of market inputs and includes (i) recent arm's length market transactions, (ii) reference to the current fair value of another instrument that is substantially the same, (iii) discounted cash flow analysis, and (iv) option-pricing models. An acceptable valuation technique incorporates all factors that market participants would consider in setting a price and is consistent with accepted economic methodologies for pricing financial instruments.
- c. When determining fair value using the valuation techniques, comparison with the current market transaction of another instrument that is substantially the same as the financial instrument needed to be objectively substantiated or inclusion of variables in the marketable data must be performed. Not all of the significant market variables are observable and in relevant cases, the reasonable estimates or assumptions are required to determine the fair value.

#### 4-1 Fair value hierarchy of financial instruments

Fair value hierarchy of financial instruments as of December 31, 2022, and 2021, is as follows (Korean won in millions):

<December 31, 2022>

Classification	Levels of the fair value hierarchy (*1)			Total
	Quoted market price (Level 1)	Observable input (Level 2)	Unobservable input (Level 3)	
Financial assets				
Financial assets at FVTPL				
Equity securities	17,943	-	24,945	42,888
Debt securities	2,148,533	5,459,986	944,860	8,553,379
Derivative assets held for trading	213	9,814,434	37,107	9,851,754
Convertible privately placed bonds	-	-	7,394	7,394
Subtotal	2,166,689	15,274,420	1,014,306	18,455,415
Financial assets at FVOCI				
Equity securities	252,039	34	558,432	810,505
Debt securities	10,351,695	21,798,381	-	32,150,076
Subtotal	10,603,734	21,798,415	558,432	32,960,581
Derivative assets used for hedging	-	8,062	-	8,062
Merchant banking account assets	-	4,631,361	-	4,631,361
Total	12,770,423	41,712,258	1,572,738	56,055,419
Financial liabilities				
Financial liabilities at FVTPL				
Derivative liabilities held for trading	1,177	10,681,705	59,695	10,742,577
Securities borrowed	323,661	-	-	323,661
Financial liabilities designated as at FVTPL	-	162,069	-	162,069
Subtotal	324,838	10,843,774	59,695	11,228,307
Derivative liabilities used for hedging	-	485,580	30,838	516,418
Total	324,838	11,329,354	90,533	11,744,725

(\*1) The Group recognizes transfers between levels at the beginning of reporting period when events or changes in circumstances causing the transfers between levels have occurred.

<December 31, 2021>

Classification	Levels of the fair value hierarchy (*1)			Total
	Level 1	Level 2	Level 3	
Financial assets				
Financial assets at FVTPL				
Equity securities	81,433	–	14,900	96,333
Debt securities	1,037,868	4,900,268	611,871	6,550,007
Derivative assets held for trading	15	4,090,684	10,650	4,101,349
Convertible privately placed bonds	–	–	170,873	170,873
Subtotal	1,119,316	8,990,952	808,294	10,918,562
Financial assets at FVOCI				
Equity securities	326,532	50	584,998	911,580
Debt securities	12,718,463	21,604,315	–	34,322,778
Subtotal	13,044,995	21,604,365	584,998	35,234,358
Derivative assets used for hedging	–	68,670	–	68,670
Merchant banking account assets	–	4,741,939	–	4,741,939
Total	14,164,311	35,405,926	1,393,292	50,963,529
Financial liabilities				
Financial liabilities at FVTPL				
Derivative liabilities held for trading	–	3,838,118	11,345	3,849,463
Securities borrowed	143,044	–	–	143,044
Financial liabilities designated as at FVTPL	–	195,600	–	195,600
Subtotal	143,044	4,033,718	11,345	4,188,107
Derivative liabilities used for hedging	–	102,068	9,124	111,192
Total	143,044	4,135,786	20,469	4,299,299

(\*1) The Group recognizes transfers between levels at the beginning of each reporting period when events or changes in circumstances causing the transfers between levels have occurred.

The Group uses the following hierarchy for determining and disclosing the fair value of financial instruments by valuation techniques:

- a. Level 1: The fair values are based on quoted (unadjusted) prices in active markets.
- b. Level 2: The fair values are based on techniques using observable inputs in active markets.
- c. Level 3: The fair values are based on techniques using unobservable inputs.

Details of fair value, valuation techniques, and inputs used to develop those measurements classified into Level 2 assets and liabilities that are measured at fair value as of December 31, 2022 and 2021 are as follows  
(Korean won in millions):

<December 31, 2022>

Classification	Fair value	Description of the valuation technique	Inputs used in the fair value measurement
Financial assets			
Financial assets at FVTPL			
Debt securities	5,459,986	Net asset value model, DCF model	Underlying asset prices such as bond, stock, etc., Discount rate
Derivative assets held for trading	9,814,434	Black-Scholes model, Black model, DCF model and Hull-White 1 factor model	Exchange rate, Stock Index, Volatility, Swap yield curve, Swaption volatility, Yield curve of each currency
Subtotal	15,274,420		
Financial assets at FVOCI			
Equity securities	34	Market value	Stock price
Debt securities	21,798,381	DCF model	Discount rate
Subtotal	21,798,415		
Derivative assets used for hedging	8,062	Hull-White 1 factor model	Exchange rate, Swap yield curve, Swaption volatility, Yield curve of each currency
Merchant banking account assets	4,631,361	DCF model	Discount rate
Total	41,712,258		
Financial liabilities			
Financial liabilities at FVTPL			
Derivative liabilities held for trading	10,681,705	Black-Scholes model, Black model, DCF model and Hull-White 1 factor model	Exchange rate, Stock Index, Volatility, Swap yield curve, Swaption volatility, Yield curve of each currency
Financial liabilities designated as at FVTPL	162,069	Hull-White 1 factor model	Swap yield curve, Swaption volatility
Subtotal	10,843,774		
Derivative liabilities used for hedging	485,580	Hull-White 1 factor model	Exchange rate, Swap yield curve, Swaption volatility, Yield curve of each currency
Total	11,329,354		

<December 31, 2021>

Classification	Fair value	Description of the valuation technique	Inputs used in the fair value measurement
Financial assets			
Financial assets at FVTPL			
Debt securities	4,900,268	Net asset value model, DCF model	Underlying asset prices such as bond, stock, etc., Discount rate
Derivative assets held for trading	4,090,684	Black-Scholes model, Black model,	Exchange rate, Stock Index, Volatility, Swap yield curve, Swaption volatility,



Classification	Fair value	Description of the valuation technique	Inputs used in the fair value measurement
		DCF model and Hull-White 1 factor model	Yield curve of each currency
Subtotal	8,990,952		
Financial assets at FVOCI			
Equity securities	50	Market value	Stock price
Debt securities	21,604,315	DCF model	Discount rate
Subtotal	21,604,365		
Derivative assets used for hedging	68,670	Hull-White 1 factor model	Exchange rate, Swap yield curve, Swaption volatility, Yield curve of each currency
Merchant banking account assets	4,741,939	DCF model	Discount rate
Total	35,405,926		
Financial liabilities			
Financial liabilities at FVTPL			
Derivative liabilities held for trading	3,838,118	Black-Scholes model, Black model, DCF model and Hull-White 1 factor model	Exchange rate, Stock Index, Volatility, Swap yield curve, Swaption volatility, Yield curve of each currency
Financial liabilities designated as at FVTPL	195,600	Hull-White 1 factor model	Swap yield curve, Swaption volatility
Subtotal	4,033,718		
Derivative liabilities used for hedging	102,068	Hull-White 1 factor model	Exchange rate, Swap yield curve, Swaption volatility, Yield curve of each currency
Total	4,135,786		

Details of fair value, valuation techniques, inputs to valuation, and significant unobservable inputs used to develop those measurements classified into Level 3 assets and liabilities that are measured at fair value as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Fair value	Description of the valuation technique	Inputs used in the fair value measurement	Significant unobservable inputs used in the fair value measurement	Range (%)	The effect of changes in unobservable inputs on fair value
Financial assets						
Financial assets at FVTPL						
Equity securities	24,945	Dividend discount model, Discounted cash flow model	Growth rate, Discount rate and Liquidating value,	Growth rate	0.00	Positive
				Discount rate	5.19~11.95	Negative
				Liquidating value	0.00	Positive
Debt securities	944,860	Dividend discount model, Binomial model, Net asset value model	Discount rate, Liquidating value, Underlying asset price and Volatility of underlying assets	Discount rate	5.68~6.88	Negative
				Liquidating value	0.00	Positive
				Volatility of underlying	23.56~35.06	Positive

Classification	Fair value	Description of the valuation technique	Inputs used in the fair value measurement	Significant unobservable inputs used in the fair value measurement	Range (%)	The effect of changes in unobservable inputs on fair value
				assets		
Derivative assets held for trading	37,107	Binomial model, Hull-White 2 factor model	Stock index, Swap yield curve, Volatility of underlying assets, Correlation within evaluation model, Exchange rate, etc	Correlation between IRS rates, Correlation between Exchange rate and Stock index, Correlation between Stock index and Stock index	-25.30~74.90	Fair value increase or decrease based on the changes in correlation by the effect of trading instruments and market status
				Volatility of underlying assets	21.83~31.73	Positive
Convertible privately placed bonds	7,394	Acquisition cost	-	-	-	-
Subtotal	1,014,306					
Financial assets at FVOCI						
Equity securities	558,432	Binomial model, FCFE model, Discounted cash flow model, Comparable Company Analysis, Net asset method	Growth rate, Discount rate, Liquidating value, Underlying asset price and Volatility of underlying assets,	Growth rate	0.00	Positive
				Discount rate	9.08~19.14	Negative
				Liquidating value	0.00	Positive
				Volatility of underlying assets	21.98~46.53	Positive
Total	1,572,738					
Financial liabilities						
Financial liabilities at FVTPL						
Derivative liabilities held for trading	59,695	Binomial model, Hull-White 2 factor model	Stock index, Swap yield curve, Volatility of underlying assets, Correlation within evaluation model, Exchange rate, etc	Correlation between IRS rates, Correlation between Exchange rate and Stock index, Correlation between Stock index and Stock index	-5.90~73.00	Fair value increase or decrease based on the changes in correlation by the effect of trading instruments and market status
				Volatility of underlying assets	21.83~46.53	Positive
Derivative liabilities used for hedging	30,838	Hull-White 2 factor model	Swap yield curve, Swaption volatility, Correlation within evaluation model and Exchange rate	Correlation between KRW IRS rates, Correlation between USD IRS rates	39.00~96.00	Fair value increase or decrease based on the changes in correlation by the effect of trading instruments and market status
Total	90,533					

<December 31, 2021>

Classification	Fair value	Description of the valuation technique	Inputs used in the fair value measurement	Significant unobservable inputs used in the fair value measurement	Range (%)	The effect of changes in unobservable inputs on fair value
Financial assets						
Financial assets at FVTPL						
Equity securities	14,900	Income approach, Multiple	Growth rate, Discount rate and Liquidating value,	Growth rate	1.00	Positive
				Discount rate	13.88~25.46	Negative
				Liquidating value	0.00	Positive
Debt securities	611,871	Income approach, Net asset value model	Discount rate, Liquidating value	Discount rate	5.13~21.37	Negative
				Liquidating value	0.00	Positive
Derivative assets held for trading	10,650	Hull-White 2 factor model	Swap yield curve, Swaption volatility, Correlation within evaluation model and Exchange rate	Correlation between USD IRS rates	53.00~79.00	Fair value increase or decrease based on the changes in correlation by the effect of trading instruments and market status
Convertible privately placed bonds	170,873	LSMC	Underlying asset price, Volatility of underlying assets, and Discount rate	Volatility of underlying assets	17.89~34.16	Positive
Subtotal	808,294					
Financial assets at FVOCI						
Equity securities	584,998	LSMC, Income approach, Net asset value model, multiple, Binomial model	Growth rate, Discount rate, Underlying asset price and Volatility of underlying assets	Growth rate	1.00	Positive
				Discount rate	10.42~18.02	Negative
				Volatility of underlying assets	23.32~25.49	Positive
Total	1,393,292					
Financial liabilities						
Financial liabilities at FVTPL						
Derivative liabilities held for trading	11,345	Hull-White 2 factor model	Swap yield curve, Swaption volatility, Correlation within evaluation model, and Exchange rate	Correlation between USD IRS rates	53.00~79.00	Fair value increase or decrease based on the changes in correlation by the effect of trading instruments and market status
Derivative liabilities used for hedging	9,124	Hull-White 2 factor model	Swap yield curve, Swaption volatility, Correlation within evaluation model, and Exchange rate	Correlation between KRW IRS rates, Correlation between USD IRS rates	53.00~98.00	Fair value increase or decrease based on the changes in correlation by the effect of trading instruments and market status
Total	20,469					

4-2 Changes in the fair value of financial assets and liabilities categorized as Level 3

Changes in the fair value of financial instruments categorized as Level 3 of the fair value hierarchy of financial instruments that are measured at fair value in the consolidated statements of financial position for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<2022>

Classification		Financial assets at FVTPL			Financial assets at FVOCI	Net derivative instruments	
		Equity securities	Debt securities	Convertible privately placed bonds	Equity securities	Held for trading	Designated as hedging
Beginning balance		14,900	611,871	170,873	584,998	(695)	(9,124)
Total profit or loss	Profit or loss	608	(11,451)	1,550	-	(22,790)	(21,714)
	Other comprehensive loss	-	-	-	(26,024)	-	-
Buy / issue		10,027	453,969	7,337	-	897	-
Sell / settlement		(590)	(109,529)	(172,366)	(542)	-	-
Ending balance		24,945	944,860	7,394	558,432	(22,588)	(30,838)

<2021>

Classification		Financial assets at FVTPL			Financial assets at FVOCI	Net derivative instruments	
		Equity securities	Debt securities	Convertible privately placed bonds	Equity securities	Held for trading	Designated as hedging
Beginning balance		5,462	483,414	257,607	648,250	(1,191)	152
Total profit or loss	Profit or loss	171	50,170	7,542	-	780	(9,276)
	Other comprehensive loss	-	-	-	(52,564)	-	-
Buy / issue		11,315	182,837	10,000	1,010	(284)	-
Sell / settlement		(2,048)	(104,550)	(104,276)	(11,698)	-	-
Ending balance		14,900	611,871	170,873	584,998	(695)	(9,124)

4-3 Current gains or losses recognized from changes in Level 3 financial instruments measured at fair value

Current gains or losses recognized from changes in Level 3 financial instruments at fair value for the years ended December 31, 2022 and 2021, are recorded in the consolidated statements of comprehensive income as follows.

(Korean won in millions):

<2022>

Classification	Total gains or losses recognized in profit or loss	Profit or loss recognized related to financial instruments held at the end of reporting period
Loss on financial instruments at FVTPL	(32,083)	(25,872)
Loss related to derivative instruments used for hedging	(21,714)	(21,714)
Total	(53,797)	(47,586)

<2021>

Classification	Total gains or losses recognized in profit or loss	Profit or loss recognized related to financial instruments held at the end of reporting period
Gain on financial instruments at FVTPL	58,663	55,340
Loss related to derivative instruments used for hedging	(9,276)	(9,124)
Total	49,387	46,216

4-4 Transfers between fair value hierarchy

There is no transfer into or out of Level 3 of the fair value hierarchy for the years ended December 31, 2022 and 2021.

4-5 Sensitivity Analysis

Sensitivity of the fair value measurement for each Level 3 financial instrument upon the changes in significant unobservable input, whose results are favorable and unfavorable changes in profit or loss or other comprehensive income as of December 31, 2022 and 2021, is as follows (Korean won in millions):

The sensitivity analysis of financial instruments classified as Level 3 amount to ₩1,046,318 million and ₩1,080,315 million as of December 31, 2022 and 2021, respectively, is impossible in practice and, thus, is excluded.

<December 31, 2022>

Classification	Favorable changes	Unfavorable changes
Financial assets		
Financial assets at FVTPL		
Equity securities (*2)	21	(11)
Debt securities (*3)	1,093	(1,047)
Derivative assets held for trading (*1)	86	(72)
Subtotal	1,200	(1,130)
Financial assets at FVOCI		
Equity securities (*2)	18,160	(10,963)
Total	19,360	(12,093)
Financial liabilities		
Derivative liabilities held for trading (*1)	152	(169)
Derivative liabilities used for hedging (*1)	6	(1)
Total	158	(170)

(\*1) Unfavorable and favorable changes in fair value are calculated by increasing/decreasing 10% of 1) correlation between rates of Interest Rate Swap (IRS) of KRW, 2) correlation between rates of IRS of KRW and USD, 3) correlation between rates of IRS of USD and exchange rates of KRW/USD, 4) correlation between stock index and individual stock, and 5) correlation within evaluation model.

(\*2) Changes in fair value of equity securities are calculated by increasing/decreasing growth rate (0.0~1.0%) and discount rate (-1.0~1.0%), which are main unobservable inputs.

(\*3) Changes in fair value of debt securities are calculated by increasing/decreasing discount rate (-1.0~1.0%), which is the main unobservable input. It is impossible in practice to assess sensitivity based on the changes in input variables of beneficiary securities, but favorable or unfavorable changes in fair value, only limited to real estate, are calculated by changing discount rate of lease cash flow (-1.0~1.0%) and growth rate of selling price of real estate (-1.0~1.0%)

<December 31, 2021>

Classification	Favorable changes	Unfavorable changes
Financial assets		
Financial assets at FVTPL		
Equity securities (*2)	25	(20)
Debt securities (*3)	821	(767)
Convertible privately placed bonds (*4)	397	(294)
Derivative assets held for trading (*1)	567	(749)
Subtotal	1,810	(1,830)
Financial assets at FVOCI		
Equity securities (*2)	18,591	(14,587)
Total	20,401	(16,417)
Financial liabilities		
Derivative liabilities held for trading (*1)	729	(552)
Derivative liabilities used for hedging (*1)	287	(241)
Total	1,016	(793)

(\*1) Unfavorable and favorable changes in fair value are calculated by increasing/decreasing 10% of 1) correlation between rates of Interest Rate Swap (IRS) of KRW, 2) correlation between rates of IRS of KRW and USD, 3) correlation between rates of IRS of USD and exchange rates of KRW/USD, 4) correlation between stock index and individual stock, and 5) correlation within evaluation model.

(\*2) Changes in fair value of equity securities are calculated by increasing/decreasing growth rate (0.0~1.0%) and discount rate (-1.0~1.0%), which are main unobservable inputs.

(\*3) Changes in fair value of debt securities are calculated by increasing/decreasing discount rate (-1.0~1.0%), which is the main unobservable input. It is impossible in practice to assess sensitivity based on the changes in input variables of beneficiary securities, but favorable or unfavorable changes in fair value, only limited to real estate, are calculated by changing discount rate of lease cash flow (-1.0~1.0%) and growth rate of selling price of real estate (-1.0~1.0%).

(\*4) For convertible privately placed bonds, favorable and unfavorable changes in fair value are calculated by increasing or decreasing the price (-10.0~10.0%) and

variability (-10.0~10.0%) of underlying assets, which are the main unobservable inputs.

4-6 Financial assets and liabilities which are not measured at fair value  
Financial assets and liabilities not measured at fair value in the consolidated financial statements, but for which the fair value is disclosed.

Fair value hierarchy of financial instruments at amortized cost as of December 31, 2022, and 2021, is as follows (Korean won in millions):

<December 31, 2022>

Classification	Levels of the fair value hierarchy			Total
	Level 1	Level 2	Level 3	
Financial assets:				
Cash and due from banks	1,903,972	39,183,885	-	41,087,857
Securities at amortized cost	3,579,863	32,007,819	-	35,587,682
Loans	-	-	327,015,538	327,015,538
Others	-	-	13,107,936	13,107,936
Total	5,483,835	71,191,704	340,123,474	416,799,013
Financial liabilities:				
Deposits	-	55,603,695	303,901,950	359,505,645
Borrowings	-	970,661	21,135,577	22,106,238
Debentures	-	25,675,257	-	25,675,257
Others	-	-	29,271,369	29,271,369
Merchant banking account liabilities	-	-	3,667,273	3,667,273
Total	-	82,249,613	357,976,169	440,225,782

<December 31, 2021>

Classification	Levels of the fair value hierarchy			Total
	Level 1	Level 2	Level 3	
Financial assets:				
Cash and due from banks	2,023,877	25,670,055	-	27,693,932
Securities at amortized cost	2,322,694	19,824,693	-	22,147,387
Loans	-	-	307,893,947	307,893,947
Others	-	-	13,524,389	13,524,389
Total	4,346,571	45,494,748	321,418,336	371,259,655
Financial liabilities:				
Deposits	-	50,706,451	271,332,462	322,038,913
Borrowings	-	1,091,728	16,413,204	17,504,932



Classification	Levels of the fair value hierarchy			Total
	Level 1	Level 2	Level 3	
Debentures	-	27,661,273	-	27,661,273
Others	-	-	25,694,939	25,694,939
Merchant banking account liabilities	-	-	2,908,280	2,908,280
Total	-	79,459,452	316,348,885	395,808,337

Details of fair value, valuation technique, and inputs used to develop those measurements classified into Level 2 assets and liabilities that are not measured at fair value as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Fair value	Valuation technique	Inputs
Financial assets:			
Cash and due from banks	39,183,885	DCF model	Discount rate
Securities at amortized cost	32,007,819	DCF model	Discount rate
Total	71,191,704		
Financial liabilities:			
Deposits	55,603,695	DCF model	Discount rate
Borrowings	970,661	DCF model	Discount rate
Debentures	25,675,257	DCF model	Discount rate
Total	82,249,613		

<December 31, 2021>

Classification	Fair value	Valuation technique	Inputs
Financial assets:			
Cash and due from banks	25,670,055	DCF model	Discount rate
Securities at amortized cost	19,824,693	DCF model	Discount rate
Total	45,494,748		
Financial liabilities:			
Deposits	50,706,451	DCF model	Discount rate
Borrowings	1,091,728	DCF model	Discount rate
Debentures	27,661,273	DCF model	Discount rate
Total	79,459,452		

Details of fair value, valuation technique, and inputs used to develop those measurements classified into Level 3 assets and liabilities disclosed but not measured at fair value as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Fair value	Valuation technique	Inputs
Financial assets			
Loans	327,015,538	DCF model	Credit and other spread, rate of advance redemption, etc.
Other financial assets	13,107,936	DCF model	Discount rate
Total	340,123,474		
Financial liabilities			
Deposits	303,901,950	DCF model	Other spread, rate of advance redemption
Borrowings	21,135,577	DCF model	Other spread
Other financial liabilities	29,271,369	DCF model	Discount rate
Merchant banking account liabilities	3,667,273	(*)	
Total	357,976,169		

(\*) The carrying amount is considered fair value without applying the DCF method because it is derived from various transactions and has a relatively short or no maturity.

<December 31, 2021>

Classification	Fair value	Valuation technique	Inputs
Financial assets			
Loans	307,893,947	DCF model	Credit and other spread, rate of advance redemption, etc.
Other financial assets	13,524,389	DCF model	Discount rate
Total	321,418,336		
Financial liabilities			
Deposits	271,332,462	DCF model	Other spread, rate of advance redemption
Borrowings	16,413,204	DCF model	Other spread
Other financial liabilities	25,694,939	DCF model	Discount rate
Merchant banking account liabilities	2,908,280	(*)	
Total	316,348,885		

(\*) The carrying amount is considered fair value without applying the DCF method because it is derived from various transactions and has a relatively short or no maturity.

#### 4-7 Gain and loss on deferred Day 1

Changes in gain (loss) on deferred Day 1 for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	2022	2021
Beginning balance	(548)	(149)
Amount of new accrual	(1,734)	(535)
Amounts recognized as current profit or loss	152	136
Ending balance	(2,130)	(548)

#### 4-8 Financial instruments transfer transaction

##### 4-8-1 Bonds sold under repurchase agreements

As of the end of December 31 2022 and 2021, details of financial instruments that did not meet the derecognition requirements due to the sale of securities held by the Group on condition of repurchase at a fixed price during the bonds sold under repurchase agreements are as follows (Korean won in millions):

<December 31, 2022>

Classification	Book value	Fair value
Transferred asset sets		
Financial assets at FVOCI	46	46
Financial assets at amortized cost	484,066	443,630
Related liabilities		
Bonds sold under repurchase agreements	487,732	436,183

<December 31, 2021>

Classification	Book value	Fair value
Transferred asset sets		
Financial assets at FVOCI	203,961	203,961
Financial assets at amortized cost	910,146	903,179
Related liabilities		
Bonds sold under repurchase agreements	1,078,571	1,059,729

#### 4-8-2 Loaned securities

When lending securities held by the Group, ownership of the securities is transferred, however, the securities would be returned at the end of the rental period. Therefore, the Group continues to recognize the entire loaned securities as it retains most of the risks and rewards of the securities. Details of loaned securities as of the end of December 31, 2022 and 2021 are as follows

(Korean won in millions):

<December 31, 2022>

Classification	Book value	Fair value
Financial assets at FVTPL	412,492	412,492
Financial assets at FVOCI	1,925,345	1,925,345
Financial assets at amortized cost	416,386	395,502

<December 31, 2021>

Classification	Book value	Fair value
Financial assets at FVTPL	49,906	49,906
Financial assets at FVOCI	2,538,542	2,538,542
Financial assets at amortized cost	59,586	58,624

#### 4-8-3 Asset-backed securitization

The Group's consolidated structured companies issued asset-backed securities by securitizing their securities and loans. The Group retains the contractual right to receive cash flows from the financial assets, but the received cash flows are effectively transferred to the holder of asset-backed securities. In addition, the Group bears related risks through purchase agreements or credit exposures.

As of the end of December 31, 2022 and 2021, details of financial instruments that were transferred, but not derecognized in relation to asset-backed securitization transactions by the Group are as follows (Korean won in millions):

Classification		December 31, 2022	December 31, 2021
		Book value(*)	Book value(*)
Transferred asset sets	Financial assets at FVTPL	20,000	20,000
	Loans at amortized cost	1,291,332	1,335,098
	Total	1,311,332	1,355,098
Related liabilities	Asset-backed securitization borrowing	1,321,944	1,335,319
	Asset-backed securitization bond	-	30,000
	Total	1,321,944	1,365,319

(\*) Carrying amount is before allowances for doubtful debts.

## 5. Fair value of financial assets and liabilities

Book values and fair values of financial assets and liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022		December 31, 2021	
	Book value	Fair value	Book value	Fair value
Financial assets:				
Cash and due from banks	41,087,857	41,087,857	27,693,932	27,693,932
Financial assets at FVTPL	18,455,415	18,455,415	10,918,562	10,918,562
Financial assets at FVOCI	32,960,581	32,960,581	35,234,358	35,234,358
Securities at amortized cost	37,583,487	35,587,682	22,467,884	22,147,387
Loans	330,186,341	327,015,538	309,177,708	307,893,947
Derivative assets used for hedging	8,062	8,062	68,670	68,670
Other financial assets	13,108,142	13,107,936	13,524,234	13,524,389
Merchant banking account assets	4,631,361	4,631,361	4,741,939	4,741,939
Total	478,021,246	472,854,432	423,827,287	422,223,184
Financial liabilities:				
Financial liabilities at FVTPL	11,228,307	11,228,307	4,188,107	4,188,107
Deposits	359,858,481	359,505,645	321,125,300	322,038,913
Borrowings	22,256,597	22,106,238	17,524,480	17,504,932
Debentures	26,233,339	25,675,257	27,699,757	27,661,273
Derivative liabilities used for hedging	516,418	516,418	111,192	111,192
Other financial liabilities	29,271,370	29,271,369	25,694,940	25,694,939
Merchant banking account liabilities	3,667,273	3,667,273	2,908,280	2,908,280
Total	453,031,785	451,970,507	399,252,056	400,107,636

The following standards are applied in measuring the fair value of financial instruments:

- a. Loans: Expected cash flows, current market interest rates and discount rates including borrowers' credit risks are factors to calculate the fair value of loans. For lines of credit available for deposit and withdrawal from time to time and loans that have a short-term maturity (less than three months), it is assumed that the carrying amounts approximate their fair value.
- b. Securities at amortized cost : The fair value of securities at amortized cost is

as stated by the market, broker, or by credible sources. If none of the information from these entities is usable, quoted market price of financial instruments with similar credit rating, maturity and return on investment (ROI) is used to estimate the fair value.

- c. Deposits: For deposits without an explicit maturity period including deposits with no interests, deposits that have a short-term maturity (less than three months) and deposits with a floating-rate readjustment period of less than three months, it is assumed that the carrying amounts approximate their fair value. The estimated fair value of fixed interest-bearing deposits is based on discounted future cash flows using interest rates for new financial liability with similar time to maturity.
- d. Borrowings: For borrowings that have a short-term maturity (less than three months) and borrowings with floating-rate readjustment period of less than three months, it is assumed that the carrying amounts approximate their fair value. The estimated fair value of fixed interest-bearing borrowings is based on discounted future cash flows using interest rates for new financial liability with similar time to maturity.
- e. Debentures: For debentures issued, the fair values are determined based on quoted market prices in active market. For those issued where quoted market prices in active market are not available, a discounted cash flow model is used based on a current interest rate yield curve appropriate for the remaining term to maturity and credit spreads.

## 6. Categories of financial assets and financial liabilities

6-1 The Group categorizes its financial assets as of December 31, 2022 and 2021, as follows (Korean won in millions):

<December 31, 2022>

Classification	Financial assets at FVTPL	Financial assets at FVOCI	Financial assets at amortized cost	Derivatives for hedging	Total
Cash and due from banks	-	-	41,087,857	-	41,087,857
Financial assets at FVTPL	18,455,415	-	-	-	18,455,415
Financial assets at FVOCI	-	32,960,581	-	-	32,960,581
Securities at amortized cost	-	-	37,583,487	-	37,583,487
Loans	-	-	330,186,341	-	330,186,341
Derivative assets used for hedging instruments	-	-	-	8,062	8,062
Other financial assets	-	-	13,108,142	-	13,108,142
Merchant banking account assets	4,631,361	-	-	-	4,631,361
Total	23,086,776	32,960,581	421,965,827	8,062	478,021,246

<December 31, 2021>

Classification	Financial assets at FVTPL	Financial assets at FVOCI	Financial assets at amortized cost	Derivatives for hedging	Total
Cash and due from banks	-	-	27,693,932	-	27,693,932
Financial assets at FVTPL	10,918,562	-	-	-	10,918,562
Financial assets at FVOCI	-	35,234,358	-	-	35,234,358
Securities at amortized cost	-	-	22,467,884	-	22,467,884
Loans	-	-	309,177,708	-	309,177,708
Derivative assets used for hedging instruments	-	-	-	68,670	68,670
Other financial assets	-	-	13,524,234	-	13,524,234
Merchant banking account assets	4,741,939	-	-	-	4,741,939
Total	15,660,501	35,234,358	372,863,758	68,670	423,827,287



6-2 The Group categorizes its financial liabilities as of December 31, 2022 and 2021, as follows (Korean won in millions):

<December 31, 2022>

Classification	Financial liabilities at FVTPL	Financial liabilities designated as measured at FVTPL	Financial liabilities at amortized cost	Derivatives for hedging	Total
Financial liabilities at FVTPL	11,066,238	162,069	-	-	11,228,307
Deposits	-	-	359,858,481	-	359,858,481
Borrowings	-	-	22,256,597	-	22,256,597
Debentures	-	-	26,233,339	-	26,233,339
Derivative liabilities used for hedging instruments	-	-	-	516,418	516,418
Other financial liabilities	-	-	29,271,370	-	29,271,370
Merchant banking account liabilities	-	-	3,667,273	-	3,667,273
Total	11,066,238	162,069	441,287,060	516,418	453,031,785

<December 31, 2021>

Classification	Financial liabilities at FVTPL	Financial liabilities designated as measured at FVTPL	Financial liabilities at amortized cost	Derivatives for hedging	Total
Financial liabilities at FVTPL	3,992,507	195,600	-	-	4,188,107
Deposits	-	-	321,125,300	-	321,125,300
Borrowings	-	-	17,524,480	-	17,524,480
Debentures	-	-	27,699,757	-	27,699,757
Derivative liabilities used for hedging instruments	-	-	-	111,192	111,192
Other financial liabilities	-	-	25,694,940	-	25,694,940
Merchant banking account liabilities	-	-	2,908,280	-	2,908,280
Total	3,992,507	195,600	394,952,757	111,192	399,252,056

## 7. Offsetting of financial assets and liabilities

The Group engages in master netting agreement with counterparties through International Swaps and Derivatives Association (ISDA) or similar agreements in relation to over-the-counter derivatives and spot exchange transactions. Under this agreement, in the event of the counterparty's bankruptcy, etc., the transaction with the counterparty will be terminated. Upon termination, the amounts to be paid or received by each party are offset and paid or received. Repurchase agreements trade and securities lending and borrowing of securities have been made by offsetting arrangement, which is similar to the arrangement for derivatives.

In the case of uncollected domestic exchange bonds and unpaid domestic exchange obligations between banks, as the Group holds the rights of setoff and settles in net amounts, the net amounts are presented in the consolidated statement of financial position. Other financial instruments include bonds and debts related to securities traded in the market, which are presented in net amounts in the separate statement of financial position as there is a legally enforceable right of setoff and intention to settle on a net basis.

7-1 Financial assets offset, the executable Master Netting Agreement and financial assets subject to a similar arrangement as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Gross amounts of recognized financial assets	Gross amounts of financial liabilities offset	Net amounts of financial assets presented in the consolidated financial statements	Related amounts of not offset (*)		Net amount
				Financial instruments	Cash collateral	
Derivatives	9,788,886	-	9,788,886	(7,438,461)	(1,480,302)	870,123
Securities lent	2,754,223	-	2,754,223	(2,754,223)	-	-
Bonds purchased under resale agreement	11,776,664	-	11,776,664	(11,776,664)	-	-
Spot exchange that has not been received or settled	5,961,620	-	5,961,620	(5,960,185)	-	1,435
Domestic exchange settlement debit	40,665,026	36,441,676	4,223,350	-	-	4,223,350
Other accounts receivable	4,419	4,419	-	-	-	-

Classification	Gross amounts of recognized financial assets	Gross amounts of financial liabilities offset	Net amounts of financial assets presented in the consolidated financial statements	Related amounts of not offset (*)		Net amount
				Financial instruments	Cash collateral	
Total	70,950,838	36,446,095	34,504,743	(27,929,533)	(1,480,302)	5,094,908

(\*) The rights to set-off exist only in case of default, insolvency or bankruptcy.

Accordingly, the amounts are not offset in the consolidated statements of financial position as they do not meet the criteria for offsetting.

<December 31, 2021>

Classification	Gross amounts of recognized financial assets	Gross amounts of financial liabilities offset	Net amounts of financial assets presented in the consolidated financial statements	Related amounts of not offset (*)		Net amount
				Financial instruments	Cash collateral	
Derivatives	4,170,019	-	4,170,019	(2,848,122)	(226,812)	1,095,085
Securities lent	2,648,033	-	2,648,033	(2,648,033)	-	-
Bonds purchased under resale agreement	11,380,982	-	11,380,982	(11,380,982)	-	-
Spot exchange that has not been received or settled	7,697,333	-	7,697,333	(7,691,616)	-	5,717
Domestic exchange settlement debit	36,854,002	33,077,375	3,776,627	-	-	3,776,627
Other accounts receivable	19,711	13,237	6,474	-	-	6,474
Total	62,770,080	33,090,612	29,679,468	(24,568,753)	(226,812)	4,883,903

(\*) The rights to set-off exist only in case of default, insolvency or bankruptcy.

Accordingly, the amounts are not offset in the separate statements of financial position as they do not meet the criteria for offsetting.

7-2 Financial liabilities offset, the executable master netting arrangements and financial liabilities subject to a similar agreement as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Gross amounts of recognized financial liabilities	Gross amounts of financial assets offset	Net amounts of financial liabilities presented in the consolidated financial statements	Related amounts not offset (*)		Net amount
				Financial instruments	Cash collateral	
Derivatives	11,026,763	-	11,026,763	(9,022,247)	(59,116)	1,945,400
Securities borrowed	323,661	-	323,661	(323,661)	-	-
Bonds sold under repurchase agreements	487,732	-	487,732	(487,732)	-	-
Spot exchange that has not been received or settled	5,961,729	-	5,961,729	(5,960,245)	-	1,484
Domestic exchange settlement credit	41,945,503	36,441,676	5,503,827	-	-	5,503,827

Classification	Gross amounts of recognized financial liabilities	Gross amounts of financial assets offset	Net amounts of financial liabilities presented in the consolidated financial statements	Related amounts not offset (*)		Net amount
				Financial instruments	Cash collateral	
Other accounts payable	9,592	4,419	5,173	-	-	5,173
Total	59,754,980	36,446,095	23,308,885	(15,793,885)	(59,116)	7,455,884

(\*) The rights to offset exist only in case of default, insolvency or bankruptcy.

Accordingly, the amounts are not offset in the consolidated statements of financial position as they do not meet the criteria for offsetting.

<December 31, 2021>

Classification	Gross amounts of recognized financial liabilities	Gross amounts of financial assets offset	Net amounts of financial liabilities presented in the consolidated financial statements	Related amounts not offset (*)		Net amount
				Financial instruments	Cash collateral	
Derivatives	3,960,655	-	3,960,655	(2,962,393)	(245,695)	752,567
Securities borrowed	143,044	-	143,044	(143,044)	-	-
Bonds sold under repurchase agreements	1,078,571	-	1,078,571	(1,078,571)	-	-
Spot exchange that has not been received or settled	7,696,787	-	7,696,787	(7,691,621)	-	5,166
Domestic exchange settlement credit	39,250,073	33,077,375	6,172,698	(6,172,698)	-	-
Other accounts payable	24,286	13,237	11,049	-	-	11,049
Total	52,153,416	33,090,612	19,062,804	(18,048,327)	(245,695)	768,782

(\*) The rights to offset exist only in case of default, insolvency or bankruptcy.

Accordingly, the amounts are not offset in the consolidated statements of financial position as they do not meet the criteria for offsetting.

## 8. Risk management

The Group is exposed to credit risk, liquidity risk, market risk and various operating risks. The objectives of risk management are to pursue economic benefits by managing the associated risk in the changing financial environment and to utilize capital efficiently.

The basic principles of risk management are as follows:

- a. Minimize the rapid fluctuation in profit by balancing the risks and the income.
- b. Maximize long-term shareholder value.

- c. Comply with procedures to ensure operating activities are confined to allowable risk limits.
- d. Examine the type and size of risk along with the changes in potential economic value of portfolios and establish risk management strategy in order to utilize assets and distribute capital efficiently.

The basic policies in order to realize the basic principles of risk management are as follows:

- a. Set and comply with allowable limits for each risk type.
- b. Establish an appropriate balance between income and associated risk.
- c. When a conflict between income and associated risk exists, the Group pursues income while complying with the allowable risk limits.
- d. Prioritize the distribution of risk in order to avoid risk concentration in certain areas.
- e. Analyze the effect of various market fluctuations on parts or the entire portfolio on a regular basis.
- f. Separate risk management segments, operational segments, and other segments which deal with trade confirmations and payments in order to maintain independence.

## 8-1 Strategy and procedure of risk management

### 8-1-1 Operation of and setting risk limits

The Group established and operates a limit management system to maintain the appropriate level of risk relative to the equity capital held. The Risk Management Committee approves total risk limits and limits by types of risks, taking into account of capital, business plans, risk management regulations, and institutional changes within the risk level that the Group can manage. The Risk Management Operation Committee sets up and allocates other operational limits (e.g., by organization, product, investment, and loss) to comply with allowable limits for each type of risk, approved by the Risk Management Committee and periodically checks the status of limit management.

#### 8-1-2 Risk measurement and management

The Group prepares the appropriate risk measurement methods considering the nature of risks, and measures them by the types of risks. Risk measurement and evaluation results are regularly reviewed, and reported to the Risk Management Committee, Risk Management Operation Committee, and management. Risk measurement and evaluation results are also used for daily business management activities such as establishment of business plan and management strategy.

#### 8-1-3 Operation of risk management information system

In order to provide advanced risk management in a rapidly changing financial environment, the Group has established a company-wide risk management system that meets the new Bank for International Settlements ("BIS") standards. The Group operates credit risk internal grading (changes are approved in November 2008, June 2016 and March 2021), advanced operational risk measurement method (changes are approved in November 2008 and June 2016) and market risk internal model (changes are approved in April 2008 and August 2016 [retrospective application in June 2016]).

#### 8-1-4 Operation of crisis management system

The Group operates a crisis management system that can respond effectively to the crisis caused by drastic changes in the internal and external management environment. The Group operates an early warning system in order to respond to the drastic changes in the financial market in a consistent and systematic manner. In the event of an anomaly, the holding company declares the level of crisis at the group level, and the Group analyzes the impact on the portfolio in accordance with the step-by-step plan and carries out the countermeasures.

#### 8-2 Organization and structure of risk management

The risk management organization consists of the Risk Management Committee, Risk Management Operation Committee under the Risk Management Committee within the Board of Directors, the risk management officer, and the organization

in charge of risk management, which are the top decision-making bodies for the risk management. The organization in charge of risk management, independent from operating segment, manages risk limits and risk management policies.

#### 8-2-1 Risk Management Committee

The Risk Management Committee regularly holds meeting once every quarter and resolves the establishment and management of allowable limits for risks, establishment and changes in risk management policies, and reviews the results of the management of allowable risk limits and suitability tests of risk management system.

#### 8-2-2 Risk Management Operation Committee

The Risk Management Operation Committee is responsible for setting and allocating specific operational limits for compliance with the allowable limits for each type of risk as resolved by the Risk Management Committee, adjusting the internal capital limit between business units within the same risk type, and carrying out risk management policies and strategies set by the Risk Management Committee, including preliminary deliberations on the agenda items.

#### 8-2-3 Organization in charge of risk management

The Risk Management Group is composed of Comprehensive Risk Management Team, Credit Risk Management Team, and Credit Supervision Team. The Risk Management Group is independent of sales and investment sector and manages the execution of risk management policies. The Comprehensive Risk Management Team oversees the market, interest rate, liquidity, operational risk, and middle office, and supports the Risk Management Committee and Risk Management Operation Committee. The Credit Risk Management Team oversees credit risk and credit concentration risk. The Credit Supervision Team oversees the loans and early warning system.

### 8-3 Credit risk

Credit risk is a risk incurred when the Group faces a loss because its customers or counterparties fail to discharge their contractual obligations. Credit risk arises from on-balance and off-balance accounts including loans, derivatives, securities, financial guarantees agreement and other guarantees.

#### 8-3-1 Management of credit risk

##### 8-3-1-1 Loans

###### 8-3-1-1-1 Measurement of credit risk

To determine the possibility of bankruptcy for its customers or counterparties, the Group uses various methods comprehensively. Risks pertaining to the retail sector compared to those pertaining to the corporate sector are relatively easy to predict but cyclical and seasonal factors may influence the outcomes.

The frequency of impairment loss in the overall retail sector is relatively high but in terms of individual cases, the loss rate is lower than in the corporate sector.

Based on these differences, the Group manages each segment differently in terms of credit rating, pricing and subsequent management.

As for the business customers, the branch managers and credit rating team carry out the credit risk assessment by using a detailed valuation model depending on the size and the nature of the industry. The corporate financial valuation model is further subdivided based on the characteristics of the loans and is a combination of statistical and expert valuation models. Also, the Loan Review team of the Credit Risk Management regularly performs the subsequent reviews in order to establish adequacy of the credit grading. As for the retail sector, a Credit Scoring System is used to compute the credit scores of the borrower. The system includes an Application Scoring Model which is used for the application of loans and a Behavioral Scoring Model which has been used after handling of the loans.

Expected loss is calculated using the expected default rate based upon the



historical default rate and the estimated loss rate gives a rise to the default rate from a collection of historical information. A measured expected loss is reflected on the client's interest rate and allowances when applying or renewing a loan. Unexpected loss takes into account the allowance for potential volatility in the actual loss. Unexpected loss is calculated using the inner Credit Metrics Model with 99.9% of the confidence level and the measured figure is used as a credit risk reference value and is used as part of the unexpected loss when calculating interest rates.

#### 8-3-1-1-2 Management of credit risk

##### 8-3-1-1-2-1 Management process

Both retail and corporate sectors are developing and operating a credit risk management system appropriately designed for each sector. The Credit Risk Management Committee and Credit Rating Team measure and manage credit risks for the corporate sector; Credit Risk Management Committee and Personal Loans Committee measure and manage credit risks for the retail sector.

The Group manages as well as controls the credit risk by setting the limits on the amount of risk willing to accept for individual counterparties and for geographical and industry concentration, and by monitoring exposures relating to such limits. The Group reviews on a monthly basis in accordance with the economic conditions and industry characteristics and examines the adequacy of the limits on a quarterly basis. The Group continuously manages credit rating models for retail and corporate sectors and examines the adequacy of loss given default ("LGD") and exposure at default ("EAD"), and any related information.

##### 8-3-1-1-2-2 Credit limits management and capital allocation

The Group annually performs a comprehensive analysis on economic conditions and changes in the economic environment in order to appropriately assess the credit quality of financial assets by setting credit limits on same entities, industries, countries, and financial instruments. In addition, for the unexpected loss management, the Group regularly sets, distributes and checks for the

compliance maintenance of internal capital limits according to the corporate and household sectors and the size of clients through the risk management system.

#### 8-3-1-1-2-3 Risk monitoring and early warning system

The Group measures and manages the risk indicators such as delinquency rate, roll-rate, and roll-rate classified by past due. Also, in order to assess the credit quality of the assets, the Group operates an early warning system and regularly examines companies whose credit rating is likely to degrade.

#### 8-3-1-1-2-4 Credit rating system

In order to separately evaluate the characteristics of clients in the corporate sector, the Group operates a detailed valuation model based on the external and non-external audit and is in the process of continuing the stability of the corporate credit rating system through the subsequent examinations and performance improvements. The Group operates a detailed valuation model based on the credit rating model and the activity rating model for the household sector in accordance with the client's characteristics. The Group improves the efficiency of the model through the subsequent examinations and performance improvements. Credit rating on new clients as well as an automatic renewal and adjustments to the credit limits are managed by the household and SOHO credit extension system.

#### 8-3-1-1-2-5 Examination of credit

For a large amount of credit line, after the approval of credit extension, the Group regularly examines the borrower's credit status and the adequacy of the borrower's credit rating as in part of the subsequent management process. In addition, the Group significantly focuses on industries by increasing credit risks based on the analysis of the risk indicators and examines the sample for smaller credit extensions.

#### 8-3-1-1-2-6 Risk mitigation policy

The Group obtains the collateral for the granted loans in order to reduce risks. Guidelines are implemented regarding the acceptability of types of collateral and valuation parameters. The main types of the collateral obtained are as follows:

- a. Residential properties in relation with mortgage loans
- b. Business assets such as equipments, plants and real estate properties
- c. Financial instruments such as deposits, debt and equity securities

#### 8-3-1-2 Debt securities

The Group trades the debt securities above the Investment-Grade Status level in order to manage the credit risks and manage the exposure of credit ratings to maintain credit quality of the assets.

#### 8-3-1-3 Derivative instruments

The credit risk arising from the derivative instruments is managed based on the net position and maintained under a strict control limit. The degree of credit risk exposure is measured based on the positive fair values of derivative instruments. The Group manages the exposure as a part of the unused commitment of loans.

#### 8-3-2 Significant increase in credit risk

The Group measures the expected credit loss for debt instruments at amortized cost or FVOCI in three stages as described below:

##### 8-3-2-1 Stage 1: 12-month ECL

For financial assets of which the credit risk has not increased significantly since initial recognition, ECLs that result from default events that are possible within 12 months after the reporting date are recognized.

##### 8-3-2-2 Stage 2: Lifetime ECL

For financial assets of which the credit risk has increased significantly, but not impaired, since initial recognition, ECLs that result from all possible default

events over the expected life of the financial instrument are recognized.

#### 8-3-2-3 Stage 3: Lifetime ECL

A financial asset is credit impaired when one or more events that have a detrimental impact on the estimated future cash flows of that financial asset have occurred. Lifetime ECL is recognized for credit-impaired financial assets, and interest income is recognized using the effective interest rate (EIR) on amortized cost.

The Group assesses at each reporting date whether the significant of the increase of the credit risk compared to that of initial recognition, using internal and external credit rating information, early warning system and number of days past due.

#### 8-3-2-4 Occurrence of default

The Group considers that a default has occurred for financial assets on following situations:

- a. When receivables are sold despite of an economic loss.
- b. When receivables have decreased due to adjustments resulting in an exemption of principal, interest or related fees or delayed payments.
- c. When the borrower has been declared bankruptcy or has declared bankruptcy or has taken other similar measures to delay or avoid repayments.

#### 8-3-2-5 Method for determining whether a financial asset is credit impaired

A financial item is deemed impaired if, and only if, there is objective evidence of impairment as a result of one or more events which have occurred after the initial recognition of the item (an incurred 'loss event') and that loss event (or events) has an impact on the estimated future cash flows, such as changes in arrears or economic conditions which correlate with defaults, delinquency in interest for more than 90 days, credit deterioration resulting in misleading information and damages incurred due to poor exposure.

### 8-3-3 Measurement of ECL

ECL is measured at the probability-weighted amounts of the present value of all cash shortfalls over the expected life of the financial instrument. A cash shortfall is the difference between the cash flows that are due to an entity in accordance with the contract and the cash flows that the entity expects to receive.

However, the Group adjusts historical data, such as credit loss experience, on the basis of current observable data to reflect the effects of the current conditions and its forecasts of future conditions that did not affect the period on which the historical data is based, and to remove the effects of the conditions in the historical period that are not relevant to the future contractual cash flows. Also, the Group measures ECL using the macroeconomic factors such as the growth rate, interest rate and stock indices. The methodology for future economic forecasts is regularly reviewed.

If the credit risk on financial instruments, for which lifetime ECLs have been recognized, subsequently improves so that the requirement for recognizing lifetime ECLs is no longer met, the loss allowance should be measured at an amount equal to 12 month ECLs.

### 8-3-4 Write-off policy

Financial assets are written off when an entity has no reasonable expectations of recovering the contractual cash flows on a financial asset in its entirety or a portion thereof. Generally, financial assets are written off when it is determined that the Group is not able to generate sufficient cash flows to make repayments. However, financial assets written off can be recovered by the Group.

### 8-3-5 The maximum exposure to credit risk

The maximum exposure to credit risk as of December 31, 2022 and 2021, is as follows. The following table shows the maximum exposure to credit risk before the effect of mitigation through credit enhancement and collateral agreements, and reflects the impairment losses and master netting.

Equity securities in financial assets at FVTPL and financial assets at FVOCI are excluded (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
On-balance-sheet items		
Due from banks	39,183,885	25,670,055
Financial assets at FVTPL		
Debt securities	8,553,379	6,550,007
Derivative assets held for trading	9,851,754	4,101,349
Private convertible bonds	7,394	170,873
Subtotal	18,412,527	10,822,229
Financial assets at FVOCI	32,150,076	34,322,778
Securities at amortized cost	37,583,487	22,467,884
Derivative assets used for hedging instruments	8,062	68,670
Loans	330,186,341	309,177,708
Other financial assets	13,108,142	13,524,234
Merchant banking account assets	4,631,361	4,741,939
Total	475,263,881	420,795,497
Off-balance-sheet items		
Financial guarantee contracts	447,724	368,042
Payment guarantee	20,644,157	16,502,708
Commitments	101,383,405	90,818,933
Merchant banking account-commitment	620,000	790,000
Total	123,095,286	108,479,683

8-3-6 Details of effects of credit risk mitigation by collateral and other credit enhancements

The financial effects related to credit risk mitigated by collateral and other credit enhancements as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Impaired loan	
	Individual assessment	Collective assessment
Guarantees	13,949	159,755
Deposits	92	11,930
Real estates	157,237	217,226
Others	5,694	5,283
Total	176,972	394,194

<December 31, 2021>

Classification	Impaired loan	
	Individual assessment	Collective assessment
Guarantees	12,936	100,248
Deposits	90	10,593
Real estates	202,495	189,377
Securities	-	58
Others	22,630	3,500
Total	238,151	303,776

8-3-6-1 The amount of financial assets for which loss allowance is not recognized due to sufficient collaterals is ₩1,288,560 million and ₩455,162 million as of December 31, 2022 and 2021, respectively.

8-3-6-2 There is no change in the collateral policy of the Group.

## 8-3-7 Credit risk exposure

### 8-3-7-1 Loans

As of December 31, 2022 and 2021, gross carrying amounts of loans by internal credit rating in accordance with the loss allowance measurement method are as follows (Korean won in millions):

#### <December 31, 2022>

Classification	12-month expected credit loss	Lifetime expected credit loss		Total
		Non-credit-impaired loans	Credit-impaired loans	
Household loans				
Grade 1	100,581,728	18,267,978	-	118,849,706
Grade 2	6,808,923	6,154,047	-	12,962,970
Grade 3	150,384	235,570	342,308	728,262
Subtotal	107,541,035	24,657,595	342,308	132,540,938
Corporate loans				
Grade 1	122,350,304	3,063,130	-	125,413,434
Grade 2	59,477,536	10,398,130	3,258	69,878,924
Grade 3	78,389	3,031,102	553,833	3,663,324
Subtotal	181,906,229	16,492,362	557,091	198,955,682
Total	289,447,264	41,149,957	899,399	331,496,620

#### <December 31, 2021>

Classification	12-month expected credit loss	Lifetime expected credit loss		Total
		Non-credit-impaired loan	Credit-impaired loans	
Household loans				
Grade 1	101,423,012	18,898,029	-	120,321,041
Grade 2	7,028,503	5,378,956	-	12,407,459
Grade 3	76,266	112,718	284,187	473,171
Subtotal	108,527,781	24,389,703	284,187	133,201,671
Corporate loans				
Grade 1	106,745,190	2,576,683	-	109,321,873



Classification	12-month expected credit loss	Lifetime expected credit loss		Total
		Non-credit-impaired loan	Credit-impaired loans	
Grade 2	55,184,699	9,739,824	–	64,924,523
Grade 3	53,864	2,112,371	617,979	2,784,214
Subtotal	161,983,753	14,428,878	617,979	177,030,610
Total	270,511,534	38,818,581	902,166	310,232,281

Net deferred origination fees and costs are not reflected in the gross carrying amounts above.

The Group categorizes loans based on the nature of the borrowers as follows:

<December 31, 2022>

Classification	Household loans	Corporate loans	SOHO
Grade 1	Less than or equal to 0.49% of PD	Less than or equal to 0.58% of PD	Less than or equal to 2.85% of PD
Grade 2	From 0.49% to 24.93% of PD	From 0.58% to 12.83% of PD	From 2.85% to 27.43% of PD
Grade 3	From 24.93% to 100% of PD	From 12.83% to 100% of PD	From 27.43% to 100% of PD

<December 31, 2021>

Classification	Household loans	Corporate loans	SOHO
Grade 1	Less than or equal to 0.58% of PD	Less than or equal to 0.51% of PD	Less than or equal to 2.56% of PD
Grade 2	From 0.58% to 30.72% of PD	From 0.51% to 10.99% of PD	From 2.56% to 25.64% of PD
Grade 3	From 30.72% to 100% of PD	From 10.99% to 100% of PD	From 25.64% to 100% of PD

#### 8-3-7-2 Off-balance-sheet items

As of December 31, 2022 and 2021, exposures of off-balance-sheet items by internal credit rating in accordance with the loss allowance measurement method are as follows (Korean won in millions):

<December 31, 2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired off-balance-sheet items	Credit-impaired off-balance-sheet items	
Financial guarantee contracts				
Grade 1	300,233	60,616	–	360,849
Grade 2	59,553	22,248	–	81,801
Grade 3	–	5,070	4	5,074
Subtotal	359,786	87,934	4	447,724
Payment guarantees				
Grade 1	16,321,420	579,746	–	16,901,166
Grade 2	2,956,691	404,440	–	3,361,131
Grade 3	8	359,682	22,170	381,860
Subtotal	19,278,119	1,343,868	22,170	20,644,157
Commitments				
Grade 1	82,254,638	4,969,974	–	87,224,612
Grade 2	11,438,109	2,424,262	–	13,862,371
Grade 3	1,270	259,611	35,541	296,422
Subtotal	93,694,017	7,653,847	35,541	101,383,405
Total	113,331,922	9,085,649	57,715	122,475,286

<December 31, 2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired off-balance-sheet items	Credit-impaired off-balance-sheet items	
Financial guarantee contracts				
Grade 1	219,042	55,091	–	274,133
Grade 2	63,309	26,447	–	89,756
Grade 3	–	4,149	4	4,153
Subtotal	282,351	85,687	4	368,042
Payment guarantees				
Grade 1	11,774,377	1,075,730	–	12,850,107
Grade 2	2,740,338	588,344	–	3,328,682
Grade 3	8	297,838	26,073	323,919
Subtotal	14,514,723	1,961,912	26,073	16,502,708
Commitments				
Grade 1	72,077,603	4,980,300	–	77,057,903
Grade 2	10,512,662	2,931,905	–	13,444,567
Grade 3	7,526	282,149	26,788	316,463
Subtotal	82,597,791	8,194,354	26,788	90,818,933
Total	97,394,865	10,241,953	52,865	107,689,683

The Group categorizes off-balance-sheet items based on the nature of the borrowers as follows:

<December 31, 2022>

Classification	Household loans	Corporate loans	SOHO
Grade 1	Less than or equal to 0.49% of PD	Less than or equal to 0.58% of PD	Less than or equal to 2.85% of PD
Grade 2	From 0.49% to 24.93% of PD	From 0.58% to 12.83% of PD	From 2.85% to 27.43% of PD
Grade 3	From 24.93% to 100% of PD	From 12.83% to 100% of PD	From 27.43% to 100% of PD

<December 31, 2021>

Classification	Household loans	Corporate loans	SOHO
Grade 1	Less than or equal to 0.58% of PD	Less than or equal to 0.51% of PD	Less than or equal to 2.56% of PD
Grade 2	From 0.58% to 30.72% of PD	From 0.51% to 10.99% of PD	From 2.56% to 25.64% of PD
Grade 3	From 30.72% to 100% of PD	From 10.99% to 100% of PD	From 25.64% to 100% of PD

### 8-3-7-3 Debt securities

As of December 31, 2022 and 2021, gross carrying amounts of debt securities by internal credit rating in accordance to the loss allowance measurement method are as follows (Korean won in millions):

<December 31, 2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt	Credit-impaired debt	
Securities at amortized cost				
Grade 1	37,502,676	-	-	37,502,676
Grade 2	71,783	-	-	71,783
Grade 3	-	24,507	67,337	91,844
Subtotal	37,574,459	24,507	67,337	37,666,303
Financial assets at FVOCI				
Grade 1	32,135,336	-	-	32,135,336
Grade 2	14,740	-	-	14,740
Grade 3	-	-	-	-
Subtotal	32,150,076	-	-	32,150,076
Total	69,724,535	24,507	67,337	69,816,379

<December 31, 2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt	Credit-impaired debt	
Securities at amortized cost				
Grade 1	22,317,152	-	-	22,317,152
Grade 2	76,096	68,827	-	144,923
Grade 3	-	25,113	-	25,113
Subtotal	22,393,248	93,940	-	22,487,188
Financial assets at FVOCI				
Grade 1	34,322,778	-	-	34,322,778
Grade 2	-	-	-	-
Grade 3	-	-	-	-
Subtotal	34,322,778	-	-	34,322,778
Total	56,716,026	93,940	-	56,809,966

The credit ratings of debt securities based on the internal rating used by the Group and credit ratings by external credit rating agencies are as follows:

Classification	Internal credit rating	Domestic rating agencies	Overseas rating agencies	
			Moody's	Fitch
Grade 1	A1 ~ A7	AAA ~ BBB	Aaa ~ Ba2	AAA ~ BB
Grade 2	B1 ~ B6	BBB- ~ BB-	Ba3 ~ B3	BB- ~ B-
Grade 3	C1 ~ C3	B+ ~ CCC	Caa1 ~ C	CCC+ ~ C

### 8-3-8 Credit risk concentration

8-3-8-1 Credit risk concentration in each major industry as of December 31, 2022 and 2021, is as follows (Korean won in millions):

<December 31, 2022>

Classification	Industry	Amounts	Ratio (%)
On balance sheet items			
Due from banks	Financial services	39,183,885	100.0
	Financial services	14,814,380	80.5
	Manufacturing	1,038,021	5.6

Classification	Industry	Amounts	Ratio (%)
Financial assets at FVTPL	Public administration	2,196,846	11.9
	Construction	21,425	0.1
	Wholesale & retail	54,384	0.3
	Others	287,471	1.6
	Subtotal	18,412,527	100.0
Financial assets at FVOCI	Financial services	15,191,734	47.3
	Manufacturing	193,539	0.6
	Public administration	13,374,970	41.6
	Construction	55,070	0.2
	Wholesale & retail	117,243	0.4
	Others	3,217,520	9.9
	Subtotal	32,150,076	100.0
Securities at amortized cost	Financial services	19,193,033	51.0
	Manufacturing	234,257	0.6
	Public administration	9,639,915	25.6
	Construction	43,495	0.1
	Wholesale & retail	40,000	0.1
	Others	8,515,603	22.6
	Subtotal	37,666,303	100.0
Derivative assets used for hedging	Financial services	8,062	100.0
Loans	Household loans	132,540,938	39.9
	Corporate loans		
	Financial services	23,746,610	7.2
	Manufacturing	51,273,420	15.5
	Construction	5,381,239	1.6
	Wholesale & retail	23,518,055	7.1
	Real estate rental	44,535,435	13.4
	Others	50,500,923	15.2
	Deferred loan fees and expenses	356,338	0.1
	Subtotal	331,852,958	100.0
Merchant banking account assets	Financial services	817,368	17.6
	Real estate rental	1,007,544	21.8
	Others	2,806,449	60.6
	Subtotal	4,631,361	100.0
Total		463,905,172	
Off balance sheet items			
Financial guarantee contracts	Financial services	45,120	10.1
	Manufacturing	219,522	49.0
	Construction	6,643	1.5
	Wholesale & retail	58,813	13.1

Classification	Industry	Amounts	Ratio (%)
	Real estate rental	1,014	0.2
	Others	116,612	26.1
	Subtotal	447,724	100.0
Payment guarantees	Household	353,026	1.7
	Financial services	2,232,794	10.8
	Manufacturing	11,165,598	54.1
	Construction	1,600,908	7.8
	Wholesale & retail	3,664,550	17.8
	Real estate rental	168,777	0.8
	Others	1,458,504	7.0
	Subtotal	20,644,157	100.0
Commitments	Household	28,780,642	28.4
	Corporate commitment		
	Financial services	10,972,913	10.8
	Manufacturing	29,530,082	29.1
	Construction	2,001,940	2.0
	Wholesale & retail	9,501,969	9.4
	Real estate rental	3,736,829	3.7
	Others	16,859,030	16.6
	Subtotal	101,383,405	100.0
Merchant banking account - Commitment	Financial services	310,000	50.0
	Manufacturing	50,000	8.1
	Wholesale & retail	110,000	17.7
	Real estate rental	100,000	16.1
	Others	50,000	8.1
	Subtotal	620,000	100.0
Total		123,095,286	

<December 31, 2021>

Classification	Industry	Amounts	Ratio (%)
On balance sheet items			
Due from banks	Financial services	25,670,055	100.0
Financial assets at FVTPL	Financial services	8,828,745	81.6
	Manufacturing	580,959	5.4
	Public administration	1,138,512	10.5
	Construction	8,829	0.1
	Wholesale & retail	56,576	0.5
	Others	208,608	1.9
	Subtotal	10,822,229	100.0
	Financial services	17,122,535	49.9

Classification	Industry	Amounts	Ratio (%)
Financial assets at FVOCI	Manufacturing	205,355	0.6
	Public administration	13,147,848	38.3
	Construction	320,173	0.9
	Wholesale & retail	123,332	0.4
	Others	3,403,535	9.9
	Subtotal	34,322,778	100.0
Securities at amortized cost	Financial services	9,595,238	42.7
	Manufacturing	71,370	0.4
	Public administration	7,160,783	31.8
	Construction	164,833	0.7
	Others	5,494,964	24.4
	Subtotal	22,487,188	100.0
Derivative assets used for hedging	Financial services	68,670	100.0
Loans	Household loans	133,201,671	42.9
	Corporate loans		
	Financial services	21,566,489	6.9
	Manufacturing	44,054,422	14.2
	Construction	3,659,682	1.2
	Wholesale & retail	21,339,225	6.9
	Real estate rental	42,863,699	13.8
	Others	43,547,093	14.0
	Deferred loan fees and expenses	378,995	0.1
	Subtotal	310,611,276	100.0
Merchant banking account assets	Financial services	668,878	14.1
	Manufacturing	49,827	1.1
	Wholesale & retail	119,976	2.5
	Real estate rental	1,208,226	25.5
	Others	2,695,032	56.8
	Subtotal	4,741,939	100.0
Total		408,724,135	
Off balance sheet items			
Financial guarantee contracts	Financial services	46,299	12.6
	Manufacturing	170,742	46.4
	Construction	4,083	1.1
	Wholesale & retail	48,765	13.2
	Real estate rental	1,778	0.5
	Others	96,375	26.2
	Subtotal	368,042	100.0
	Household	19,369	0.1
	Financial services	871,139	5.3

Classification	Industry	Amounts	Ratio (%)
Payment guarantees	Manufacturing	9,410,325	57.0
	Construction	1,602,680	9.7
	Wholesale & retail	3,264,298	19.8
	Real estate rental	149,210	0.9
	Others	1,185,687	7.2
	Subtotal	16,502,708	100.0
Commitments	Household	26,777,184	29.5
	Corporate commitment		
	Financial services	9,716,634	10.7
	Manufacturing	26,621,403	29.3
	Construction	2,229,649	2.5
	Wholesale & retail	8,182,614	9.0
	Real estate rental	3,326,788	3.7
	Others	13,964,661	15.3
	Subtotal	90,818,933	100.0
Merchant banking account – Commitment	Financial services	460,000	58.2
	Manufacturing	50,000	6.3
	Wholesale & retail	130,000	16.5
	Real estate rental	100,000	12.7
	Others	50,000	6.3
	Subtotal	790,000	100.0
Total		108,479,683	



8-3-8-2 Details of the Bank's corporate loans by industry affected by the spread of COVID-19 as of December 31, 2022 and 2021, are as follows.

The effect on the industries may vary significantly based on future economic conditions. Household loan debtors subject to measurement of lifetime ECL as disclosed in Note 8-3-7-1, may be impacted by the spread of COVID-19. The effect may vary significantly based on future economic conditions.

(Korean won in millions):

<December 31, 2022>

Industry	Financial assets at FVTPL	Financial assets at FVOCI	Loans	Off-balance-sheet items	Total
Air transportation	-	-	580,356	430,460	1,010,816
Lodging	863	-	2,994,626	154,459	3,149,948
Food	-	-	5,467,561	182,859	5,650,420
Automobile	68,475	9,515	6,409,319	5,106,494	11,593,803
Petroleum refining	1,380	9,268	1,497,568	2,585,076	4,093,292
Travel	200	-	101,466	38,203	139,869
Total	70,918	18,783	17,050,896	8,497,551	25,638,148

<December 31, 2021>

Industry	Financial assets at FVTPL	Financial assets at FVOCI	Loans	Off-balance-sheet items	Total
Air transportation	1,945	-	559,030	279,853	840,828
Lodging	3,080	-	3,029,192	177,187	3,209,459
Food	33	-	5,050,157	179,597	5,229,787
Automobile	3,454	9,849	6,148,826	5,026,484	11,188,613
Petroleum refining	482	9,728	704,732	2,375,842	3,090,784
Travel	200	-	109,169	25,410	134,779
Total	9,194	19,577	15,601,106	8,064,373	23,694,250

8-3-8-3 Credit risk concentration in each major country as of December 31, 2022 and 2021 is as follows (Korean won in millions):

<December 31, 2022>

Classification	Country	Amounts	Ratio (%)
On balance sheet items			
Due from banks	Korea	25,196,900	64.3
	China	1,200,457	3.1
	United States	7,348,690	18.8
	Japan	872,357	2.2
	Singapore	27,443	0.1
	Hong Kong	87,291	0.2
	Others	4,450,747	11.3
	Subtotal	39,183,885	100.0
Financial assets at FVTPL	Korea	15,584,056	84.6
	China	666,650	3.6
	United States	70,691	0.4
	Japan	570	0.0
	Hong Kong	59,826	0.3
	Others	2,030,734	11.1
	Subtotal	18,412,527	100.0
Financial assets at FVOCI	Korea	27,628,411	85.9
	China	1,977,918	6.2
	United States	617,790	1.9
	Hong Kong	46,266	0.1
	Others	1,879,691	5.9
	Subtotal	32,150,076	100.0
Securities at amortized cost	Korea	35,125,996	93.3
	China	128,242	0.3
	United States	5,958	0.0
	Others	2,406,107	6.4
	Subtotal	37,666,303	100.0
Derivative assets used for hedging	Korea	8,062	100.0
	Korea	301,245,204	90.8
	China	6,047,574	1.8
	United States	4,638,052	1.4

Classification	Country	Amounts	Ratio (%)
Loans	Japan	1,855,875	0.6
	Hong Kong	2,536,360	0.8
	Others	15,173,555	4.5
	Deferred loan fees and expenses	356,338	0.1
	Subtotal	331,852,958	100.0
Merchant banking account assets	Korea	4,631,361	100.0
Total		463,905,172	
Off balance sheet items			
Financial guarantee contracts	Korea	447,724	100.0
Payment guarantees	Korea	15,270,693	74.0
	China	1,831,845	8.9
	United States	213,716	1.0
	Japan	23,331	0.1
	Others	3,304,572	16.0
	Subtotal	20,644,157	100.0
Commitments	Korea	96,532,123	95.2
	China	782,903	0.8
	United States	652,870	0.6
	Japan	199,854	0.2
	Others	3,215,655	3.2
	Subtotal	101,383,405	100.0
Merchant banking account –commitment	Korea	620,000	100.0
Total		123,095,286	

<December 31, 2021>

Classification	Country	Amounts	Ratio (%)
On balance sheet items			
Due from banks	Korea	18,763,463	73.1
	China	1,075,075	4.2
	United States	593,570	2.3
	Japan	1,727,822	6.7
	Singapore	39,474	0.2
	Hong Kong	58,383	0.2
	Others	3,412,268	13.3
	Subtotal	25,670,055	100.0

Classification	Country	Amounts	Ratio (%)
Financial assets at FVTPL	Korea	9,748,677	90.1
	China	1,967	0.0
	United States	3,941	0.0
	Japan	32,325	0.3
	Hong Kong	8,548	0.1
	Others	1,026,771	9.5
	Subtotal	10,822,229	100.0
Financial assets at FVOCI	Korea	29,406,615	85.7
	China	2,195,189	6.4
	United States	360,650	1.1
	Japan	13,460	0.0
	Hong Kong	69,187	0.2
	Others	2,277,677	6.6
	Subtotal	34,322,778	100.0
Securities at amortized cost	Korea	20,362,979	90.6
	China	131,144	0.6
	United States	497,558	2.2
	Others	1,495,507	6.6
	Subtotal	22,487,188	100.0
Derivative assets used for hedging	Korea	12,112	17.6
	Hong Kong	2,177	3.2
	Others	54,381	79.2
	Subtotal	68,670	100.0
Loans	Korea	283,213,387	91.2
	China	6,069,569	2.0
	United States	3,980,410	1.3
	Japan	1,840,661	0.6
	Hong Kong	2,339,276	0.8
	Others	12,788,978	4.0
	Deferred loan fees and expenses	378,995	0.1
	Subtotal	310,611,276	100.0
Merchant banking account assets	Korea	4,741,939	100.0
Total		408,724,135	
Off balance sheet items			
Financial guarantee contracts	Korea	368,042	100.0
	Korea	13,187,883	79.9

Classification	Country	Amounts	Ratio (%)
Payment guarantees	China	1,822,912	11.0
	United States	26,714	0.2
	Japan	29,602	0.2
	Others	1,435,597	8.7
	Subtotal	16,502,708	100.0
Commitments	Korea	86,794,414	95.6
	China	622,891	0.7
	United States	272,565	0.3
	Japan	272,926	0.3
	Others	2,856,137	3.1
	Subtotal	90,818,933	100.0
Merchant banking account –commitment	Korea	790,000	100.0
Total		108,479,633	

#### 8-4 Liquidity risk

The Group defines liquidity risk as the possibility of incurring losses due to a temporary shortage in funds caused by a maturity mismatch or an unexpected capital outlay leading to rise in interest, or sale of assets at a price below normal price.

##### 8-4-1 Measurement of liquidity risk

The Group maintains a limit management indicator to measure the liquidity coverage ratio, liquidity ratio in foreign currency, net stable funding ratio, foreign currency maturity mismatch ratio, and long-term access to financing ratio in foreign currency in accordance with the guidelines and standards of the Financial Supervisory Service. In addition, the Group maintains a monitoring indicator to measure unbalance of funding, etc., to manage the liquidity risk, and manages early warning indicators in order to identify worsening trends in early stage to respond in a timely manner.

#### 8-4-2 Management of liquidity risk

At an early stage, the Group identifies factors affecting liquidity in order to manage liquidity risks and has achieved an adequate level of liquidity via performing a systematic management.

The Group has the following basic principles for liquidity risk management:

- a. Set and comply with liquidity risk limits, and coordinate and manage early warning indicator to identify liquidity risk at early stage.
- b. Regularly execute an analysis of stress tests and prepare an emergency procurement plan in case of liquidity.
- c. Focus on maintaining a diversified portfolio in order to avoid excessive concentrations of risks.
- d. Evaluate and manage the effect of a large amount of money which is loaned out, invested, or procured on liquidity risks.

In order to manage liquidity risk, the Group builds internal control systems for each department. In order to comply with liquidity ratios and the maturity mismatch ratio set by the Financial Supervisory Service, the Comprehensive Risk Management department conducts daily monitoring. Liquidity risk status is reported to the Risk Management Operation Committee on a monthly basis and to the Risk Management Committee on a quarterly basis.

In order to maintain the liquidity risk management indicators to stay within the acceptable limits, the Treasury Department recommends the necessary measures in relation to the procurement and operation of the assets and liabilities traded in the capital market. In addition, stages of emergency planning have been established in order to respond to liquidity emergencies. The Planning and Management Department has established a portfolio management strategy based on the internal and external liquidity risk management requirements and on the outlook of the procurement and operating markets.

### 8-4-3 Analysis of contract maturity

#### 8-4-3-1 Analysis criteria

The details of the remaining contractual maturities of financial liabilities are analyzed by the earliest maturity date when the Group would be required to pay, based on the undiscounted cash outflows of the Group's financial liabilities.

In addition, financial liabilities at FVTPL and depository liabilities (payment on demand) are shown at fair value in the immediate payment column. All derivatives used for hedging are presented based on the net cash flows as all products are paid in the net amount. A contract maturity exists in payment guarantees that correspond to financial guarantees such as bond issuance and loan security provided by the Group, loan commitment and other credit granting. However, payment must be made immediately once the counterparty requests payment. As such they are included in the immediate payment column.

#### 8-4-3-2 The remaining contractual maturities of financial liabilities and off-balance-sheet items

The remaining contractual maturities of financial liabilities and off-balance sheet items as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	On demand	Less than 1 month	1~3 months	3 months ~ 1 year	1 year ~ 5 years	More than 5 years	Total
On-balance sheet items:							
Financial liabilities							
Financial liabilities at FVTPL	11,059,332	-	-	-	-	272,236	11,331,568
Deposits	155,430,882	34,916,185	42,648,480	115,044,070	16,453,108	1,473,256	365,965,981
Borrowings	4,025,607	6,361,471	3,143,744	4,393,807	4,053,189	518,789	22,496,607
Debentures	139	960,000	2,835,568	10,712,756	9,535,633	2,579,021	26,623,117
Derivative liabilities used for hedging instruments	-	9,543	1,709	33,127	63,048	(20,827)	86,600
Other financial liabilities	9,838,792	16,447,155	1,524	22,964	38,264	1,811	26,350,510
Merchant banking account liabilities	1,122,469	2,544,804	-	-	-	-	3,667,273
Total	181,477,221	61,239,158	48,631,025	130,206,724	30,143,242	4,824,286	456,521,656
Off-balance sheet items:							
Finance guarantee contracts	447,724	-	-	-	-	-	447,724
Payment guarantee	20,644,157	-	-	-	-	-	20,644,157
Commitment	101,383,405	-	-	-	-	-	101,383,405

Classification	On demand	Less than 1 month	1~3 months	3 months ~ 1 year	1 year ~ 5 years	More than 5 years	Total
Merchant banking account – commitment	620,000	-	-	-	-	-	620,000
Total	123,095,286	-	-	-	-	-	123,095,286

<December 31, 2021>

Classification	On demand	Less than 1 month	1~3 months	3 months ~ 1 year	1 year ~ 5 years	More than 5 years	Total
On-balance sheet items:							
Financial liabilities							
Financial liabilities at FVTPL	3,992,508	-	-	-	-	272,236	4,264,744
Deposits	165,533,923	20,700,790	33,296,656	91,983,758	9,541,542	2,063,196	323,119,865
Borrowings	3,653,917	6,090,821	1,434,291	3,334,225	2,585,329	449,091	17,547,674
Debentures	12,741	1,287,866	1,500,000	9,556,473	12,471,814	3,178,252	28,007,146
Derivative liabilities used for hedging instruments	-	351	956	3,603	29,867	(89,540)	(54,763)
Other financial liabilities	6,531,978	17,730,235	2,095	41,785	18,030	985	24,325,108
Merchant banking account liabilities	895,438	2,012,842	-	-	-	-	2,908,280
Total	180,620,505	47,822,905	36,233,998	104,919,844	24,646,582	5,874,220	400,118,054
Off-balance sheet items:							
Finance guarantee contracts	368,042	-	-	-	-	-	368,042
Payment guarantee	16,502,708	-	-	-	-	-	16,502,708
Commitment	90,818,933	-	-	-	-	-	90,818,933
Merchant banking account – commitment	790,000	-	-	-	-	-	790,000
Total	108,479,683	-	-	-	-	-	108,479,683

Assets available for use to execute unused loan commitments after redeeming all financial liabilities are cash and bank deposits, debt securities, equity securities, and loans. In addition, the Group is able to cope with unexpected cash outflows through the sale of securities and the additional sources of funding such as asset backed securitization.

#### 8-5 Market risk

Market risk is risk incurred in asset and liabilities subject to management based on the changes in market prices such as interest rate, stocks and foreign exchange, etc.



### 8-5-1 Market risk management

The purpose of market risk management is to manage the loss of assets and liabilities incurred due to changes in market variables such as interest rates, foreign exchanges and equity prices to remain within the allowable limits in order to ensure the profitability and stability.

### 8-5-2 Market risk management targets

Market risk management targets include marketable securities, foreign currency net positions, derivatives and other assets and liabilities with embedded market risks. The Group classifies exposures to market risk into either trading or non-trading positions and manages each of those portfolios separately.

### 8-5-3 Management of market risk related to trading position

#### 8-5-3-1 Trading position classification

The trading position includes interest rate positions, equity price positions, commodity, positions, and all foreign exchange positions:

- a. Financial instruments for the purpose of acquiring the profit incurred due to short-term trading or short-term price fluctuations.
- b. Financial instruments for the purpose of hedging risks.
- c. Financial instruments for the purpose of acquiring arbitrages.
- d. Financial instruments for the purpose of acquisition, mediation and market creation.
- e. Derivatives which are not applied to fair value hedge accounting under K-IFRS.
- f. All foreign exchange and gold positions in accordance with *Detailed Regulations on Supervision of Banking Business Appendix 3-2*.

#### 8-5-3-2 Management of the trading position limits

The Risk Management Committee divides capital, annual loss, exposure and

Value at Risk (VaR) limit in relation to market risks of the trading position by business unit (division) annually. Within the given limit, the Risk Management Operation Committee further subdivides the limits by business units (divisions) and desks. The Risk Management Group provides information necessary for deliberation and review by the Committee, reports trading limits and measures risks. The Middle Office performs mark-to-market measures, monitors trade violations and compliance with the limits.

The Middle Office establishes and complies with trading policy regulations, measures market risk for trading positions, and checks daily compliance within the acceptable limits for each risk. The office also conducts daily inspections of changes in the management exposure, compliance with the limit, post verification, and crisis analysis, and reports the results to the management team every day.

#### 8-5-3-3 Value at Risk

Value at Risk (VaR) is a method that manages and measures the degree of market risks of the trading position subject to exposure. VaR is a method of calculating the potential losses, where the adverse market fluctuation affects the current portfolio during the holding period under a set of confidence level.

The Group calculates the VaR by applying Historical Simulation Method for 10 days in the 99% confidence level. Furthermore, the stress test is performed to measure the size of the loss in order to account for the method's limited use in extreme cases.

#### 8-5-3-4 Back test

Back-testing is performed daily to secure the appropriateness of VaR model. When back-testing is performed, the Group compares the daily profits and losses with VaR of the previous day, examines the excess and reports the result of subsequent examinations separately to the director of the Risk Management Group. If any excess exists, the Group analyses the result of subsequent examination and reports to the Financial Supervisory Service and management.

#### 8-5-3-5 Details of market risk VaR

Details of market risk 10 Day VaR (including 10-Day Stressed VaR) by risk type as of December 31, 2022 and 2021 are summarized as follows

(Korean won in millions):

Classification	December 31, 2022	Average	Minimum	Maximum	December 31, 2021
Interest rates risk	56,845	42,105	19,665	127,062	31,506
Foreign exchange rates risk	424,728	340,097	286,400	441,244	363,066
Stock price risk	1,118	6,149	661	13,869	11,194
Option risk	1,804	2,319	1,305	3,308	2,278
Total risk (*)	442,757	347,830	295,620	456,868	356,249

(\*) The calculation of the total risk VaR takes into consideration the correlation and diversification effects between each risk factor and therefore, it is not the same as the total of VaRs.

#### 8-5-4 Management of market risk related to non-trading position

##### 8-5-4-1 Interest rate risk

Interest rate risk of non-trading position is a risk of losses in financial assets and liabilities with interest rates due to adverse changes in interest rates and is incurred when maturity structure does not match interest rate setting cycle of the related assets and liabilities. The Group manages the interest rate risks of non-trading position in order to maintain the stability of net interest income and net asset value based on changes in interest rates. The following is subject to the Group's management of interest rate risk:

- a. Financial assets with interest rates such as bank deposits, debt securities, and loans.
- b. Financial liabilities with interest rates, such as depository liabilities, borrowings, and debentures.
- c. Financial derivatives such as interest rate swaps.

Interest rate risk is calculated using the gap between interest-sensitive assets and liabilities. The interest rate risks measure the interest rate gap ratio as a

primary indicator;  $\Delta$ EVE,  $\Delta$ NII ratio and duration are used as secondary indicators. The Risk Management Committee and Risk Management Operation Committee establish the interest risk limits on an annual basis; the compliance thereof is reported to Risk Management Operation Committee as well as the Risk Management Committee on a monthly and quarterly basis, respectively.

Economic Value of Equity ( $\Delta$ EVE) refers to changes in the economic value of equity capital, indicating the effect of adverse changes in interest rates on the present value of assets, liabilities and others. As of December 31, 2022 and 2021, the Group's  $\Delta$ EVE is as follows (Korean won in millions):

Classification	December 31, 2022	Average	Min	Max	December 31, 2021
$\Delta$ EVE	2,106,981	1,478,804	1,081,494	2,168,761	1,008,935

$\Delta$ EVE calculates the maximum value compared to the default scenario by applying six interest rates (parallel rise, parallel fall, short-term fall, Long-term rise, short-term rise Long-term fall, short-term rise and short-term fall) after generating cash flows for the interest-sensitive assets and liabilities under the Banking Supervision Execution Schedule 9-1.

The Group is closely monitoring the output and market of various industry working groups that manage the transition to new interest rate indicators, including those announced by London Interbank Offered Rate ("LIBOR") regulators. A fundamental shift in interest rate indicators (hereinafter, 'interest rate indicator reform') is taking place around the world, and certain interbank lending rates (hereinafter 'IBORs') are being replaced by new risk-free interest rates. In particular, LIBOR, with the exception of overnight, 1-month, 3-month, 6-month, and 12-month USD LIBOR, all of the calculations were stopped as of December 31, 2021. 5-month USD LIBOR which was mentioned earlier will also be discontinued as of June 30, 2023.

In response to these changes, the Group selected the head of the finance market

as an executive officer, and established a plan for LIBOR conversion, which consists of workflows such as determination of alternative interest rates by affiliated TF, computer development, employee and customer communication management, risk management, tax, finance, legal, and accounting system establishment, etc. Progress according to the plan is reported to the Risk Management Committee on a regular basis and will be reported to the Board of Directors if necessary. The objective of the plan is to understand where exposure to LIBOR is occurring within the business, and to prepare and implement an action plan to facilitate the transition to alternative interest rate indicator. To manage the risks posed by such interest rate indicator reform, the Group manages and supervises interest rate indicator reform by evaluating the extent to which a contract references IBOR cash flows, whether these contracts need to be modified as a result of interest rate indicator reform, and how to manage communication with counterparties on interest rate indicator reform.

8-5-4-1-1 Details of the financial instruments that have not been converted to an alternative indicator interest rate as of December 31, 2022, are as follows.

(Korean won in millions):

Classification	Non-derivative financial assets(*1)			Non-derivative financial liabilities(*1)	Derivatives(*2)	Commitments and Finance guarantee contracts (*2)
	Financial assets measured at FVOCI	Financial assets measured at amortized costs	Total	Financial liabilities measured at amortized costs		
USD LIBOR(*3)	32,245	5,236,730	5,268,975	1,393,822	61,721,472	40,438

(\*1) The amount of non-derivative financial instruments is based on the book value.

(\*2) The amounts of derivatives and commitments and finance guarantee are based on the nominal amounts.

(\*3) For financial instruments related to USD-LIBOR, those with maturities before June 30, 2023 are excluded.

#### 8-5-4-2 Equity price risk

Equity price risk is a risk incurred when the fair value of equities results in changes in the level of related revenue and capital. Fluctuation in equity reflects the sensitivity of each equity. Effects on capital due to the fluctuation in equity price risk as of December 31, 2022 are as follows (Korean won in millions):

Classification	20% decline	10% decline	10% rise	20% rise
Equity price risk	(80,370)	(40,185)	40,185	80,370

#### 8-5-5 Currency risk concentration

Currency risk is a risk incurred when the value of a financial instrument or future cash flows fluctuates due to the changes in foreign exchange rates. Currency risk arises from the financial instruments expressed in currencies other than the functional currency. Currency risk does not arise from the financial instruments expressed in the functional currency or in non-monetary items. In order to establish the stop loss and limits, the Group manages the foreign exchange net exposure amount of the trading and non-trading positions by each currency.

Significant foreign currency assets and liabilities denominated in Korean won as of December 31, 2022 and 2021 are as follows (Korean won in millions):

#### <December 31, 2022>

Classification	USD	JPY	EUR	CNY	IDR	Others	Total
<b>Assets</b>							
Cash and due from bank	18,976,739	1,328,010	1,088,487	1,054,512	313,483	1,027,003	23,788,234
Financial assets at FVTPL	286,849	1,088	20,155	13,530	10,254	108,052	439,928
Financial assets at FVOCI	2,098,897	-	-	1,965,233	295,867	1,292,404	5,652,401
Securities at amortized cost	1,803,278	-	150,933	58,488	160,655	1,644,945	3,818,299
Loans	25,880,111	1,751,839	4,462,084	6,870,991	1,439,045	4,834,913	45,238,983
Others	3,251,413	166,333	340,695	333,508	49,281	433,891	4,575,121
<b>Total</b>	<b>52,297,287</b>	<b>3,247,270</b>	<b>6,062,354</b>	<b>10,296,262</b>	<b>2,268,585</b>	<b>9,341,208</b>	<b>83,512,966</b>
<b>Liabilities</b>							
Financial liabilities at FVTPL	250,577	4,653	20,461	17,168	-	109,451	402,310
Deposits	42,320,051	2,790,262	5,075,467	8,667,227	1,390,599	4,948,110	65,191,716
Borrowings	9,020,224	136,405	923,417	381,299	43,523	993,865	11,498,733

Classification	USD	JPY	EUR	CNY	IDR	Others	Total
Debentures	4,673,935	–	605,055	336,151	19,709	239,892	5,874,742
Derivative liabilities used for hedging	226,919	–	–	–	–	–	226,919
Others	5,527,525	190,884	673,383	501,354	38,205	304,711	7,236,062
Total	62,019,231	3,122,204	7,297,783	9,903,199	1,492,036	6,596,029	90,430,482

<December 31, 2021>

Classification	USD	JPY	EUR	CNY	IDR	Others	Total
Assets							
Cash and due from bank	8,817,426	1,916,714	441,143	751,699	206,960	943,380	13,077,322
Financial assets at FVTPL	115,497	1,476	5,865	1,999	122,071	22,151	269,059
Financial assets at FVOCI	2,323,006	–	–	2,183,286	282,334	1,430,360	6,218,986
Securities at amortized cost	1,547,755	–	90,376	119,932	199,405	1,195,406	3,152,874
Loans	23,673,488	1,906,806	3,845,868	6,853,211	1,449,769	3,904,500	41,633,642
Derivative assets used for hedging	49,388	–	–	–	–	–	49,388
Others	3,700,457	227,785	443,338	137,470	49,171	414,210	4,972,431
Total	40,227,017	4,052,781	4,826,590	10,047,597	2,309,710	7,910,007	69,373,702
Liabilities							
Financial liabilities at FVTPL	66,400	13	3,334	2,358	1,252	9,022	82,379
Deposits	31,218,821	2,336,792	4,067,928	7,694,570	1,397,598	4,888,044	51,603,753
Borrowings	5,165,212	128,189	1,170,876	435,611	3,882	709,508	7,613,278
Debentures	4,743,281	–	660,527	340,786	20,213	231,796	5,996,603
Derivative liabilities used for hedging	22,764	–	–	–	–	–	22,764
Others	4,985,848	503,140	1,169,409	232,058	18,638	341,772	7,250,865
Total	46,202,326	2,968,134	7,072,074	8,705,383	1,441,583	6,180,142	72,569,642

### 8-6 Operating risk

Operational risk is the risk of loss arising from system failure, human error, fraud or other external events. Risks related to legal or regulatory implications are identified as operational risks, but risks related to the strategy of damaging reputation are excluded from operational risks. Operational risk includes losses from internal operational problems and externalities, such as natural disasters, etc., and legal lawsuit, but excludes losses from policy decision errors or unmeasurable reputation damage, etc. Operational risk does not have a direct correlation with income and the Group needs to mitigate such risk through internal controls and insurance.

The Group calculates the operational risk capital on a consolidated basis. The Group uses the Advanced Measurement Approach (AMA) and the subsidiary uses the basic indicator to manage total capital. Length of the period in which the AMA is in use is one year with a 99.9% confidence level. The Group uses the loss distribution approach to measure nine different business units and seven operational risk event types. In addition, the Group combines the loss distribution of the internal and external data on losses with results of the scenario analysis to calculate the amount of capital and takes into account business environment and changes in the controls in order to adjust the amount of capital. The Group uses the basic indicator by applying specific coefficient to the average profit of three years.

The Risk Management Committee determines the operational risk limits. In case the excess limit is expected, the management plan for the excess of internal capital limits should be reported to the Risk Management Operation Committee, and if additional limits are given, an approval from the Risk Management Committee is needed beforehand. If under exceptional case where the limit is exceeded, an ex post facto approval from the Risk Management Committee is needed for the information on exceeded amount, post hoc results, as well as the subsequent plans.

#### 8-7 Capital management

The Group implements the BIS capital requirement system in order to secure the capital adequacy and comply with the supervisory regulations. By BIS (Bank for International Settlements) regulation, the Group keeps its BIS capital adequacy ratio (hereinafter BIS ratio) above the minimum BIS ratio for risk-weighted assets. In addition, the Group performs a capital adequacy assessment in order to cope with an unexpected loss.

Risk-weighted assets which are calculated per each risk type when calculating BIS ratio are as follows:



- a. Risk-weighted assets of credit risk are calculated using the Basic Internal Ratings-Based Approach (IRB). The Group uses the Standardized Approach (SA) for governments, banks, public institutes, overseas exposure, other assets, etc.
- b. The risk-weighted assets of the market risk are calculated by multiplying 12.5 to the amount of capital required by adding individual risks calculated by the standard model to the general risk calculated by the internal model.
- c. Risk-weighted assets of the operational risk are calculated by multiplying 12.5 to the amount of operational risk capital calculated by Advanced Measurement Approach (AMA) for the Bank and Basic Indicator Approach (BIA) for its subsidiaries.

Regulatory capital in accordance with the Regulations on the Supervision of Banking Business for calculating BIS ratio is as follows:

- a. Common equity: Capital incurred in connection with common stock issued to meet the eligible requirement, capital surplus and capital adjustments, retained earnings, accumulated other comprehensive income and other capital surplus, capital adjustments, non controlling interest on common shares issued by banks, affiliated subsidiaries, etc.
- b. Other basic capital: The capital securities to meet accreditation requirements of other basic capital, capital surplus associated with the issuance of the other basic capital, non-qualifying capital securities and the accredited amount as other basic capital of a non-controlling interest on equity securities issued by a subsidiary, etc.
- c. Supplementary capital: The capital securities to meet supplementary capital accreditation requirements, capital surplus associated with the issuance of supplementary capital, the accredited amount of supplementary capital of non-qualifying capital securities, the accredited amount as supplementary capital of a non-controlling interest on equity securities issued by a subsidiary, eligible allowance for possible loan losses on "normal" or "precautionary" category assets, allowance for possible loan losses in excess of the total amount of expected losses, etc.

Regulatory capital and BIS ratios as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Common equity		
Capital stock, capital surplus and capital adjustments incurred in connection with common stock issued that meets eligible requirements	5,359,508	5,359,508
Retained earnings	19,236,315	13,897,317
Accumulated other comprehensive income and other capital surplus, capital adjustments	4,556,672	8,699,684
Non-controlling interest on common shares issued by a bank, a consolidated subsidiary	67,750	66,234
Deduction	(1,343,267)	(1,105,748)
Subtotal	27,876,978	26,916,995
Other basic capital		
Equity securities satisfying the criteria of other basic capital	355,740	355,740
Amount accredited as supplementary capital of non-qualifying capital securities	–	42,750
Amount accredited as other basic capital of a non-controlling interest on equity securities issued by a subsidiary	14,518	14,193
Subtotal	370,258	412,683
Supplementary capital		
Equity securities satisfying the criteria of supplementary capital	2,993,076	3,029,520
Amount accredited as supplementary capital of non-qualifying capital securities	–	197,420
Amount accredited as supplementary capital of a non-controlling interest on equity securities issued by a subsidiary	19,358	20,064
Allowance for possible loan losses on assets categorized as "normal" or "precautionary"	273,899	236,047
Allowance for qualified bad debt exceeding the estimated total loss, etc.	136,038	–
Subtotal	3,422,371	3,483,051
Total	31,669,607	30,812,729
Risk-weighted assets		
Credit risk-weighted assets (*)	154,742,641	143,139,525
Operational risk-weighted assets	18,539,555	19,712,497
Market risk-weighted assets	17,119,721	15,881,479
Total	190,401,917	178,733,501
BIS capital ratio		
Total capital ratio	16.63%	17.24%
Common equity ratio	14.64%	15.06%
Basic capital ratio	14.84%	15.29%
Supplementary capital ratio	1.80%	1.95%

(\*) The equity below the lowest limit is presented in credit risk weighted assets.

#### 8-7-1 Internal capital adequacy assessment and management

Internal capital is the amount which allows for continuous operation of business while accounting for all risks. Internal capital is defined as the size of capital needed to cope with unexpected loss under a certain rate. The purpose of managing the internal capital is to compare the size of internal capital and available capital (Tier 1) and to serve as a measure of financial strength. Managing the internal capital also provides the amount of risk-adjusted capital and basic measurement. The indicators are composed of the risk appetite ratio as well as exhaustion ratio of foreign holding limits. The risk appetite ratio is an internal capital ratio established after taking into consideration a capital buffer in Tier 1 capital. The exhaustion ratio of foreign holding limits is a ratio used to measure the amount of internal capital used against the internal capital limits.

Internal capital limits are established after accounting for the size of current and subsequent Tier 1 capital as well as the components, quality, risk appetite, target credit rating, operational strategy and business plans. The Risk Committee determines risk types and the internal capital limits for the Group more than once a year. In the case where new operations or the expansion of operations result in the amount exceeding the internal capital limits, an approval from the Risk Committee is needed beforehand. If such a situation occurs in cases outlined as exceptions, an approval from the Risk Committee is needed for the information on exceeded amount, post hoc results, as well as the subsequent plans.

## 9. Operating segment information

### 9-1 General information

In order to set strategies to achieve goal and efficiently conduct performance assessment, the business sectors of the Group are divided by the operations as follows:

- a. Operating bank segment: It consists of two banks (Center (excluding Chungcheong) and Chungcheong). It offers household loan and deposit, retirement pension, company loan, deposit, etc.
- b. Capital market segment: This segmentation offers investment and operation of securities, buying and selling of public bonds, development and operation of derivatives.
- c. Other segment: It consists of the overseas business segment, headquarter supporting segment, trust segment, risk segment, audit segment and after-management segment.

### 9-2 Profit or loss by operating segment

9-2-1 Details of net income by operating segments for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Operating group segments		Finance sector and other sectors	Subtotal	Adjustments	Total
	Center (excluding Chungcheong)	Chungcheong				
Net interest income	6,640,213	723,768	254,246	7,618,227	(9,550)	7,608,677
Interest income	15,999,130	1,666,734	(4,289,059)	13,376,805	(29,574)	13,347,231
Interest expenses	(9,358,917)	(942,966)	4,543,305	(5,758,578)	20,024	(5,738,554)
Net fees and commission income	712,061	56,595	149,665	918,321	(324,709)	593,612
Net other operating profit (loss)	(2,250,918)	(284,247)	(2,365,215)	(4,900,380)	869,577	(4,030,803)
Net segment profit (loss)	5,101,356	496,116	(1,961,304)	3,636,168	535,318	4,171,486
Income tax expenses (benefit)	1,402,873	136,432	(530,983)	1,008,322	51,465	1,059,787
Net segment income (loss)	3,698,483	359,684	(1,430,321)	2,627,846	483,853	3,111,699

<2021>

Classification	Operating group segments		Finance sector and other sectors	Subtotal	Adjustments	Total
	Center (excluding Chungcheong)	Chungcheong				
Net interest income	4,334,984	454,483	1,372,235	6,161,702	(11,105)	6,150,597
Interest income	9,243,184	967,732	(1,416,287)	8,794,629	(7,965)	8,786,664
Interest expenses	(4,908,200)	(513,249)	2,788,522	(2,632,927)	(3,140)	(2,636,067)
Net fees and commission income	690,793	53,710	114,196	858,699	(305,905)	552,794
Net other operating profit (loss)	(2,129,703)	(259,100)	(1,873,123)	(4,261,926)	1,037,009	(3,224,917)
Net segment profit (loss)	2,896,074	249,093	(386,692)	2,758,475	719,999	3,478,474
Income tax expenses (benefit)	796,420	68,501	(105,790)	759,131	143,597	902,728
Net segment income (loss)	2,099,654	180,592	(280,902)	1,999,344	576,402	2,575,746

Operating segment information was rewritten due to changes in the organizational structure for the year ended December 31, 2022.

9-2-2 Revenue from external customers in each operating sector for the years ended December 31, 2022 and 2021 is as follows (Korean won in millions):

<2022>

Classification	Operating group segments		Finance sector and other sectors	Subtotal	Adjustments	Total
	Center (excluding Chungcheong)	Chungcheong				
Revenue or loss from external customers	6,752,514	686,539	731,761	8,170,814	(127,731)	8,043,083

<2021>

Classification	Operating group segments		Finance sector and other sectors	Subtotal	Adjustments	Total
	Center (excluding Chungcheong)	Chungcheong				
Revenue or loss from external customers	4,579,488	440,099	1,645,263	6,664,850	(30,010)	6,634,840

Operating segment information was rewritten due to changes in the organizational structure for the year ended December 31, 2022.

9-2-3 Significant non-cash transactions included in income of operating segments for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Operating group segments		Finance sector and other sectors	Subtotal	Adjustments	Total
	Center (excluding Chungcheong)	Chungcheong				
Earnings from equity method investments	-	-	189,013	189,013	-	189,013
Depreciation and amortization	(146,176)	(9,791)	(281,460)	(437,427)	(645)	(438,072)
Total	(146,176)	(9,791)	(92,447)	(248,414)	(645)	(249,059)

<2021>

Classification	Operating group segments		Finance sector and other sectors	Subtotal	Adjustments	Total
	Center (excluding Chungcheong)	Chungcheong				
Earnings from equity method investments	-	-	127,672	127,672	-	127,672
Depreciation and amortization	(140,972)	(9,349)	(274,959)	(425,280)	(1,146)	(426,426)
Total	(140,972)	(9,349)	(147,287)	(297,608)	(1,146)	(298,754)

Operating segment information has been restated according to changes in the organizational structure during this year.

### 9-3 Information about geographic region

Gain and loss by geographic region from the external customers for the years ended December 31, 2022 and 2021 and non-current assets by geographic region as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	Gain and Loss from external customers(*1)		Non-current assets(*2)	
	2022	2021	December 31, 2022	December 31, 2021
Domestic	7,160,295	5,864,036	3,278,506	2,968,061
Foreign				
Hong Kong	73,208	63,991	5,320	3,997
Singapore	60,878	47,155	1,943	1,563
United States	85,888	64,664	29,170	6,872
Japan	36,579	29,158	3,486	3,894
China	247,818	242,903	62,936	63,523
Indonesia	182,806	134,433	57,301	66,195
United Kingdom	6,537	5,975	2,601	2,626
Canada	49,635	31,952	11,274	10,809
Others	267,168	180,583	19,263	18,324
Subtotal	1,010,517	800,814	193,294	177,803
Adjustments	(127,729)	(30,010)	5,263	5,837
Total	8,043,083	6,634,840	3,477,063	3,151,701

(\*1) Gain and loss from external customers is divided into categories of domestic and overseas based on the locations of operating branches.

(\*2) Non-current assets consist of property and equipment, investment property, intangible asset and right-of-use assets and are divided into categories of domestic and overseas based on the location of assets.

## 10. Cash and due from banks

10-1 Cash and due from banks as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	Counterparty	December 31, 2022	December 31, 2021
Cash		1,903,972	2,023,877
Due from banks in Korean won			
Reserve deposits	Bank of Korea ("BOK")	15,928,268	13,014,317
Time deposits	Other banks	8,309	32,448
Other deposits	Other financial institutions	14,313	749
Subtotal		15,950,890	13,047,514
Due from banks in foreign currencies			
Due from other branches	BOK and other banks	11,590,380	7,814,895
Time deposits	ICICI and other banks	1,147,224	971,559
Other deposits	Other financial institutions	10,495,391	3,836,087
Subtotal		23,232,995	12,622,541
Total		41,087,857	27,693,932

10-2 Restricted balances in cash and due from banks as of December 31, 2022 and 2021 are summarized as follows (Korean won in millions):

Classification		December 31, 2022	December 31, 2021	Restriction
Due from banks in Korean won	Reserve deposits, etc.	15,928,268	13,014,317	Required under the <i>Banking Act</i> and other related regulations.
	Collective fund for Korea Stock Exchange	500	500	Pledge creation, etc.
	Subtotal	15,928,768	13,014,817	
Due from banks in foreign currencies	Due from other branches	9,596,192	5,883,929	Reserve deposits required under the <i>Banking Act</i> and other related regulations.
	Due from others	9,708,393	3,512,482	Deposits received for guarantees as margin for derivatives, etc.
	Subtotal	19,304,585	9,396,411	
Total		35,233,353	22,411,228	



## 11. Financial assets at FVTPL

11-1 Financial assets mandatorily measured at FVTPL as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Stocks	63,560	116,991
Government and public bonds	2,068,958	1,030,607
Financial bonds	563,364	428,518
Corporate bonds	912,624	914,785
Beneficiary certificates	2,733,298	2,291,667
Securities denominated in foreign currencies	1,786,106	1,498,313
Derivative assets held for trading	9,851,754	4,101,349
Other securities (investment, etc.)	468,357	365,459
Private convertible bonds	7,394	170,873
Total	18,455,415	10,918,562

11-2 As of December 31, 2022 and 2021, the Group does not hold any financial assets designated as at FVTPL.

## 12. Financial assets at FVOCI

12-1 As of December 31, 2022 and 2021, financial assets at FVOCI are as follows (Korean won in millions):

Classification	Counterparty	Fair value (Book value)	
		December 31, 2022	December 31, 2021
Stocks	Daewoo Shipbuilding & Marine Engineering Co., Ltd., etc.	714,863	801,357
Investments in partnership	Impact Finance Korea	105	130
Government and public bonds	Treasury bonds	7,264,139	7,116,345
	Housing bonds	2,383,681	2,391,403

Classification	Counterparty	Fair value (Book value)	
		December 31, 2022	December 31, 2021
	Other local bonds	226,842	274,858
	Subtotal	9,874,662	9,782,606
Finance bonds	Monetary stabilization securities	3,087,556	5,592,002
	Deposit bank bonds	1,128,701	1,243,143
	Small- and medium-sized business banking bonds	1,904,983	1,899,393
	Industrial financial bonds	3,423,699	3,016,231
	Export-import credit bonds	313,214	348,750
	Others	663,479	307,369
	Subtotal	10,521,632	12,406,888
Corporate bonds and others	State owned entity bonds	5,618,840	5,669,233
	Corporate bonds	461,899	245,063
	Others	20,640	–
	Subtotal	6,101,379	5,914,296
Other securities	Convertible bond (permanent)	89,131	80,331
Securities denominated in foreign currencies	Equity securities in foreign currencies	6,406	29,762
	Bonds in foreign currencies	5,652,403	6,218,988
	Subtotal	5,658,809	6,248,750
Total		32,960,581	35,234,358

12-2 As of December 31, 2022 and 2021, details of equity instruments included in financial assets at FVOCI are as follows (Korean won in millions):

Counterparty	Fair value (Book value)	
	December 31, 2022	December 31, 2021
UAMCO., Ltd.	188,721	176,628
Daewoo Shipbuilding & Marine Engineering Co., Ltd.	170,845	207,809
The Korea Securities Finance Corporation	115,513	120,334
National Happiness Fund	50,942	84,067
Taihan Cable & Solution Co., Ltd	46,131	54,925
STX Engine Co., Ltd.	45,207	23,877
Kookkrin Cable Investment Inc.	43,924	56,454
Korea Rating & Data	20,111	14,330
Hyundai Merchant Marine Co., Ltd.	17,387	23,924
Korea Asset Management Corporation	15,737	15,737
BC Card Co., Ltd.	10,604	9,784
HJC Inc.	9,817	8,271
Korea Money Brokerage Corp.	9,660	11,463
KG Dongbu Steel Co., Ltd.	8,387	20,908
Mirae Credit Information Co., Ltd.	7,324	5,944
Kumho Tire Co., Ltd.	6,748	11,190
DB Asset Management Co., Ltd.	5,713	5,698
CLS Group Holdings AG	5,038	4,761
POSCO Plantec Co., Ltd.	4,676	3,344
Daelim Construction Co.	2,509	4,586
Korea Securities Depository and others	25,511	47,546
Total	810,505	911,580

Equity instruments that are held by the purpose of strategic alliances, acquisition due to conversion from debt instruments and acquisition for access rights of systems and facilities are designated as measured at FVOCI.

12-3 Details of equity instruments included in the financial assets at FVOCI derecognized for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Counterparty	Fair value	Cumulative valuation gain (loss)	Reason for disposal
Sun jin Air & Tech.Co.,Ltd.	-	-	Free incineration of securities
SHINDONG DIGITECH CO., LTD	-	-	Free incineration of securities
IHSUNG ON CO.,LTD	-	-	Sale of securities convertible to equity securities
Hansol Papertech Co., Ltd.	1	1	Sale of securities convertible to equity securities
EMNI Co., Ltd	119	119	Sale of securities convertible to equity securities
Kolmarpharma Co., Ltd.	1	1	Sale of securities convertible to equity securities
Golden Bridge Asset Management Co., Ltd.	478	78	Sales due to decreased effectiveness of strategic investment through business alliances
DAEIL LEATHER CO., LTD.	40	40	Exercise of the right to claim for reimbursement rehabilitation plan
Olive Co., Ltd.	22	22	Exercise of call option according to the rehabilitation plan
ChinHung International, Inc.	3,280	(1,320)	Resolution of the board of directors
Taihan Cable & Solution Co., Ltd	1,174	1,174	Resolution of the board of directors
KG Dongbu Steel Co., Ltd.	20,980	(3,806)	Resolution of the board of directors
Total	26,095	(3,691)	

<2021>

Counterparty	Fair value	Cumulative valuation gain (loss)	Reason for disposal
BOO YOUNG FINANCE	793	293	Liquidation of a corporation
KIRIN industrial Co.,Ltd.	46	46	Exercise of the right to sell
Dauning Co.,Ltd.	148	148	Total sale in response to a private contract
KUMHO ELECTRIC CO.,LTD.	1,672	(1,353)	Resolution of the Board of Directors
Taihan Cable & Solution Co., Ltd	12,111	(28,391)	Resolution of the Board of Directors
ChinHung International, Inc.	12,700	(2,915)	Resolution of the Board of Directors
Hyundai Merchant Marine Co., Ltd.	146,293	110,760	Resolution of the Board of Directors
HANJIN HEAVY INDUSTRIES & CONSTRUCTION CO.,LTD.	40,747	(36,905)	Resolution of the Board of Directors
IHSUNG ON CO.,LTD	30	30	Sale of securities convertible to equity securities
Kolmarpharma Co.,Ltd.	308	308	Sale of securities convertible to equity securities
Koramco REITs Management and Trust Co., Ltd.	9,327	8,952	Sales due to decreased effectiveness of strategic investment through business alliances
K3I CO.,LTD.	458	228	Sales due to decreased effectiveness of strategic investment through business alliances
Daewoo Development Co., Ltd. -Engineering&Construction(1P)	609	-	Conversion to common stock
Hyunwoo industrial machinery Co.,Ltd	9	9	Exercise of the right to sell
Total	225,251	51,210	

12-4 There are no dividends recognized due to the equity instruments at FVOCI derecognized for the year ended December 31, 2022. Dividends recognized in relation to the equity instruments at FVOCI held as of December 31, 2022 amount to ₩8,287 million. Dividends recognized in relation to the equity instruments at FVOCI derecognized for the year ended December 31, 2021 amount to ₩133 million. Dividends recognized in relation to the equity instruments at FVOCI held as of December 31, 2021 amount to ₩7,230 million.

12-5 Changes in the loss allowance in relation to financial assets at FVOCI for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	11,298	-	-	11,298
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	-	-	-
Provision for ECL	2,516	-	-	2,516
Removed debt securities	(3,119)	-	-	(3,119)
Exchange rate fluctuation and others	455	-	-	455
Ending balance	11,150	-	-	11,150

<2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	10,009	-	-	10,009
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	-	-	-
Provision for ECL	5,133	-	-	5,133
Removed debt securities	(5,327)	-	-	(5,327)
Exchange rate fluctuation and others	1,483	-	-	1,483
Ending balance	11,298	-	-	11,298

12-6 Changes in the total book value in relation to financial assets at FVOCI for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	34,322,778	-	-	34,322,778
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	-	-	-
New financial assets executed or purchased	10,732,956	-	-	10,732,956
Removed debt securities	(12,330,139)	-	-	(12,330,139)
Exchange rate fluctuation and others	(575,519)	-	-	(575,519)
Ending balance	32,150,076	-	-	32,150,076

<2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	32,019,707	-	-	32,019,707
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	-	-	-
New financial assets executed or purchased	18,757,341	-	-	18,757,341
Removed debt securities	(16,507,219)	-	-	(16,507,219)
Exchange rate fluctuation and others	52,949	-	-	52,949
Ending balance	34,322,778	-	-	34,322,778

### 13. Securities at amortized cost

13-1 Details of securities measured at amortized cost as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	Category	December 31, 2022	December 31, 2021
Government and public bonds	Treasury bonds	3,177,898	2,390,365
	Housing bonds	3,585,127	3,052,061
	Other local government bonds	506,322	436,729
	Subtotal	7,269,347	5,879,155
Finance bonds	Monetary stabilization bond	649,822	-
	Deposit bank bonds	545,116	568,739
	Small- and medium-sized business banking bonds	2,299,454	320,049
	Industrial financial bonds	3,967,758	334,203
	Export-import credit bonds	429,681	130,146
	Subtotal	7,891,831	1,353,137
Corporate bonds and others	State owned entity bonds	18,316,697	11,958,377
	Corporate bonds	298,312	130,604
	Subtotal	18,615,009	12,088,981
Securities denominated in foreign currencies	Bonds in foreign currencies	3,890,116	3,165,915
Allowances		(82,816)	(19,304)
	Total	37,583,487	22,467,884

13-2 Profit or loss from disposal of securities at amortized cost for the years ended December 31, 2022 and 2021 is as follows (Korean won in millions):

<2022>

Classification	Face amount	Book value	Amount of profit from disposal
Corporate bonds and others	7,800	7,796	4

For the year ended December 31, 2022, the Group disposed portion of securities at amortized cost in response to the exercise of options (prepayment option) by the issuer of securities.

<2021>

Classification	Face amount	Book value	Amount of profit from disposal
Corporate bonds and others	28,900	28,880	20

For the year ended December 31, 2021, the Group disposed portion of securities at amortized cost in response to the exercise of options (prepayment option) by the issuer of securities.

13-3 Changes in the loss allowance in relation to securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	8,104	11,200	-	19,304
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	(8,470)	8,470	-
Provision for possible loan losses	5,525	3,007	58,941	67,473
Removed debt securities	(507)	-	-	(507)
Exchange rate fluctuation and others	(49)	36	(3,441)	(3,454)
Ending balance	13,073	5,773	63,970	82,816

<2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	9,641	-	-	9,641
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	(4,062)	4,062	-	-
Transfer to credit-impaired debt securities	-	-	-	-
Provision for possible loan losses	5,484	6,604	-	12,088
Removed debt securities	(1,561)	(245)	-	(1,806)
Exchange rate fluctuation and others	(1,398)	779	-	(619)
Ending balance	8,104	11,200	-	19,304



13-4 Changes in the carrying amounts of securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	22,393,248	93,940	-	22,487,188
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	-	-	-	-
Transfer to credit-impaired debt securities	-	(68,827)	68,827	-
New debt securities executed or purchased	16,705,097	-	-	16,705,097
Removed debt securities	(1,664,801)	-	-	(1,664,801)
Effective interest rate amortization	(23,576)	-	-	(23,576)
Exchange rate fluctuation and others	164,491	(605)	(1,491)	162,395
Ending balance	37,574,459	24,508	67,336	37,666,303

<2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired debt securities	Credit-impaired debt securities	
Beginning balance	17,112,496	-	-	17,112,496
Transfer to 12-month ECL	-	-	-	-
Transfer to non-credit-impaired debt securities	(112,583)	112,583	-	-
Transfer to credit-impaired debt securities	-	-	-	-
New debt securities executed or purchased	10,360,043	-	-	10,360,043
Removed debt securities	(5,127,492)	(28,354)	-	(5,155,846)
Effective interest rate amortization	18,429	-	-	18,429
Exchange rate fluctuation and others	142,355	9,711	-	152,066
Ending balance	22,393,248	93,940	-	22,487,188

#### 14. Pledged assets and acquired collaterals

14-1 Assets pledged as collateral as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	Category	December 31, 2022	December 31, 2021
Financial assets at FVTPL	Securities lent	412,491	49,906
	Others	390,251	–
	Subtotal	802,742	49,906
Financial assets at FVOCI	Intraday overdraft	272,486	277,657
	Securities lent	1,925,345	2,538,542
	BOK borrowings	1,240,667	829,803
	Foreign currency borrowing	–	203,962
	BOK payment	39,707	1,871,226
	Futures	374,368	202,927
	Customer RP	46	–
	Others	3,057,070	733,625
	Subtotal	6,909,689	6,657,742
Securities at amortized cost	Futures	10,000	100,047
	BOK payment	2,905,847	2,313,892
	Intraday overdraft	373,511	372,940
	BOK borrowings	4,719,163	4,311,268
	Foreign currency borrowing	484,066	910,097
	Securities lent	416,386	–
	Others	1,151,860	487,273
	Subtotal	10,060,833	8,495,517
Total		17,773,264	15,203,165

14-2 The fair value of collateral that is available for sale and repledge, irrespective of default as of December 31, 2022 and 2021 is as follows (Korean won in millions):

<December 31, 2022>

Classification	Fair value of collateral	Fair value of collateral sold or repledged
Securities	11,589,157	3,349,854

<December 31, 2021>

Classification	Fair value of collateral	Fair value of collateral sold or repledged
Securities	10,900,985	-

## 15. Loans

15-1 Loans as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Loans		
Loans in Korean won	274,028,231	257,200,957
Loans denominated in foreign currencies	32,053,751	28,249,074
Domestic import usance	4,546,348	4,188,861
Call loans	1,377,862	1,288,673
Bills purchased in Korean won	936,548	187,361
Bills purchased denominated in foreign currencies	5,289,419	5,799,103
Advance payments on payment guarantees	5,533	12,083
Bonds purchased under resale agreement	11,776,664	11,380,982

Classification	December 31, 2022	December 31, 2021
Privately placed corporate bonds	1,081,238	1,302,399
Others	401,026	622,788
Subtotal	331,496,620	310,232,281
Addition (deduction)		
Net deferred origination fees and costs	356,338	378,995
Allowance for loan losses	(1,666,617)	(1,433,568)
Subtotal	(1,310,279)	(1,054,573)
Total	330,186,341	309,177,708

15-2 Loans by customer as of December 31, 2022 and 2021 are listed as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Corporate loans		
Large-sized businesses	49,305,435	41,137,136
Small- and medium-sized businesses	129,742,648	118,139,802
Public sector and others	19,907,599	17,753,672
Household loans	132,540,938	133,201,671
Subtotal	331,496,620	310,232,281
Addition (deduction)		
Net deferred origination fees and costs	356,338	378,995
Allowance for loan losses	(1,666,617)	(1,433,568)
Subtotal	(1,310,279)	(1,054,573)
Total	330,186,341	309,177,708

15-3 Changes in allowance for loan losses for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired loan	Credit-impaired loan	
Beginning balance	405,354	668,520	359,694	1,433,568
Transfer to 12-month ECL	39,276	(37,361)	(1,915)	-
Transfer to non-credit-impaired loan	(37,102)	38,749	(1,647)	-
Transfer to credit-impaired loan	(8,994)	(28,298)	37,292	-
Provisions (reversal) of allowance for loan losses (*)	186,883	118,465	279,658	585,006
Write-offs	-	-	(428,658)	(428,658)
Disposal of non-performing loans, etc.	-	-	(31,429)	(31,429)
Recovering of loans written off	-	-	90,478	90,478
Exchange rate fluctuation and others	13,505	3,874	273	17,652
Ending balance	598,922	763,949	303,746	1,666,617

(\*) As of December 31, 2022, in order to expand loss absorption capacity in growing economic uncertainty worldwide, the Bank has accumulated an additional ₩50,387 million in allowances for financial support interest and deferred repayment loans for small- and medium-sized companies and small business owners affected by COVID-19. The additional allowances include ₩413 million in impact of Stage 2 classification of principal and interest deferred borrowers.

<2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit-impaired loan	Credit-impaired loan	
Beginning balance	445,050	488,173	371,719	1,304,942
Transfer to 12-month ECL	96,828	(49,769)	(47,059)	-
Transfer to non-credit-impaired loan	(59,066)	67,101	(8,035)	-
Transfer to credit-impaired loan	(8,560)	(39,663)	48,223	-
Provisions (reversal) of allowance for loan losses	(105,552)	216,130	120,735	231,313
Write-offs	-	-	(260,825)	(260,825)
Disposal of non-performing loans, etc.	-	-	(14,513)	(14,513)
Recovering of loans written off	-	-	151,553	151,553
Exchange rate fluctuation and others	36,654	(13,452)	(2,104)	21,098

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit -impaired loan	Credit- impaired loan	
Ending balance	405,354	668,520	359,694	1,433,568

15-4 Changes in the carrying amounts of loans for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit -impaired loan	Credit- impaired loan	
Beginning balance	270,511,534	38,818,581	902,166	310,232,281
Transfer to 12-month ECL	6,182,647	(6,172,422)	(10,225)	-
Transfer to non-credit-impaired loan	(12,624,851)	12,640,990	(16,139)	-
Transfer to credit-impaired loan	(470,765)	(409,106)	879,871	-
Net increase (decrease)	25,848,699	(3,728,086)	(251,415)	21,869,198
Write-offs	-	-	(428,658)	(428,658)
Disposal of non-performing loans	-	-	(176,201)	(176,201)
Ending balance	289,447,264	41,149,957	899,399	331,496,620

<2021>

Classification	12-month ECL	Lifetime ECL		Total
		Non-credit -impaired loan	Credit- impaired loan	
Beginning balance	255,680,114	28,843,049	1,013,332	285,536,495
Transfer to 12-month ECL	4,023,151	(3,965,609)	(57,542)	-
Transfer to non-credit-impaired loan	(17,563,839)	17,610,433	(46,594)	-
Transfer to credit-impaired loan	(369,805)	(375,621)	745,426	-
Net increase (decrease)	28,741,913	(3,293,671)	(299,997)	25,148,245
Write-offs	-	-	(260,825)	(260,825)
Disposal of non-performing loans	-	-	(191,634)	(191,634)
Ending balance	270,511,534	38,818,581	902,166	310,232,281

15-5 Amortized costs before changes in contractual cash flows of loans (contractual cash flows changed for the years ended December 31, 2022 and 2021) for which allowance for loan losses has been at the lifetime ECL and net loss recognized based on the changes in contractual cash flows are as follows (Korean won in millions):

Classification	2022	2021
Amortized cost before change	81,226	83,324
Net gain (loss) due to change	(835)	(941)

15-6 Loans whose contractual cash flows changed for which the measurement of allowance for loan losses changed from the lifetime ECL to 12-month ECL on initial recognition during the reporting period are ₩1,355 million as of December 31, 2022 and ₩17,538 million as of December 31, 2021.

15-7 The contractual non-recoverable amount of the loans that has been fully written off as of the end of the reporting period but is still trying to recover is ₩4,090,534 million and ₩4,154,200 million as of December 31, 2022 and 2021.

## 16. Derivative instruments

16-1 Details of amounts of the unsettled derivative contract and fair value of derivatives held by the Group as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Amounts of unsettled contract		Accumulated valuation gain (loss)			
	December 31, 2022	December 31, 2021	December 31, 2022		December 31, 2021	
			Assets	Liabilities	Assets	Liabilities
Currency						
Forward	224,433,459	186,580,115	5,673,931	5,229,138	2,505,528	1,813,422
Swap	87,834,023	81,928,667	3,418,688	4,549,082	1,293,491	1,724,641
Options purchased	664,573	452,589	3,742	-	2,344	-
Options sold	635,883	443,674	-	3,267	-	1,564
Futures	1,411,202	1,347,961	-	-	-	-
Subtotal	314,979,140	270,753,006	9,096,361	9,781,487	3,801,363	3,539,627
Interest						
Forward	2,858,744	537,163	217,225	101,410	8,725	2,541
Swap	158,972,394	115,755,021	551,422	826,106	301,485	288,892
Options purchased	66,150	201,966	-	-	424	-
Options sold	765,000	905,000	-	9,458	-	13,354
Futures	857,539	253,090	-	-	-	-
Subtotal	163,519,827	117,652,240	768,647	936,974	310,634	304,787
Stock						
Forward	524	654	286	-	184	-
Swap	72,499	-	578	1,827	-	-
Options purchased	50,219	64,119	213	-	478	-
Options sold	263,304	140,380	-	22,289	-	5,049
Futures	21,681	3,943	-	-	-	-
Subtotal	408,227	209,096	1,077	24,116	662	5,049
Others						
Credit spread adjustment	-	-	(14,331)	-	(11,310)	-
Total	478,907,194	388,614,342	9,851,754	10,742,577	4,101,349	3,849,463



16-2 Details of valuation gain (loss) of the derivatives for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022		2021	
	Valuation gain	Valuation loss	Valuation gain	Valuation loss
Currency:				
Forward	5,218,502	5,186,622	2,581,142	1,804,717
Swap	2,842,829	3,554,679	2,345,729	3,104,380
Options purchased	3,976	-	4,373	-
Options sold	-	1,377	-	1,955
Subtotal	8,065,307	8,742,678	4,931,244	4,911,052
Interest:				
Forward	208,726	99,096	8,725	2,541
Swap	698,094	977,477	290,564	489,649
Options purchased	1,579	-	4,500	-
Options sold	-	4,195	-	299
Subtotal	908,399	1,080,768	303,789	492,489
Stock:				
Forward	171	-	-	34
Swap	269	2,415	-	-
Options purchased	562	-	2,394	-
Options sold	2,331	20,739	-	1,978
Subtotal	3,333	23,154	2,394	2,012
Others:				
Credit spread adjustment	-	3,020	1,959	-
Total	8,977,039	9,849,620	5,239,386	5,405,553

## 16-3 Fair value hedge

16-3-1 Details of items subject to fair value hedge as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Hedged items	Book Value		Accumulated fair value adjustments		Change in fair value
		Assets	Liabilities	Assets	Liabilities	
Application of hedge accounting						
Interest	Depository liabilities in Korean won	-	187,705	-	(62,295)	46,117
	Depository liabilities denominated in foreign currencies	-	115,865	-	(23,538)	24,898
	Finance debentures denominated in Korean won	-	93,262	-	(36,738)	26,241
	Finance debentures denominated in foreign currencies	-	2,773,530	-	(204,625)	228,870
	Subtotal	-	3,170,362	-	(327,196)	326,126
Currency and interest	Finance debentures denominated in foreign currencies	-	1,080,816	-	(70,161)	61,499
Total		-	4,251,178	-	(397,357)	387,625

<December 31, 2021>

Classification	Hedged items	Book Value		Accumulated fair value adjustments		Change in fair value
		Assets	Liabilities	Assets	Liabilities	
Application of hedge accounting						
Interest	Depository liabilities in Korean won	-	233,822	-	(16,178)	12,659
	Depository liabilities denominated in foreign currencies	-	131,765	-	1,360	3,899
	Finance debentures denominated in Korean won	-	119,503	-	(10,497)	6,345
	Finance debentures denominated in foreign currencies	-	2,455,251	-	24,976	76,182
	Subtotal	-	2,940,341	-	(339)	99,085
Currency	Financial assets measured at FVOCI	23,710	-	18,100	-	19,500
Currency and interest	Finance debentures denominated in foreign currencies	-	1,129,830	-	(8,662)	17,439
Total		23,710	4,070,171	18,100	(9,001)	136,024

As of December 31, 2022 and 2021, interest rate swaps or currency swaps are designated as hedging instrument and the fair value hedge accounting is applied in order to hedge fair value fluctuation risk incurred due to interest rate fluctuations and foreign exchange rate fluctuations in finance debentures issued and depository liabilities.

16-3-2 Details of derivative instruments for hedge fair value fluctuation risk held by the Group as of December 31, 2022 and 2021, are as follows:

(Korean won in millions):

<December 31, 2022>

Classification	Unsettled contract amounts	Net valuation gain (loss)	Accumulated valuation gain or loss	
			Assets	Liabilities
Currency				
Currency swaps	1,150,977	(129,660)	8,062	180,193
Interest				
Interest rate swaps	3,497,557	(325,171)	-	325,952
Total	4,648,534	(454,831)	8,062	506,145

<December 31, 2021>

Classification	Unsettled contract amounts	Net valuation gain (loss)	Accumulated valuation gain or loss	
			Assets	Liabilities
Currency				
Currency swaps	1,138,492	(64,377)	19,282	61,752
Interest				
Interest rate swaps	2,940,680	(99,230)	49,388	49,440
Total	4,079,172	(163,607)	68,670	111,192

16-3-3 Fair values of non-derivative financial instruments designated as fair value hedging instrument as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Debentures denominated in foreign currencies	-	237,100

16-3-4 Ineffective portion of gain or loss on derivatives designated as hedging instrument for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	Ineffective portion of the hedge recognized in profit or loss for the period	
	2022	2021
Currency	(19)	(11)
Interest	(204)	(146)
Total	(223)	(157)

#### 16-4 Hedges of net investment in foreign operations

16-4-1 Details of hedges of net investment in foreign operations as of December 31, 2022 and 2021, and fair value fluctuation for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Fair value fluctuation	Other comprehensive income of hedges of net investment in foreign operations
Currency (Exchange rate risk)	28,241	(49,823)

<December 31, 2021>

Classification	Fair value fluctuation	Other comprehensive income of hedges of net investment in foreign operations
Currency (Exchange rate risk)	56,259	(29,294)

16-4-2 Details of fair values of financial instruments designated as hedging instrument of net investment of foreign operations as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Book value		Fair value fluctuation	Changes in fair value recognized in other comprehensive income	Ineffective portion of the hedge recognized as current profit or loss
	Assets	Liabilities			
Currency forward	-	10,273	(10,273)	(7,448)	-
Borrowings denominated in foreign currencies	-	170,314	6,559	4,755	-
Debentures denominated in foreign currencies	-	1,131,686	(24,527)	(17,782)	-
Total	-	1,312,273	(28,241)	(20,475)	-

<December 31, 2021>

Classification	Book value		Fair value fluctuation	Changes in fair value recognized in other comprehensive income	Ineffective portion of the hedge recognized as current profit or loss
	Assets	Liabilities			
Debentures denominated in foreign currencies	-	779,488	(56,259)	(40,788)	-

16-5 Average hedging ratios of future nominal cash flows by the type of risk hedge as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	1 year	2 years	3 years	4 years	5 years	More than 5 years	Total
Fair value hedge							
Nominal amounts of items subject to hedge	494,058	1,375,348	-	1,435,980	760,380	582,768	4,648,534
Nominal amounts of hedging instrument	494,058	1,375,348	-	1,435,980	760,380	582,768	4,648,534
Average hedging ratio	100.18%	100.36%	-	99.95%	102.32%	100.00%	100.15%
Hedge of net investment in foreign operations							
Nominal amounts of items subject to hedge	511,355	576,205	-	224,713	-	-	1,312,273
Nominal amounts of hedging instrument	511,355	576,205	-	224,713	-	-	1,312,273
Average hedging ratio	99.42%	100.00%	-	100.00%	-	-	99.78%

<December 31, 2021>

Classification	1 year	2 years	3 years	4 years	5 years	More than 5 years	Total
Fair value hedge							
Nominal amounts of items subject to hedge	355,650	467,116	1,304,256	-	1,382,470	806,780	4,316,272
Nominal amounts of hedging instrument	355,650	467,116	1,304,256	-	1,382,470	806,780	4,316,272
Average hedging ratio	100.00%	99.75%	99.66%	-	99.90%	100.00%	99.90%
Hedge of net investment in foreign operations							
Nominal amounts of items subject to hedge	-	-	-	-	-	779,488	779,488
Nominal amounts of hedging instrument	-	-	-	-	-	779,488	779,488
Average hedging ratio	-	-	-	-	-	100.00%	100.00%

## 16-6 Hedging relationships affected by IBOR Reform

16-6-1 The exposure to hedging relationships due to the Group's LIBOR Reform as of December 31, 2022 and 2021 are as follows (Korean won in millions):

The USD LIBOR interest rate will be replaced by a Secure Overnight Financing Rate (SOFR) based on actual transactions. And the KRW certificate of deposit ("CD") rate can be replaced by the RFR (Risk Free Rate) in case of an emergency in the long run. In this hedging relationship, the Group assumed that the spread based on a SOFR would be similar to that included in the interest rate swap used as a hedging instrument and no other changes were assumed.

<December 31, 2022>

Interest index	Currency	Book value of non-derivative financial liabilities	Nominal value of hedging instruments
KRW 91CD	KRW	280,967	380,000
USD 3M LIBOR	USD	3,257,616	3,508,155

<December 31, 2021>

Interest index	Currency	Book value of non-derivative financial liabilities	Nominal value of hedging instruments
KRW 91CD	KRW	353,324	380,000
USD 3M LIBOR	USD	3,716,846	3,699,172

16-6-2 The nominal amount and weighted-average maturity of derivatives that will be affected by the IBOR reform for transition to an alternative index interest rate basis as of December 31, 2022 and 2021, are as follows,

(Korean won in millions, Year):

<December 31, 2022>

Interest index	Currency	Nominal value of derivatives	Weighted average of remaining life
KRW 91CD	KRW	380,000	16.74
USD 3M LIBOR	USD	3,508,155	3.48

<December 31, 2021>

Interest index	Currency	Nominal value of derivatives	Weighted average of remaining life
KRW 91CD	KRW	380,000	17.74
USD 3M LIBOR	USD	3,699,172	4.03



## 17. Investments in associates and a joint venture

17-1 Details of investments in associates and a joint venture as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	Type	Country	Industry	Reporting date	Ownership (%)		Book value	
					December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Bank of Jilin (*1)	Associates	China	Bank	2022.12.31	11.92	11.92	877,491	853,878
Hana Equity Partners I, L.P.	Associates	Korea	Other financial services	2022.12.31	29.97	29.97	95	221
Korea Credit Bureau (*1)	Associates	Korea	Credit investigation and Collection agency	2022.12.31	9.00	9.00	5,503	8,876
Templeton Hana Asset Management Co., Ltd. (*1)	Associates	Korea	Asset Management Company	2022.12.31	9.90	9.90	1,387	1,271
CM International financing leases	Associates	China	Other financial services	2022.12.31	25.00	25.00	1,629	2,150
Beijing Langzi Asset Management Co., Ltd. (*1)	Associates	China	Credit financial business	2022.12.31	12.89	12.89	56,805	56,830
Somesevit Corporation (*1)(*2)	Associates	Korea	Construction	2022.12.31	1.92	1.92	-	-
Midan City Development Co., Ltd. (*1)(*2)(*3)	Associates	Korea	Construction	2018.03.31	2.17	2.17	-	-
Company K Startup Winwin Fund	Associates	Korea	Investment	2022.12.31	23.81	23.81	2,355	5,214
BSK-6 Patent Technology Investment Association	Associates	Korea	Investment	2022.12.31	20.00	20.00	2,748	2,559
Hana - KVIC Unicorn Fund of Funds (*4)	Associates	Korea	Investment	2022.12.31	90.91	90.91	98,244	72,529
Harvest Private Equity Fund Specializing in Start-Up and Venture Business	Associates	Korea	Investment	2022.12.31	27.30	27.30	2,805	2,877
Bank for Investment and Development of Vietnam ("BIDV") (*1)	Associates	Vietnam	Bank	2022.12.31	15.00	15.00	1,641,419	1,441,797
Hana Micro Finance., Ltd.	Associates	Myanmar	Other financial services	2022.12.31	25.00	25.00	18,199	19,056
HORIZON PRIVATE EQUITY FUND	Associates	Korea	Investment	2022.12.31	22.40	22.40	49,491	65,098
Hana Ventures No. 7 New Technology Business Investment Association	Associates	Korea	Investment	2022.12.31	27.27	27.27	1,434	1,465
TossBank Corp.(*1)	Associates	Korea	Bank	2022.12.31	8.62	10.00	87,566	49,125
Sinsa Station area Complex Development PFV Co., Ltd.(*1)	Associates	Korea	Other development supply	2022.12.31	9.00	9.00	365	451
Hana-Capstone AI Platform Fund	Associates	Korea	Other financial services	2022.12.31	36.54	36.54	29,287	14,836
Taurus Cloud Fund	Associates	Korea	Other financial services	2022.12.31	27.06	27.06	9,416	9,391
Cheongna Medipolis PFV Co., Ltd. (*1)	Associates	Korea	Real estate development and supply	2022.12.31	11.24	11.24	1,712	2,598
NPX-Welcome Metaverse Contents Fund	Associates	Korea	Other financial services	2022.12.31	25.00	25.00	978	1,000
Hana Beyond Finance Fund	Associates	Korea	Other financial services	2022.12.31	26.67	-	23,507	-
All Together Korea Fund 5 (*4)	Associates	Korea	Other financial services	2022.12.31	100.00	100.00	10,245	10,070
Hana-New Deal K-Growth fund (*4)	Associates	Korea	Other financial services	2022.12.31	90.00	90.00	24,029	1,778
Defense Technology Innovation Private Investment Trust (*4)	Associates	Korea	Other financial services	2022.12.31	98.33	-	2,948	-
SHINJIN INTERNATIONAL COOPERATION (*2)(*3)(*5)	Associates	Korea	Manufacturing	2021.12.31	24.20	24.20	-	-
KG FASHION CO., LTD. (*2)(*3)(*5)	Associates	Korea	Wholesale and retail	2021.12.31	20.55	20.55	-	-
PT Sinarmas Hana Finance (*6)	Joint venture	Indonesia	Financial services	2022.12.31	30.00	30.00	8,630	7,900
Total							2,958,288	2,630,970

(\*1) These companies were included in investment in associates because the

Group has significant influence over them by participating in the Board of Directors' meeting, the decision-making organization.

(\*2) As of December 31, 2022, the application of the equity method has been suspended because the balance of the investment account is below "0".

(\*3) As the separate financial statements as of December 31, 2022 could not be obtained, the most recent separate financial statements available from the closing date were used. The effect of significant transactions or events incurred between the end of the reporting period of the associate and that of the Group was reviewed and reflected.

(\*4) As of December 31, 2022, the Group classified the investee as an associate investment stock because it could not exercise control over the investee.

(\*5) After the corporate rehabilitation process ended, the Group reclassified the investments in associates from financial assets measured at FVOCI.

(\*6) Since more than one investor must act together to direct related activities, the equity method was applied because the Group could not control the investee individually.

17-2 Condensed consolidated financial statements as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Assets	Liabilities	Equity	Operating income	Net income (loss)	Total comprehensive income (loss)	Dividends received
Bank of Jilin	99,356,297	92,088,037	7,268,260	4,248,227	409,505	362,211	-
Hana Equity Partners I, L.P.	321	5	316	2	(21)	(21)	120
Korea Credit Bureau	155,165	100,065	55,100	144,907	13,809	13,809	-
Templeon Hana Asset Management Co., Ltd.	18,839	4,824	14,015	8,129	2,483	2,483	198
CM International financing leases	1,660,081	1,638,839	21,242	27,978	(36,973)	(42,075)	-
Beijing Langzi Asset Management Co., Ltd.	481,800	34,098	447,702	47,954	23,524	23,951	1,708
Somesevit Corporation	40,850	120,360	(79,510)	6,042	(3,572)	(3,572)	-
Midan City Development Co., Ltd.	662,631	686,733	(24,102)	-	-	-	-
Company K Startup Winwin Fund	9,899	3	9,896	25,224	18,769	18,571	2,240
BSK-6 Patent Technology Investment Association	14,525	785	13,740	1,180	876	2,579	-
Hana - KVIC Unicorn Fund of Funds	108,429	361	108,068	1,440	1,077	612	-
Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	10,279	-	10,279	58	(166)	(166)	27
BIDV (*)	114,300,714	108,381,237	5,919,477	8,100,357	1,071,496	1,008,754	-
Hana Micro Finance., Ltd.	200,074	121,933	78,141	36,447	5,255	(3,354)	-
HORIZON PRIVATE EQUITY FUND	226,400	5,453	220,947	37	(13,684)	(13,684)	8,045
Hana Ventures No. 7 New Technology Business Investment Association	5,285	28	5,257	3	(113)	(113)	-
TossBank Corp.	23,398,698	22,432,155	966,543	755,905	(244,515)	(368,435)	-
Sinsa Station area Complex Development PFV Co., Ltd.	233,652	229,606	4,046	148	(956)	(956)	-
Hana-Capstone AI Platform Fund	80,570	420	80,150	142	(1,502)	(1,502)	-
Taurus Cloud Fund	34,675	3	34,672	-	(171)	(171)	-
Cheongna Medipolis PFV Co., Ltd	15,373	138	15,235	-	(7,886)	(7,886)	-
NPX-Welcome Metaverse Contents fund	3,911	-	3,911	1	(89)	(89)	-
Hana Beyond Finance Fund	88,908	756	88,152	229	(1,848)	(1,848)	-
All Together Korea Fund 5	10,246	1	10,245	149	144	144	62
Hana-New Deal K-Growth fund	27,024	72	26,952	85	(21)	(21)	-
Defense Technology Innovation Private Investment Trust	3,002	5	2,997	2	(3)	(3)	-
SHINJIN INTERNATIONAL CORPORATION	138	9,436	(9,298)	221	34	34	-
KG FASHION CO., LTD.	3,347	3,050	297	2,812	(262)	(262)	-
PT Sinarmas Hana Finance	113,883	85,812	28,071	17,664	2,496	2,496	-

(\*) This is financial information that reflects Purchased Price Allocation (PPA) valuation and GAAP adjustments in the financial information of the Bank for Investment and Development of Vietnam (BIDV).

<December 31, 2021>

Classification	Assets	Liabilities	Equity	Operating income	Net income (loss)	Total comprehensive income (loss)	Dividends received
Bank of Jilin	88,184,828	81,116,728	7,068,100	3,702,700	371,737	426,308	-
Hana Equity Partners I, L.P	742	6	736	8	(1)	(1)	4,689
Korea Credit Bureau	113,859	21,284	92,575	127,751	20,486	20,486	90
Templeton Hana Asset Management Co., Ltd.	16,414	3,569	12,845	6,954	2,164	2,164	990
CM International financing leases	2,007,878	1,951,718	56,160	73,361	(56,735)	(51,738)	-
Beijing Langzi Asset Management Co.,Ltd.	474,244	26,676	447,568	28,444	32,066	32,366	1,344
Somesevit Corporation	44,567	120,510	(75,943)	4,557	(5,839)	(5,839)	-
Midan City Development Co., Ltd.	662,631	686,733	(24,102)	-	-	-	-
Company K Startup Winwin Fund	22,160	257	21,903	747	484	116	-
BSK-6 Patent Technology Investment Association	13,414	619	12,795	7	(303)	(303)	-
Hana - KVIC Unicorn Fund of Funds	79,960	179	79,781	59	(340)	(340)	-
Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	10,545	-	10,545	109	(115)	(115)	27
BIDV (*)	92,956,813	87,629,602	5,327,211	6,348,533	800,354	810,114	6,262
Hana Micro Finance., Ltd.	253,452	171,957	81,495	63,461	1,984	(13,313)	-
HORIZON PRIVATE EQUITY FUND	292,739	2,743	289,996	-	(3,002)	(3,002)	-
Hana Ventures No. 7 New Technology Business Investment Association	5,370	-	5,370	1	(115)	(115)	-
TossBank Corp.	14,348,062	13,906,113	441,949	37,066	(81,653)	(77,900)	-
All Together Korea Fund 5	10,072	2	10,070	53	47	47	-
Sinsa Station area Complex Development PFV Co., Ltd.	215,351	210,345	5,006	30	6	6	-
Hana-Capstone AI Platform Fund	40,967	365	40,602	43	(448)	(448)	-
Hana-New Deal K-Growth fund	2,007	34	1,973	3	(28)	(28)	-
Taurus Cloud Fund	34,737	37	34,700	-	(37)	(37)	-
Cheongna Medipolis PFV Co., Ltd	23,297	176	23,121	-	(6,206)	(6,206)	-
NPX-Welcome Metaverse Contents fund	4,000	-	4,000	-	-	-	-
SHINJIN INTERNATIONAL COPORATION	155	9,612	(9,457)	354	(318)	(318)	-
Inhee.Co,Ltd	2,470	1,452	1,018	1,574	266	266	-
KG FASHION CO., LTD.	3,722	3,163	559	3,311	(357)	(357)	-
PT SinarMas Hana Finance	91,908	65,574	26,334	12,471	233	233	-

(\*) This is financial information that reflects Purchased Price Allocation (PPA) valuation and GAAP adjustments in the financial information of the Bank for Investment and Development of Vietnam (BIDV).

17-3 Changes in the investment in an associate and a joint venture for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Acquisition and others	Dividend	Book value before valuation	Equity method valuation			Others	Disposal	Ending balance
					Share of profit (loss)	Impairment of equity method	Changes in equity			
Bank of Jilin	853,878	-	-	853,878	49,900	-	(26,287)	-	-	877,491
Hana Equity Partners I, L.P	221	-	(120)	101	(6)	-	-	-	-	95
Korea Credit Bureau	8,876	-	-	8,876	(3,373)	-	-	-	-	5,503
Templeton Hana Asset Management Co., Ltd.	1,271	-	(198)	1,073	314	-	-	-	-	1,387
CM International financing leases	2,149	-	-	2,149	-	(520)	-	-	-	1,629
Beijing Langzi Asset Management Co.,Ltd	56,830	-	(1,708)	55,122	2,957	-	(1,274)	-	-	56,805
Somesevit Corporation	-	-	-	-	-	-	-	-	-	-
Midan City Development Co., Ltd.	-	-	-	-	-	-	-	-	-	-
Company K Startup Winwin Fund	5,214	-	(2,240)	2,974	4,278	-	(47)	-	(4,850)	2,355
BSK-6 Patent Technology Investment Association	2,559	-	-	2,559	175	-	341	-	(327)	2,748
Hana - KVIC Unicorn Fund of Funds	72,529	25,130	-	97,659	1,008	-	(423)	-	-	98,244
Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	2,877	-	(27)	2,850	(45)	-	-	-	-	2,805
Bank for investment and Development of Vietnam (BIDV)	1,441,797	-	-	1,441,797	160,724	-	38,898	-	-	1,641,419
Hana Micro Finance., Ltd.	19,056	-	-	19,056	1,293	-	(2,150)	-	-	18,199
HORIZON PRIVATE EQUITY FUND	65,098	-	(8,045)	57,053	(3,217)	-	3,047	-	(7,392)	49,491
Hana Ventures No. 7 New Technology Business Investment Association	1,465	-	-	1,465	(31)	-	-	-	-	1,434
TossBank Corp.	49,125	70,000	-	119,125	(23,808)	-	(10,973)	3,222	-	87,566
Sinsa Station area Complex Development PFV Co., Ltd.	451	-	-	451	(86)	-	-	-	-	365
Hana-Capstone AI Platform Fund	14,836	15,000	-	29,836	(549)	-	-	-	-	29,287
Taurus Cloud Fund	9,391	77	-	9,468	(52)	-	-	-	-	9,416
Cheongna Medipolis PFV Co., Ltd	2,598	-	-	2,598	(886)	-	-	-	-	1,712
NPX-Welcome Metaverse Contents fund	1,000	-	-	1,000	(22)	-	-	-	-	978
Hana Beyond Finance Fund	-	24,000	-	24,000	(493)	-	-	-	-	23,507
All Together Korea Fund 5	10,070	62	(62)	10,070	175	-	-	-	-	10,245
Hana-New Deal K-Growth fund	1,778	22,500	-	24,278	(249)	-	-	-	-	24,029
Defense Technology Innovation Private Investment Trust	-	2,950	-	2,950	(2)	-	-	-	-	2,948
SHINJIN INTERNATIONAL COPORATION	-	-	-	-	-	-	-	-	-	-
KG FASHION CO., LTD.	-	-	-	-	-	-	-	-	-	-
PT Sinarmas Hana Finance	7,900	-	-	7,900	1,008	-	-	(278)	-	8,630
Total	2,630,969	159,719	(12,400)	2,778,288	189,013	(520)	1,132	2,944	(12,569)	2,958,288

<2021>

Classification	Beginning balance	Acquisition and others	Dividend	Book value before valuation	Equity method valuation			Others	Disposal	Ending balance
					Share of profit (loss)	Impairment of equity method	Changes in equity			
Bank of Jilin	758,816	-	-	758,816	4,657	-	94,111	-	(3,706)	853,878
Hana Equity Partners I, L.P	664	-	(4,689)	(4,025)	4,246	-	-	-	-	221
Korea Credit Bureau	7,697	-	(90)	7,607	1,269	-	-	-	-	8,876
Templeton Hana Asset Management Co., Ltd.	1,972	-	(990)	982	289	-	-	-	-	1,271
CM International financing leases	2,777	-	-	2,777	-	(627)	-	-	-	2,150
Beijing Langzi Asset Management Co.,Ltd.	48,308	-	(1,344)	46,964	4,186	-	5,680	-	-	56,830
Somesevit Corporation	-	-	-	-	-	-	-	-	-	-
Midan City Development Co., Ltd.	-	-	-	-	-	-	-	-	-	-
Company K Startup Winwin Fund	5,487	-	-	5,487	115	-	(88)	-	(300)	5,214
BSK-6 Patent Technology Investment Association	2,621	-	-	2,621	(62)	-	-	-	-	2,559
Hana - KVIC Unicorn Fund of Funds	55,813	18,000	-	73,813	(1,284)	-	-	-	-	72,529
Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	2,937	-	(27)	2,910	(33)	-	-	-	-	2,877
Bank for Investment and Development of Vietnam (BIDV)	1,194,183	-	(6,262)	1,187,921	120,053	-	133,823	-	-	1,441,797
Hana Micro Finance., Ltd.	22,158	-	-	22,158	1,755	-	(3,595)	-	(1,262)	19,056
HORIZON PRIVATE EQUITY FUND	60,256	-	-	60,256	(538)	-	5,380	-	-	65,098
Hana Ventures No. 7 New Technology Business Investment Association	1,496	-	-	1,496	(31)	-	-	-	-	1,465
TossBank Corp.	7,500	47,500	-	55,000	(6,124)	-	249	-	-	49,125
All Together Korea Fund 5	10,023	-	-	10,023	47	-	-	-	-	10,070
Sinsa Station area Complex Development PFV Co., Ltd.	-	450	-	450	1	-	-	-	-	451
Hana-Capstone AI Platform Fund	-	15,000	-	15,000	(213)	-	-	-	49	14,836
Hana-New Deal K-Growth fund	-	1,800	-	1,800	(22)	-	-	-	-	1,778
Taurus Cloud Fund	-	9,401	-	9,401	(10)	-	-	-	-	9,391
Cheongna Medipolis PFV Co., Ltd	-	3,372	-	3,372	(699)	-	(75)	-	-	2,598
NPX-Welcome Metaverse Contents fund	-	1,000	-	1,000	-	-	-	-	-	1,000
SHINJIN INTERNATIONAL COOPERATION	-	-	-	-	-	-	-	-	-	-
Inhee.Co,Ltd	-	-	-	-	-	-	-	-	-	-
KG FASHION CO., LTD.	-	-	-	-	-	-	-	-	-	-
PT Sinarmas Hana Finance	7,290	-	-	7,290	70	-	-	540	-	7,900
Koramco Professional Investment Type Real Estate No.73	1,714	-	-	1,714	-	-	-	-	(1,714)	-
Koramco Professional Investment Type Real Estate No.87	1,452	-	-	1,452	-	-	-	-	(1,452)	-
Our Crowd International Invest III	13,970	-	-	13,970	-	-	-	-	(13,970)	-
Hana Alternative Infra Special Investment Private Trust No.3-1	3,589	-	-	3,589	-	-	-	-	(3,589)	-
Hana Alternative Infra Special Investment Private Trust No.3-2	10,423	-	-	10,423	-	-	-	-	(10,423)	-
Total	2,221,146	96,523	(13,402)	2,304,267	127,672	(627)	235,485	540	(36,367)	2,630,970

17-4 The Group discontinued recognizing its losses in shares since the balance of investments in associates was "0" and the losses that are accumulated for the years ended December 31, 2022 and 2021 are as follows

(Korean won in millions):

<December 31, 2022>

Company	Unrecognized amount of changes in equity	Accumulated unrecognized amount of changes in equity
Somesevit Corporation	(69)	(1,527)
Midan City Development Co., Ltd.	-	(523)
Total	(69)	(2,050)

<December 31, 2021>

Company	Unrecognized amount of changes in equity	Accumulated unrecognized amount of changes in equity
Somesevit Corporation	(112)	(1,458)
Midan City Development Co., Ltd.	-	(523)
Total	(112)	(1,981)

17-5 Details of adjustments from net assets of associates and a joint venture to carrying values of shares as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Net assets	Ownership (%)	Share of net assets	Goodwill, etc.	Carrying value
Bank of Jilin	7,268,260	11.92	866,377	11,114	877,491
Hana Equity Partners I, L.P	316	29.97	95	-	95
Korea Credit Bureau	55,100	9.00	4,959	544	5,503
Templeton Hana Asset Management Co., Ltd.	14,015	9.90	1,387	-	1,387
CM International financing leases	21,242	25.00	5,311	(3,682)	1,629
Beijing Langzi Asset Management Co.,Ltd.	447,702	12.89	57,709	(904)	56,805
Somesevit Corporation	(79,510)	1.92	(1,527)	1,527	-
Midan City Development Co., Ltd.	(24,102)	2.17	(523)	523	-
Company K Startup Winwin Fund	9,896	23.81	2,355	-	2,355
BSK-6 Patent Technology Investment Association	13,740	20.00	2,748	-	2,748
Hana - KVIC Unicorn Fund of Funds	108,068	90.91	98,244	-	98,244
Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	10,279	27.30	2,805	-	2,805
Bank for Investment and Development of Vietnam (BIDV)	5,919,477	15.00	887,922	753,497	1,641,419
Hana Micro Finance., Ltd.	78,141	25.00	19,535	(1,336)	18,199
HORIZON PRIVATE EQUITY FUND	220,947	22.40	49,491	-	49,491
Hana Ventures No. 7 New Technology Business Investment Association	5,257	27.27	1,434	-	1,434
TossBank Corp.	966,543	8.62	83,316	4,250	87,566
Sinsa Station area Complex Development PFV Co., Ltd.	4,046	9.00	365	-	365
Hana-Capstone AI Platform Fund	80,150	36.54	29,287	-	29,287
Taurus Cloud Fund	34,672	27.06	9,382	34	9,416
Cheongna Medipolis PFV Co., Ltd	15,235	11.24	1,712	-	1,712
NPX-Welcome Metaverse Contents fund	3,911	25.00	978	-	978
Hana Beyond Finance Fund	88,152	26.67	23,507	-	23,507
All Together Korea Fund 5	10,245	100.00	10,245	-	10,245
Hana-New Deal K-Growth fund	26,952	90.00	24,258	(229)	24,029
Defense Technology Innovation Private Investment Trust	2,997	98.33	2,948	-	2,948
SHINJIN INTERNATIONAL COPORATION	(9,298)	24.20	(2,250)	2,250	-
KG FASHION CO., LTD.	297	20.55	61	(61)	-
PT Sinarmas Hana Finance	28,071	30.00	8,421	209	8,630



<December 31, 2021>

Classification	Net assets	Ownership (%)	Share of net assets	Goodwill, etc.	Carrying value
Bank of Jilin	7,068,100	11.92	842,518	11,360	853,878
Hana Equity Partners I, L.P	736	29.97	221	-	221
Korea Credit Bureau	92,575	9.00	8,332	544	8,876
Templeton Hana Asset Management Co., Ltd.	12,845	9.90	1,271	-	1,271
CM International financing leases	56,160	25.00	14,040	(11,890)	2,150
Beijing Langzi Asset Management Co.,Ltd.	447,568	12.89	57,692	(862)	56,830
Somesevit Corporation	(75,943)	1.92	(1,458)	1,458	-
Midan City Development Co., Ltd.	(24,102)	2.17	(523)	523	-
Company K Startup Winwin Fund	21,903	23.81	5,214	-	5,214
BSK-6 Patent Technology Investment Association	12,795	20.00	2,559	-	2,559
Hana - KVIC Unicorn Fund of Funds	79,781	90.91	72,529	-	72,529
Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	10,545	27.30	2,877	-	2,877
Bank for Investment and Development of Vietnam (BIDV)	5,327,211	15.00	799,082	642,715	1,441,797
Hana Micro Finance., Ltd.	81,495	25.00	20,374	(1,318)	19,056
HORIZON PRIVATE EQUITY FUND	289,996	22.40	64,959	139	65,098
Hana Ventures No. 7 New Technology Business Investment Association	5,370	27.27	1,465	-	1,465
TossBank Corp.	441,949	10.00	44,195	4,930	49,125
All Together Korea Fund 5	10,070	100.00	10,070	-	10,070
Sinsa Station area Complex Development PFV Co., Ltd.	5,006	9.00	451	-	451
Hana-Capstone AI Platform Fund	40,602	36.54	14,836	-	14,836
Hana-New Deal K-Growth fund	1,973	90.00	1,776	2	1,778
Taurus Cloud Fund	34,700	27.06	9,391	-	9,391
Cheongna Medipolis PFV Co., Ltd	23,121	11.24	2,598	-	2,598
NPX-Welcome Metaverse Contents fund	4,000	25.00	1,000	-	1,000
SHINJIN INTERNATIONAL COPORATION	(9,457)	24.20	(2,289)	2,289	-
Inhee.Co,Ltd	1,018	21.84	222	(222)	-
KG FASHION CO., LTD.	559	20.55	115	(115)	-
PT Sinarmas Hana Finance	26,334	30.00	7,900	-	7,900

17-6 Details of investment shares in marketable associates and a joint venture as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Company	Market Price	Price per share (In Korean won)
Bank for Investment and Development of Vietnam (BIDV)	1,572,811	2,073

<December 31, 2021>

Company	Market Price	Price per share (In Korean won)
Bank for Investment and Development of Vietnam (BIDV)	1,466,651	1,933

(\*) Bank for Investment and Development of Vietnam (BIDV) determined to pay dividends in December 2021. As a result, the number of shares of the Group increased from 603 million to 759 million shares.

17-7 There are no companies that the Group holds more than 20% of shares, but excluded from investments in associates as of December 31, 2022

Meanwhile, investment trusts whose significant influence on related activities is limited by trust contracts are excluded from investment stocks in associates.

## 18. Property, plant and equipment

18-1 Property, plant and equipment as of December 31, 2022 and 2021 consist of the following (Korean won in millions):

<December 31, 2022>

Classification	Acquisition cost	Accumulated depreciation	Government grants	Accumulated Impairment loss	Book value
Land	880,392	-	-	(3,786)	876,606
Buildings	959,580	(299,508)	-	(10,215)	649,857
Leasehold improvements	324,237	(263,184)	-	-	61,053
Equipment and vehicles	827,523	(683,660)	(78)	-	143,785
Construction in progress	8,511	-	-	-	8,511
Others	31,258	-	-	-	31,258
Right-of-use assets - real estate	1,288,611	(653,559)	-	-	635,052
Right-of-use assets - equipment and vehicles	28,893	(13,700)	-	-	15,193
Right-of-use assets - others	5,560	(861)	-	-	4,699
Total	4,354,565	(1,914,472)	(78)	(14,001)	2,426,014

<December 31, 2021>

Classification	Acquisition cost	Accumulated depreciation	Government grants	Accumulated Impairment loss	Book value
Land	695,254	-	-	(3,831)	691,423
Buildings	782,017	(273,915)	-	(10,365)	497,737
Leasehold improvements	314,568	(253,601)	-	-	60,967
Equipment and vehicles	783,582	(647,773)	(86)	-	135,723
Construction in progress	9,772	-	-	-	9,772
Others	46,287	-	-	-	46,287
Right-of-use assets - real estate	1,049,080	(500,682)	-	-	548,398
Right-of-use assets - equipment and vehicles	26,821	(13,495)	-	-	13,326
Right-of-use assets - others	1,146	(338)	-	-	808
Total	3,708,527	(1,689,804)	(86)	(14,196)	2,004,441

18-2 Changes in Property, plant and equipment for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Acquisition	Disposal	Depreciation	Transfers	Impairment loss	Others	Ending balance
Land	691,423	-	(1,377)	-	186,630	-	(70)	876,606
Buildings	497,737	28,387	(1,486)	(32,452)	158,013	(12)	(330)	649,857
Leasehold improvements	60,967	21,616	(1,162)	(22,799)	2,142	-	289	61,053
Equipment and vehicles	135,809	76,872	(517)	(68,992)	858	-	(167)	143,863
Construction in progress	9,772	249,113	(261)	-	(249,649)	-	(464)	8,511
Others	46,287	-	(15,029)	-	-	-	-	31,258
Government grants	(86)	(44)	-	52	-	-	-	(78)
Right-of-use assets - real estate	548,398	291,957	(7,064)	(197,659)	-	-	(580)	635,052
Right-of-use assets - equipment and vehicles	13,326	10,159	(724)	(7,134)	-	-	(434)	15,193
Right-of-use assets - others	808	3,933	(62)	(1,038)	-	-	1,058	4,699
Total	2,004,441	681,993	(27,682)	(330,022)	97,994	(12)	(698)	2,426,014

<2021>

Classification	Beginning balance	Acquisition	Disposal	Depreciation	Transfers	Impairment loss	Others	Ending balance
Land	723,586	-	(6,272)	-	(24,084)	(1,852)	45	691,423
Buildings	533,926	14,431	(3,295)	(28,829)	(13,099)	(6,111)	714	497,737
Leasehold improvements	61,139	21,453	(1,151)	(21,746)	252	-	1,020	60,967
Equipment and vehicles	123,214	81,571	(1,119)	(69,598)	571	-	1,170	135,809
Construction in progress	7,207	217,492	(955)	-	(213,964)	-	(8)	9,772
Others	64,964	-	(18,677)	-	-	-	-	46,287
Government grants	(83)	(48)	-	45	-	-	-	(86)
Right-of-use assets - real estate	655,258	126,061	(46,011)	(198,620)	-	-	11,710	548,398
Right-of-use assets - equipment and vehicles	12,655	6,999	(759)	(6,742)	-	-	1,173	13,326
Right-of-use assets - others	146	-	(6)	(459)	-	-	1,127	808
Total	2,182,012	467,959	(78,245)	(325,949)	(250,324)	(7,963)	16,951	2,004,441

## 19. Investment properties

19-1 Details of investment properties as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Government grants	Book value
Land	457,439	-	(3,125)	-	454,314
Buildings	367,958	(153,237)	(1,225)	(2,868)	210,628
Total	825,397	(153,237)	(4,350)	(2,868)	664,942

<December 31, 2021>

Classification	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Government grants	Book value
Land	412,527	-	(5,469)	-	407,058
Buildings	528,190	(138,683)	(3,620)	(2,256)	383,631
Total	940,717	(138,683)	(9,089)	(2,256)	790,689

19-2 Changes in investment property for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Acquisition	Disposal	Depreciation	Transfer (*)	Ending balance
Land	407,058	-	(6,111)	-	53,367	454,314
Buildings	385,887	-	(7,690)	(13,340)	(151,361)	213,496
Government grants	(2,256)	(1,493)	-	881	-	(2,868)
Total	790,689	(1,493)	(13,801)	(12,459)	(97,994)	664,942

(\*) The amount represents the change in the carrying amount of investment properties held by the Group due to the change in the ratio of lease occupancy.

<2021>

Classification	Beginning balance	Acquisition	Disposal	Depreciation	Transfer (*)	Impairment loss	Ending balance
Land	417,535	-	(34,886)	-	26,824	(2,415)	407,058
Buildings	200,440	-	(23,412)	(12,197)	223,500	(2,444)	385,887
Government grants	(1,977)	(849)	-	570	-	-	(2,256)
Total	615,998	(849)	(58,298)	(11,627)	250,324	(4,859)	790,689

(\*) The amount represents the change in the carrying amount of investment properties held by the Group due to the change in the ratio of lease occupancy.

19-3 Details of valuation techniques for measuring investment property and inputs used in the measurement as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	Fair value(*)		Description of the valuation techniques	Inputs used in the fair value measurement
	December 31, 2022	December 31, 2021		
Land and Buildings	1,052,023	823,105	Appraised value of land, Estimates based on cost method	Appraised value of land, Refinancing cost

(\*) The fair value of investment property is classified as Level 3 of fair value hierarchy as it reflects the most recent market transaction price, followed by individual third party transaction condition, and significant input factor, which is not predictable.

19-4 Rental income and operating expenses arising from the Group's investment properties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	2022	2021
Rental income	9,608	8,485
Operating cost directly related to Investment properties that generate rental income	670	608

## 20. Intangible assets

20-1 Details of intangible assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Acquisition cost	Accumulated amortization	Accumulated impairment loss	Government grants	Book value
Goodwill	892	-	-	-	892
Industrial proprietary rights	2,588	(1,982)	-	-	606
Core deposits	5,265	(3,187)	-	-	2,078
Software	297,032	(214,775)	-	-	82,257
Systems development costs	1,081,185	(886,280)	-	(83)	194,822
Memberships	25,948	-	(2,933)	-	23,015
Others	273,367	(190,915)	(15)	-	82,437
Total	1,686,277	(1,297,139)	(2,948)	(83)	386,107

<December 31, 2021>

Classification	Acquisition cost	Accumulated amortization	Accumulated impairment loss	Government grants	Book value
Goodwill	892	-	-	-	892
Industrial proprietary rights	2,183	(1,670)	-	-	513
Core deposits	4,925	(2,609)	-	-	2,316
Software	269,422	(188,166)	-	-	81,256
Systems development costs	994,705	(820,899)	-	(115)	173,691
Memberships	23,220	-	(2,771)	-	20,449
Others	240,285	(162,817)	(14)	-	77,454
Total	1,535,632	(1,176,161)	(2,785)	(115)	356,571



20-2 Changes in the carrying amount of intangible assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Acquisition	Disposal	Amortization	Impairment loss	Others	Ending balance
Goodwill	892	-	-	-	-	-	892
Industrial proprietary rights	513	398	-	(311)	-	6	606
Core deposits	2,316	-	-	(383)	-	145	2,078
Software	81,256	27,877	-	(26,844)	-	(32)	82,257
Systems development costs	173,806	87,655	-	(66,830)	-	274	194,905
Memberships	20,449	2,663	(15)	-	(220)	138	23,015
Others(*)	77,454	32,963	-	(28,232)	-	252	82,437
Government grants	(115)	-	-	32	-	-	(83)
Total	356,571	151,556	(15)	(122,568)	(220)	783	386,107

(\*) Of the other intangible asset amortization costs, ₩26,977 million is included in other operating expenses.

<2021>

Classification	Beginning balance	Acquisition	Disposal	Amortization	Impairment loss	Others	Ending balance
Goodwill	892	-	-	-	-	-	892
Industrial proprietary rights	653	212	(70)	(276)	-	(6)	513
Core deposits	2,474	-	-	(339)	-	181	2,316
Software	62,552	42,331	(1,375)	(22,842)	-	590	81,256
Systems development costs	173,061	67,340	(2,155)	(64,719)	-	279	173,806
Memberships	19,323	1,666	(790)	-	-	250	20,449
Others(*)	88,864	15,140	(28)	(25,775)	(13)	(734)	77,454
Government grants	(103)	(41)	-	29	-	-	(115)
Total	347,716	126,648	(4,418)	(113,922)	(13)	560	356,571

(\*) Of the other intangible asset amortization costs, ₩25,073 million is included in other operating expenses.

## 21. Non-current assets held for sale

21-1 Details of non-current assets held for sale as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Acquisition cost (*)	36,423	42,130
Accumulated impairment loss	-	-
Book value	36,423	42,130
Net fair value	36,423	42,130

(\*) Acquisition cost is presented as net of accumulated depreciation before classification as non-current assets held for sale.

Non-current assets held-for-sale are composed of 132 collaterals acquired for the purpose of repayment of loans and one other of which the sale is currently in progress as of December 31, 2022.

## 22. Other assets and merchant banking account assets

22-1 Details of other assets as of December 31, 2022 and 2021 are as follows  
(Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Guarantee deposits paid	632,878	692,509
Accounts receivable	6,615,170	8,155,868
Accrued income	1,574,847	874,907
Prepaid expenses	113,074	95,456
Suspense payments	269,386	231,035
Expenditures	1,873	2,018
Deposit money to court	8,783	8,706
Domestic exchange settlement debit	4,223,350	3,776,627
Other miscellaneous assets	78,015	36,845
Allowance for other assets	(11,421)	(9,241)
Total	13,505,955	13,864,730

22-2 Changes in the allowance for other assets for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	2022	2021
Beginning balance	9,241	8,056
Write-offs	(860)	(828)
Provision for allowance for possible losses	6,280	1,938
Sales of non-performing loans, etc.	(163)	(278)
Interest income on impaired assets	3	22
Collection of loans written off in prior year	1,025	2,684
Exchange rate fluctuation and others	(4,105)	(2,353)
Ending balance	11,421	9,241

22-3 Details of merchant banking account assets as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification		December 31, 2022	December 31, 2021
On-balance-sheet items:			
Merchant banking account-loans at FVTPL		198,790	758,436
Merchant banking account-debt securities at FVTPL		3,415,666	3,334,493
CMA assets	Debt securities at FVTPL	1,016,905	649,010
Total		4,631,361	4,741,939
Off-balance-sheet items:			
Commitment		620,000	790,000

## 23. Deposits

23-1 Details of deposit liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Demand deposits		
Demand deposits in Korean won	14,732,552	15,666,500
Demand deposits in foreign currency	40,871,143	35,039,951
Subtotal	55,603,695	50,706,451
Time and savings deposits		
Time and savings deposits in Korean won (*)	266,881,680	247,474,068
Time and savings deposits in foreign currency	24,320,573	16,563,802
Subtotal	291,202,253	264,037,870
Certificate of deposits	13,052,533	6,380,979
Total	359,858,481	321,125,300

(\*) Time and savings deposits in Korean won include savings deposits (₩39,861,040 million as of December 31, 2022, and ₩50,710,876 as of December 31, 2021) and corporate savings deposits (₩57,322,227 as of December 31, 2022, and ₩57,639,719 as of December 31, 2021).

23-2 Allocations of deposit liabilities by customer as of December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Individuals	112,111,078	102,168,279
Corporations	129,975,988	111,932,043
Other banks	21,293,082	17,900,829
Public institutions	16,398,077	13,265,257
Other financial institutions	44,929,310	49,409,660
Government	8,206,272	5,924,293
Non-profit corporations	13,812,098	12,346,117

Classification	December 31, 2022	December 31, 2021
Foreign organizations	3,049,951	3,130,833
Others	10,082,625	5,047,989
Total	359,858,481	321,125,300

#### 24. Financial liabilities at FVTPL

24-1 Details of financial liabilities at FVTPL as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Securities borrowed	323,661	143,044
Derivative liabilities held for trading	10,742,577	3,849,463
Total	11,066,238	3,992,507

24-2 Details of financial liabilities designated at FVTPL as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Deposits	162,069	195,600

Financial liabilities are at FVTPL in order to eliminate or significantly reduce a measurement or recognition inconsistency.

24-3 Difference between the book value and maturity amount of the financial liabilities designated at FVTPL as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Book value	162,069	195,600
Repayment amount at maturity	210,000	210,000
Difference	(47,931)	(14,400)

## 25. Borrowings

Details of Borrowings as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Lenders	Annual interest rate (%)	December 31, 2022	December 31, 2021
Borrowings in Korean won				
BOK borrowings	BOK	0.25~1.75	5,085,245	4,473,504
Government borrowings	Korea Development Bank, etc.	0.50~5.61	2,061,794	1,932,544
Other borrowings	Korea Energy Management Corporation, etc.	0.00~3.43	3,584,732	3,479,514
Subtotal			10,731,771	9,885,562
Borrowings denominated in foreign currencies				
Bank overdrafts	Foreign banks, etc.	0.01~12.50	380,662	313,417
Other borrowings	OCBC, etc.	0.66~8.50	9,664,760	5,129,592
Subtotal			10,045,422	5,443,009
Call money				
Call money in foreign currencies	Shinhan Bank, etc	0.09~5.60	970,661	1,091,728
Bonds sold under repurchase agreements				
Bonds sold under repurchase agreements in Korean won	General customers	0.00	30	30
Bonds sold under repurchase agreements in foreign currencies	BBVA, Citi	5.55~5.60	487,702	1,078,541
Subtotal			487,732	1,078,571
Others				
Bills sold	General customers	0.00~4.39	26,063	25,610
Deferred origination costs			(5,052)	-
Total			22,256,597	17,524,480

## 26. Debentures

Details of debentures as of December 31, 2022 and 2021, are as follows

(Korean won in millions):

Classification	Lenders	Annual interest rate (%)	December 31, 2022	December 31, 2021
Debentures in Korean won				
Debentures	Institutions	0.69~4.20	16,330,000	16,450,000
Subordinated debentures	Institutions, etc.	2.14~4.76	4,071,139	5,275,139
Net gain (loss) on fair value hedges (current period)			(26,241)	(6,345)
Net gain (loss) on fair value hedges (prior to previous fiscal year)			(10,497)	(4,152)
Less present value discount			(5,804)	(11,488)
Subtotal			20,358,597	21,703,154
Debentures in foreign currencies				
Debentures	Institutions	0.01~5.55	5,115,126	5,009,893
Subordinated debentures	Institutions, etc.	4.25~9.95	1,042,641	977,378
Net loss (gain) on fair value hedges (current period)			(290,369)	(93,621)
Net gain (loss) on fair value hedges (prior to previous fiscal year)			15,583	109,935
Less present value discount			(8,239)	(6,982)
Subtotal			5,874,742	5,996,603
Total			26,233,339	27,699,757



## 27. Net defined benefit liabilities (assets)

### 27-1 Details of net defined benefit liabilities (assets)

Details of net defined benefit liabilities (assets) as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Present value of defined benefit obligation	1,996,586	2,027,138
Fair value of plan assets	(2,064,640)	(1,850,061)
Net defined benefit liabilities	9,106	177,077
Net defined benefit assets	77,160	-

### 27-2 Defined benefit obligation

#### 27-2-1 Changes in present value of defined benefit obligation

Changes in present value of defined benefit obligation for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Beginning balance	2,027,138	2,085,176
Current service cost	138,218	151,562
Interest cost	49,398	39,390
Remeasurements	(19,141)	(73,053)
Benefits paid	(198,401)	(177,187)
Changes due to transference between affiliates	(765)	887
Others	139	363
Ending Balance	1,996,586	2,027,138

27-2-2 Total costs recognized in accordance to defined benefit plans

Total costs incurred in relation to defined benefit pension plans for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Current service cost	138,218	151,562
Interest cost	49,398	39,390
Interest income on plan assets	(43,270)	(32,432)
Total	144,346	158,520

27-2-3 Weighted average duration of defined benefit obligation as of December 31, 2022 and 2021, is 7.66 years and 10.05 years, respectively.

27-3 Actuarial assumptions

27-3-1 Principal assumptions for actuarial valuation method as of December 31, 2022 and 2021, are as follows:

<December 31, 2022>

Classification	Rate (%)	Content
Demographic assumptions		
Death rate	0.003~0.063	Korea Insurance Development Institute
Retirement rate	6.10	—
Financial assumptions		
Wage growth rate	5.80	Average of past 5 years
Discounting rate	5.15	Return rate of AAA corporate bond

<December 31, 2021>

Classification	Rate (%)	Content
Demographic assumptions		
Death rate	0.003~0.063	Korea Insurance Development Institute
Retirement rate	4.60	–
Financial assumptions		
Wage growth rate	5.80	Average of past 5 years
Discounting rate	2.55	Return rate of AAA corporate bond

27-3-2 Present values of defined benefit obligations based on changes in the principal actuarial assumptions as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Present value of defined benefit obligations	Increase by 1%	Decrease by 1%
Discounting rate	1,996,586	1,837,975	2,124,835
Wage growth rate	1,996,586	2,127,792	1,833,138

<December 31, 2021>

Classification	Present value of defined benefit obligations	Increase by 1%	Decrease by 1%
Discounting rate	2,027,138	1,814,982	2,206,338
Wage growth rate	2,027,138	2,204,679	1,812,918

## 27-4 Plan assets

27-4-1 Changes in the fair value of plan assets plans for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Beginning balance	1,850,061	1,796,773
Employer contributions	308,653	135,788
Interest income on plan assets	43,270	32,432
Remeasurements of the net defined benefit liabilities	(10,300)	(8,388)
Benefit paid	(126,204)	(107,288)
Changes due to transference between affiliates	(840)	744
Ending balance	2,064,640	1,850,061

## 27-4-2 Details of plan assets

Details of plan assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Active market existing	Active market not existing	Total
Time deposits	—	2,060,339	2,060,339
Others	—	4,301	4,301
Total	—	2,064,640	2,064,640

<December 31, 2021>

Classification	Active market existing	Active market not existing	Total
Time deposits	–	1,735,131	1,735,131
Others	–	114,930	114,930
Total	–	1,850,061	1,850,061

27-4-3 The Group expects to contribute ₩122,586 million in next year, in relation to the defined benefit plans.

27-5 Remeasurements of the net defined benefit liabilities

Remeasurements of the net defined benefit liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Actuarial gains and losses		
Effects on changing financial assumptions	425,234	94,686
Effects on changing demographic assumptions	(337,902)	–
Others	(68,191)	(20,872)
Subtotal	19,141	73,814
Return on plan assets		
Actual return on plan assets	32,971	24,044
Amount included in net interest of net defined benefit liabilities	(43,271)	(32,432)
Subtotal	(10,300)	(8,388)
Total	8,843	65,426

## 28. Contingent liabilities, agreements and provisions

28-1 Details of provisions as of December 31, 2022 and 2021, are as follows  
(Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Provision for payment guarantees:		
Financial guarantee contracts (*)	449	147
Non-financial guarantee contracts	81,450	34,887
Bills endorsed	13	15
Subtotal	81,912	35,049
Provision for unused commitments	56,480	61,879
Other provisions:		
Provision for restoration	51,596	54,894
Provision for lawsuits	43,215	77,734
Others	331,775	289,408
Subtotal	426,586	422,036
Total	564,978	518,964

(\*) The Group recognizes the amount exceeding the unamortized amount of the initial fair value at subsequent measurement of the financial guarantee contracts as provisions for payment guarantees. The Group recognizes the unamortized amount as financial guarantee contract liabilities in the amount of ₩14,843 million and ₩12,047 million as of December 31, 2022 and 2021, respectively.

28-2 Changes in provision for unused commitments for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Unused commitments			Total
	12-month expected credit loss	Lifetime expected credit losses		
		Non-credit-impaired loan	Credit-impaired loan	
Beginning balance	41,221	19,270	1,388	61,879
Transfer to 12-month expected credit loss	1,488	(1,463)	(25)	-
Transfer to non-credit-impaired loan	(860)	869	(9)	-
Transfer to credit-impaired loan	(10)	(10)	20	-
Provision for (reversal of) (*)	(4,266)	324	595	(3,347)
Changes in exchange rates	(2,169)	117	-	(2,052)
Ending balance	35,404	19,107	1,969	56,480

(\*) As of December 31, 2022, in order to expand loss absorption capacity in growing economic uncertainty worldwide, the bank has accumulated an additional ₩186 million won in allowances for financial support interest and deferred repayment loans for small and medium-sized companies and small business owners affected by COVID-19. The additional allowances include ₩0.15 million in impact of Stage 2 classification of principal and interest deferred borrowers.

<2021>

Classification	Unused commitments			Total
	12-month expected credit loss	Lifetime expected credit losses		
		Non-credit-impaired loan	Credit-impaired loan	
Beginning balance	48,900	24,300	1,522	74,722
Transfer to 12-month expected credit loss	2,135	(1,400)	(735)	-
Transfer to non-credit-impaired loan	(1,436)	1,493	(57)	-
Transfer to credit-impaired loan	(12)	(12)	24	-
Provision (reversal of)	(8,473)	(5,183)	633	(13,023)
Changes in exchange rates	107	72	1	180
Ending balance	41,221	19,270	1,388	61,879

28-3 Changes in provision for financial guarantee contracts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<2022>

Classification	Financial guarantee contracts			Total
	12-month expected credit loss	Lifetime expected credit losses		
		Non-credit-impaired loan	Credit-impaired loan	
Beginning balance	133	14	-	147
Transfer to 12-month expected credit loss	1	(1)	-	-
Transfer to non-credit-impaired loan	(11)	11	-	-
Transfer to credit-impaired loan	-	-	-	-
Provision (*)	46	253	-	299
Changes in exchange rates	3	-	-	3
Ending balance	172	277	-	449

(\*) As of December 31, 2022, in order to expand loss absorption capacity in growing economic uncertainty worldwide, the Bank has accumulated an additional ₩198 million won in allowances for financial support interest and deferred repayment loans for small and medium-sized companies and small business owners affected by COVID-19.

<2021>

Classification	Financial guarantee contracts			Total
	12-month expected credit loss	Lifetime expected credit losses		
		Non-credit-impaired loan	Credit-impaired loan	
Beginning balance	194	13	-	207
Transfer to 12-month expected credit loss	1	(1)	-	-
Transfer to non-credit-impaired loan	(1)	1	-	-
Transfer to credit-impaired loan	-	-	-	-
Reversal	(79)	-	-	(79)
Changes in exchange rates	18	1	-	19
Ending balance	133	14	-	147



28-4 Changes in other provisions for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Provision (reversal of)	Used	Others	Ending balance
Non-financial payment guarantees	34,902	44,623	-	1,938	81,463
Other provisions					
Provision for restoration	54,894	(1,314)	(2,960)	976	51,596
Provision for lawsuits	77,734	(19,236)	(15,954)	671	43,215
Others	289,408	64,238	(21,428)	(443)	331,775
Subtotal	422,036	43,688	(40,342)	1,204	426,586
Total	456,938	88,311	(40,342)	3,142	508,049

<2021>

Classification	Beginning balance	Provision (reversal of)	Used	Others	Ending balance
Non-financial payment guarantees	32,540	(1,025)	-	3,387	34,902
Other provisions					
Provision for restoration	67,134	477	(15,821)	3,104	54,894
Provision for lawsuits	59,203	18,600	(449)	380	77,734
Others	249,193	50,558	(10,427)	84	289,408
Subtotal	375,530	69,635	(26,697)	3,568	422,036
Total	408,070	68,610	(26,697)	6,955	456,938

28-5 Details of financial and payment guarantees as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Guarantee balance	
	December 31, 2022	December 31, 2021
Financial guarantee contracts in Korean won:		
Payment guarantees for issuance of debentures	94,500	71,000
Payment guarantees for collateral for loans	43,130	45,253
Payment guarantees for purchasing loans	307,369	249,240
Subtotal	444,999	365,493
Financial guarantees in foreign currencies:		
Local financial payment guarantees	2,725	2,549
Confirmed payment guarantees in Korean won	2,446,127	1,857,587
Confirmed payment guarantees in foreign currencies:		
Acquisition of letter of credit	2,213,888	2,189,997
Acceptance on letter of guarantees	101,659	91,942
Others	10,215,065	7,505,690
Subtotal	12,530,612	9,787,629
Contingent payment guarantees:		
Letters of credit	4,080,758	4,114,571
Others	1,575,953	730,839
Subtotal	5,656,711	4,845,410
Bills endorsed	10,707	12,082
Total	21,091,881	16,870,750

## 28-6 Commitments

Details of unused commitments as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Unused commitments balance	
	December 31, 2022	December 31, 2021
Commitments on loans in Korean won	60,462,709	57,398,397
Commitments on loans in foreign currencies	28,960,160	23,829,959
Commitments on credit lines on asset-backed securities (*)	85,200	247,596
Commitments on purchase of securities (*)	11,875,336	9,342,981
Commitments on discounted notes from Merchant Banking	620,000	790,000
Total	102,003,405	91,608,933

(\*) The financial guarantee contracts for the year ended December 31, 2022 and 2021 amount to ₩10,565,130 million and ₩8,784,258 million, respectively.

## 28-7 Lawsuits

As of December 31, 2022, the Group is involved in 240 lawsuits as a plaintiff and 159 lawsuits as a defendant. The aggregate amounts of claims as plaintiff and defendant are ₩294,385 million and ₩307,288 million, respectively. The Group recognizes provisions in consideration of the likelihood of winning a lawsuit. The Group's major lawsuits in progress as a defendant are summarized as follows (Korean won in millions):

Plaintiff	Amount	Status of lawsuit		Content
		First trial	On appeal	
F*****Bankruptcy administrator	42,573	Won	In progress (Second trial)	Return of an illicit gain
****Securities Co., Ltd.	37,136	Won	In progress (Second trial)	Compensation for damages
****Investments Co., Ltd.	16,798	Won	Partial won (second trial) In progress (Third trial)	Compensation for damages
****Cooperation Co., Ltd.	15,000	In progress	–	Return of an illicit gain
****Securities Co., Ltd.	10,000	In progress	–	Compensation for damages

28-8 Due to the spread of COVID-19, major economic factors are expected to worsen due to the domestic and international economic slowdown in domestic and ripple effects of financial instability. Considering the possibility of entering a global recession caused by the global spread of COVID-19, the economic forecast scenario used to estimate expected credit losses for financial instruments has been reset. As of December 31, 2022, the Group has remeasured forward-looking information by using macro variables and estimated default rates based on the scenario. The Group also set aside additional provisions through the inspection and credit rating adjustment of COVID-19 risk industries and collected additional provisions by conservatively evaluating individual cash flows. The Group manages exposure to high-risk industries and high-risk affiliates/companies, and preemptively responds to future credit risk risks by classifying borrowers of deferred interest payments of COVID-19 as targets for full-term credit losses.

In addition, the key assumptions used by financial instruments were based on fair values calculated based on the estimated assumptions taking into account the impact of COVID-19 as of the end of the current year. The Group has prepared the consolidated financial statements by reasonably estimating the impact of COVID-19 on the consolidated financial statements for the reporting period ended on December 31, 2022. However, the ultimate impact of the future spread of COVID-19 on the consolidated financial position, financial performance and cash flows of the Group cannot be predicted.

28-9 In connection with the Ukraine crisis in February 2022, international sanctions against the Russian Federation of the international community could affect companies and individuals subject to sanctions, as well as companies, industries and economies that do business directly or indirectly with Russia. This Case is non-adjusting events after the reporting period. As of the settlement date, the Bank expects to have a financial impact on the business of KEB RUS LLC, a subsidiary of Russia, but cannot reasonably predict the estimate.

29. Other liabilities and merchant banking account liabilities

29-1 Details of other liabilities as of December 31, 2022 and 2021, are as follows  
(Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Accounts payable from trust accounts	7,895,817	5,874,089
Foreign exchange settlement credits	937,940	585,628
Domestic exchange settlement credits	5,503,827	6,172,698
Accounts payables	6,936,315	8,426,296
Accrued expenses	2,758,991	1,358,856
Unearned revenue	127,583	61,075
Deferred revenue	-	7
Deposits for letter of guarantees and others	1,877,691	500,949
Suspense payables	75,021	54,680
Taxes withheld	129,209	71,441
Security subscriptions	281,894	74,371
Accounts for agency businesses	190,874	352,697
Liability incurred by agency relationship	2,869,079	2,332,083
Lease liabilities	667,779	561,562
Financial guarantee contracts	14,843	12,047
Other liabilities	13,176	27,354
Total	30,280,039	26,465,833

29-2 Details of merchant banking account liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Merchant banking account deposits	3,666,199	2,908,071
Other merchant banking account liabilities (*)	1,074	209
Total	3,667,273	2,908,280

(\*) Including accrued expenses

29-3 Details of lease liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Face amount	Present value discount	Book value
Real estate for business purpose	731,006	(83,957)	647,049
Equipment and vehicles	16,542	(709)	15,833
Other assets	5,136	(239)	4,897
Total	752,684	(84,905)	667,779

<December 31, 2021>

Classification	Face amount	Present value discount	Book value
Real estate for business purpose	609,022	(61,228)	547,794
Equipment and vehicles	13,667	(333)	13,334
Other assets	445	(11)	434
Total	623,134	(61,572)	561,562

29-4 Changes in lease liabilities for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Increase	Depreciation	Paid (*)	Others	Ending balance
Real estate for business purpose	547,794	296,367	15,440	(206,537)	(6,015)	647,049
Equipment and vehicles	13,334	10,077	311	(7,768)	(121)	15,833
Other assets	434	5,444	106	(928)	(159)	4,897
Total	561,562	311,888	15,857	(215,233)	(6,295)	667,779

(\*) Total cash outflow related to lease liabilities for the year ended December 31, 2022, is ₩215,137 million.

<2021>

Classification	Beginning balance	Increase	Depreciation	Paid (*)	Others	Ending balance
Real estate for business purpose	660,338	115,761	11,033	(211,701)	(27,637)	547,794
Equipment and vehicles	12,993	6,890	217	(8,437)	1,671	13,334
Other assets	150	-	21	(455)	718	434
Total	673,481	122,651	11,271	(220,593)	(25,248)	561,562

(\*) Total cash outflows related to lease liabilities for the year ended December 31, 2021, is ₩220,521 million.



29-5 Details of contractual cash flows before discounting the lease liabilities by remaining maturity as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<December 31, 2022>

Classification	Less than 1 month	1 – 3 months	3 – 6 months	6 months – 1 year	1 year – 5 years	More than 5 years	Total
Real estate for business purpose	17,783	33,018	48,965	91,886	315,184	224,170	731,006
Equipment and vehicles	643	1,230	1,708	3,144	9,817	–	16,542
Other assets	184	235	418	852	3,447	–	5,136
Total	18,610	34,483	51,091	95,882	328,448	224,170	752,684

<December 31, 2021>

Classification	Less than 1 month	1 – 3 months	3 – 6 months	6 months – 1 year	1 year – 5 years	More than 5 years	Total
Real estate for business purpose	18,867	35,392	47,990	88,674	193,922	224,177	609,022
Equipment and vehicles	670	1,172	1,374	2,472	7,979	–	13,667
Other assets	77	21	99	119	129	–	445
Total	19,614	36,585	49,463	91,265	202,030	224,177	623,134

### 30. Capital stock and other paid-in capital

30-1 Details of capital stock as of December 31, 2022 and 2021, are as follows (Korean won in millions and shares):

Classification	December 31, 2022	December 31, 2021
Number of shares authorized	2,000,000,000	2,000,000,000
Par value per share (In Korean won)	₩5,000	₩5,000
Number of shares issued	1,071,915,717	1,071,915,717
Common stock	5,359,578	5,359,578

30-2 Details of capital surplus and capital adjustments as of December 31, 2022 and 2021, are as follows (Korea won in millions):

Classification	December 31, 2022	December 31, 2021
Capital surplus (*)	6,159,820	9,653,868
Capital adjustments		
Stock option	17	2
Others	(37,703)	(38,281)
Subtotal	(37,686)	(38,279)
Total	6,122,134	9,615,589

(\*) As of December 31, 2022, the Group capital surplus includes the amount recognized at the time of the business combination under common control. In addition, if the total amount of capital reserve (capital surplus) and legal reserve in Article 461-2 of the Commercial Act exceeds 1.5 times the capital share, the capital reserve (capital surplus) and legal reserve can be reduced within the range of the exceeding amount according to the resolution of the general meeting. Consequently, the Bank, through the resolution of the general meeting on December 14, 2022, reduced ₩ 3,500,000 million of capital surplus and transferred it to retained earnings.

30-3 Details of hybrid securities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Issuance date	Expiry date	Annual interest rate (%)	December 31, 2022	December 31, 2021
Hybrid securities in Korean won	2013-10-25	2043-10-25	5.45	179,737	179,737
Hybrid securities in foreign currencies	2021-10-19	-	3.50	353,738	353,738
Total				533,475	533,475

The Group can repay the above hybrid securities early after five or 10 years after the issuance date, and can extend the maturity under the same terms on the expiry date.

### 31. Accumulated other comprehensive income (loss)

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

<2022>

Classification	Beginning balance	Increase (decrease) (excluding reclassification and transfer of retained earnings)	Transfer of retained earnings	Changes in equity in subsidiaries	Reclassification (*)	Tax effects	Ending balance
Gain (loss) on valuation of financial assets at FVOCI	(387,864)	(840,352)	3,692	(53)	(8,956)	214,886	(1,018,647)
Changes in equity of investments in associates	73,448	1,132	-	-	-	816	75,396
Gain (loss) on valuation of net investment hedges of foreign operations	(29,294)	(28,315)	-	-	-	7,787	(49,822)
Exchange differences on translation of foreign operations	(89,441)	7,555	-	97	-	(2,397)	(84,186)
Gain (loss) on valuation of fair value hedges	(13,123)	(16,360)	-	-	-	4,499	(24,984)
Remeasurement of defined benefit plans	(469,703)	8,860	-	-	-	(2,447)	(463,290)
Total	(915,977)	(867,480)	3,692	44	(8,956)	223,144	(1,565,533)

(\*) Loss on valuation of financial assets at FVOCI and changes in equity of investments in associates recognized as accumulated other comprehensive income (loss) is reclassified due to disposal of financial assets at FVOCI.

<2021>

Classification	Beginning balance	Increase (decrease) (excluding reclassification and transfer of retained earnings)	Transfer of retained earnings	Reclassification (*)	Tax effects	Ending balance
Gain (loss) on valuation of financial assets at FVOCI	(46,436)	(320,675)	(51,211)	(101,306)	131,764	(387,864)
Changes in equity of investments in associates	(97,765)	236,155	-	-	(64,942)	73,448
Gain (loss) on valuation of net investment hedges of foreign operations	11,494	(56,259)	-	-	15,471	(29,294)
Exchange differences on translation of foreign operations	(353,390)	282,421	-	-	(18,472)	(89,441)
Gain (loss) on valuation of fair value hedges	1,015	(19,500)	-	-	5,362	(13,123)
Remeasurement of defined benefit plans	(517,110)	65,190	-	-	(17,783)	(469,703)
Total	(1,002,192)	187,332	(51,211)	(101,306)	51,400	(915,977)

(\*) Loss on valuation of financial assets at FVOCI and changes in equity of investments in associates recognized as accumulated other comprehensive income (loss) is reclassified due to disposal of financial assets at FVOCI.

## 32. Retained earnings

32-1 Details of retained earnings as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Legal reserve		
Earned surplus reserve (*1)	2,050,800	1,812,700
Voluntary reserve		
Revaluation reserves on property, plant and equipment (*2)	203,998	211,060
Other reserves (*3)	87,276	174,641
Regulatory reserve for bad debts (*4)	2,617,149	2,306,671
Other voluntary reserves	5,450,200	5,432,681
Subtotal	8,358,623	8,125,053
Unappropriated retained earnings	8,826,892	3,959,564
Total	19,236,315	13,897,317

(\*1) Article 40 of the Banking Law of the Republic of Korea requires the Group to appropriate at least 10% of net income after income tax to legal reserve in every time to pay dividends, until such reserve equals 100% of its paid-in capital.

(\*2) The Group records gains from revaluation of property, plant and equipment previously recognized as other comprehensive income to the voluntary reserve, as it applies the revaluation amount as deemed cost at the first-time adoption of K-IFRS. The reserve is recognized in distributable retained earnings when the relevant property, plant and equipment are disposed.

(\*3) Relevant Japanese regulations require the Group's overseas branches located in Japan to appropriate a minimum of 10% of net income for the period as a legal reserve, until the reserve equals ¥2,000 million. This reserve is restricted to be used upon liquidation of the Japanese branches. Chennai, Panama, Singapore, Hong Kong, Hanoi and Ho Chi Minh branches' statutory reserves are included in other reserves in accordance with India, Panama, Singapore and Vietnam's regulations.

(\*4) The Group has provided allowances for possible loan losses in accordance with K-IFRS. The difference in this amount and the provision for possible loan and other asset losses accumulated in accordance with the minimum accumulation ratio required by FSS is reserved as regulatory reserve for bad debts.

32-2 Changes in appropriated retained earnings for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Beginning balance	13,897,317	12,414,342
Net income	3,095,845	2,570,361
Dividends	(1,230,400)	(1,114,700)
Dividends on hybrid equity securities	(23,770)	(9,814)
Reclassification of valuation gain on equity securities at FVOCI upon derecognition	(2,677)	37,128
Capital surplus income	3,500,000	-
Ending balance	19,236,315	13,897,317

### 32-3 Dividends

Details of calculation on common stock dividends for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions and shares in units):

Classification	2022(*1)	2021
Number of shares	1,071,915,717	1,071,915,717
Par value per share (In Korean won)	₩5,000	₩5,000
Par dividend ratio	27.05%	19.78%
Dividend per share (In Korean won)	₩1,352.72	₩989.25
Dividends	1,450,000	1,060,400
Net income (*2)	3,095,845	2,570,361
Dividend pay-out ratio based on net income	46.84%	41.25%
Adjusted income after deducting provisions for bad debt reserve (*2)	3,119,771	2,282,608
Dividends pay-out ratio based on adjusted income after deducting provisions for bad debt	46.48%	46.46%

(\*1) Dividends for 2022 will be submitted to the general board of directors meeting scheduled for March 23, 2023.

(\*2) Adjusted income after deducting provisions for bad debt reserve is based on the controlling company's shares.

### 33. Regulatory reserve for bad debts

Regulatory reserve for bad debt is calculated and disclosed in accordance with Article 29, Section 1 and 2 of Regulation on Supervision of Banking Business of the Republic of Korea.

33-1 Details of regulatory reserve for bad debts as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Beginning balance	2,714,034	2,426,281
Planned provision for (reversal of) bad debts	(23,926)	287,753
Ending balance	2,690,108	2,714,034

33-2 Provisions for (Reversal of) bad debt reserve and income adjusted for deductions of provisions for bad debt for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Net income attributable to equity holders of the parent company before deducting provisions for bad debt	3,095,845	2,570,361
Provision for (Reversal of) bad debt reserve	23,926	(287,753)
Adjusted income after deducting provisions for bad debt	3,119,771	2,282,608
Basic EPS adjusted after reflecting reserve for bad debt (*1) (In Korean won)	₩2,888	₩2,120
Diluted EPS adjusted after reflecting reserve for bad debt (*2) (In Korean won)	₩2,888	₩2,120

(\*1) The dividend on hybrid equity securities in the amount of ₩23,770 million and ₩9,814 million for the years ended December 31, 2022 and 2021, respectively, was deducted from the adjusted income after reflecting the bad debt reserve for the calculation of earnings per share after reflecting reserve for bad debt for each period.



(\*2) Since the Bank does not have dilutive potential ordinary stock, basic EPS is the same as diluted earnings per share.

#### 34. Operating income and operating expenses

34-1 Operating income for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	2022	2021
Interest income	13,347,231	8,786,664
Fees and commission income	874,721	837,656
Gains on financial instruments at FVTPL	31,421,014	15,513,403
Gains on fair value hedging derivative instruments	397,349	125,097
Gains on financial instruments at FVOCI	10,551	85,575
Gains on financial instruments at amortized cost	4	20
Changes in credit risk loss for financial instruments	603	194
Other operating income	7,615,689	4,791,160
Total	53,667,162	30,139,769

34-2 Operating expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Interest expenses	5,738,554	2,636,067
Fees and commission expenses	281,109	284,862
Loss on financial instruments at FVTPL	31,296,313	14,964,836
Loss on fair value hedging derivative instruments	460,900	172,783
Loss on financial instruments at FVOCI	8,389	6,315
Changes of credit risk losses in financial assets	658,252	243,533
General and administrative expenses	3,318,831	2,973,063
Other operating expenses	7,838,212	5,439,873
Total	49,600,560	26,721,332

### 35. Net interest income

35-1 Interest income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Interest income in accordance with the effective interest rate method		
Interest income on due from banks	277,868	63,408
Interest income on loans	11,761,608	7,838,715
Interest income on financial assets at FVOCI	544,009	441,497
Interest income on securities at amortized cost	698,892	403,373
Subtotal	13,282,377	8,746,993
Interest income on financial instruments at FVTPL	64,854	39,671
Total	13,347,231	8,786,664

35-2 Interest expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Interest expense on deposit liabilities	4,558,562	2,041,287
Interest expense on borrowings	342,306	106,801
Interest expenses on financial instruments at FVTPL	4,045	4,591
Interest expense of debentures	671,472	438,438
Interest expense of lease liabilities	15,857	11,272
Others	146,312	33,678
Total	5,738,554	2,636,067

36. Net fees and commission income

36-1 Fees and commission income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Commissions received from loans and others	521,833	523,884
Commissions received on payment guarantees	89,740	78,364
Commissions related to foreign exchange	263,148	235,408
Total	874,721	837,656

36-2 Fees and commission expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Commissions paid	226,715	198,005
Commissions related to foreign exchange	54,394	86,857
Total	281,109	284,862

### 37. Net gain (loss) from financial instruments at FVTPL

37-1 Details of gain (loss) on financial instruments at FVTPL for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Gain on financial instruments at FVTPL		
Financial instruments at FVTPL		
Gain on valuation	138,271	111,611
Gain on disposals	35,850	51,321
Subtotal	174,121	162,932
Derivatives instruments held for trading		
Gain on valuation of derivatives		
Gain on currency-related derivatives	8,065,307	4,931,244
Gain on interest rate-related derivatives	908,399	303,789
Gain on stock-related derivatives	3,333	2,394
Others	-	1,959
Subtotal	8,977,039	5,239,386
Gain on transaction of derivatives		
Gain on currency-related derivatives	16,472,062	7,837,014
Gain on interest rate-related derivatives	5,744,598	2,253,170
Gain on stock-related derivatives	13,394	4,340
Subtotal	22,230,054	10,094,524
Gain on securities sold	6,269	6,491
Total	31,387,483	15,503,333
Loss on financial instruments at FVTPL		
Financial instruments at FVTPL		
Loss on valuation	253,836	90,766
Loss on disposals	106,893	59,870
Others	1,408	157
Subtotal	362,137	150,793
Derivatives instruments held-for-trading		
Loss on valuation of derivatives		
Loss on currency-related derivatives	8,742,678	4,911,052
Loss on interest rate-related derivatives	1,080,768	492,489
Loss on stock-related derivatives	23,154	2,012

Classification	2022	2021
Others	3,020	–
Subtotal	9,849,620	5,405,553
Loss on transaction of derivatives		
Loss on currency-related derivatives	16,406,795	7,441,737
Loss on interest rate-related derivatives	4,660,249	1,956,104
Loss on stock-related derivatives	9,687	5,479
Subtotal	21,076,731	9,403,320
Loss on securities sold	7,825	4,758
Total	31,296,313	14,964,424
Net amount	91,170	538,909

37-2 Details of gain (loss) on financial instruments designated at FVTPL for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	2022	2021
Gain on financial instruments designated at FVTPL		
Deposits		
Gain on valuation	33,531	10,058
Gain on disposals	–	12
Total	33,531	10,070
Loss on financial instruments designated as at FVTPL		
Deposits		
Loss on disposals	–	412
Total	–	412
Net amount	33,531	9,658

38. Gain (loss) on derivative financial instruments used for hedging

Gain (loss) on derivative instruments used for hedging for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	2022	2021
Gain on hedged item		
Gain on valuation		
Gain on valuation of debentures	320,975	99,966
Gain on valuation of deposits	71,015	16,558
Subtotal	391,990	116,524
Gain on transaction		
Gain on transaction of debentures	731	4,012
Gain on transaction of deposits	–	426
Subtotal	731	4,438
Derivative instruments used for hedging		
Gain on valuation of derivatives		
Gain on valuation of currency-related derivatives	–	3,534
Gain on transaction of derivatives		
Gain on transaction of currency-related derivatives	2,048	594
Gain on transaction of interest-related derivatives	2,580	7
Subtotal	4,628	601
Total	397,349	125,097
Loss on hedged item		
Loss on valuation		
Loss on valuation of debentures	4,365	–
Loss on transaction		
Loss on transaction of debentures	–	887
Derivative instruments used for hedging		
Loss on valuation of derivatives		
Loss on valuation of currency-related derivatives	129,661	67,910
Loss on valuation of interest-related derivatives	325,170	99,231

Classification	2022	2021
Subtotal	454,831	167,141
Loss on transaction of derivatives		
Loss on transaction of currency-related derivatives	90	991
Loss on transaction of Interest-related derivatives	1,614	3,764
Subtotal	1,704	4,755
Total	460,900	172,783
Net amount	(63,551)	(47,686)

### 39. Gain (loss) on financial instruments at FVOCI

Details of gain (loss) on financial instruments designated at FVOCI for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Gain on disposal of financial instruments at FVOCI	10,551	85,575
Loss on disposal of financial instruments at FVOCI	8,389	6,315
Net amount	2,162	79,260

#### 40. Gain (loss) on financial instruments at amortized cost

Details of gain (loss) on financial instruments designated at amortized cost for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

Classification	2022	2021
Gain on disposal of financial instruments at amortized cost	4	20

The Group disposed of some securities at amortized cost in accordance with the exercise of an option (put option) by the issuer of the securities for the year ended December 31, 2022.

#### 41. Provision for (Reversal of) credit loss

Provision for (Reversal of) bad debts due to the change in credit loss for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	2022	2021
Provision for (Reversal of) credit loss of debt securities at FVOCI	(603)	(194)
Provision for possible loan loss for debt securities at amortized cost	66,966	10,282
Provision for bad debts of loan losses	585,006	231,313
Provision for (Reversal of) bad debts of other asset losses	6,280	1,938
Total	657,649	243,339



## 42. General and administrative expenses

General and administrative expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Salaries	1,615,246	1,618,235
Retirement benefits—defined benefits plans	144,346	158,520
Retirement benefits—defined contribution plans	261	208
Termination benefits	177,008	1,987
Employee welfare benefits	100,551	79,738
Depreciation	342,481	337,576
Amortization	95,591	88,850
Rental fees (*)	51,099	54,621
Entertainment expenses	16,455	15,266
Taxes and dues	121,087	93,843
Advertising expenses	181,095	109,461
Others	473,611	414,758
Total	3,318,831	2,973,063

(\*) There is no amount corresponding to small lease expenses for the year ended December 31, 2022, and the amount corresponding to small lease expenses for the year ended December 31, 2021, was ₩72 million.

#### 43. Other operating income

Details of other operating income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Gain on disposal of loans	22,954	43,945
Reversal of payment guarantees	–	1,104
Reversal of allowances for unused commitments	3,347	13,023
Reversal of other allowances	20,228	–
Trust commissions	177,573	167,404
Gain on foreign exchange transaction	7,170,247	4,347,762
Gain on merchant banking accounts (*)	119,943	46,395
Dividend income	10,798	11,407
Others	90,599	160,120
Total	7,615,689	4,791,160

(\*) Details of gain on merchant banking accounts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Interest income	93,710	24,628
Fees and commission income	492	375
Gain on disposal of debt securities at FVTPL	1,897	1,796
Gain on valuation of debt securities at FVTPL	910	–
Gain on valuation of CMA securities	103	–
Gain on disposal of bills	22,831	19,596
Total	119,943	46,395

#### 44. Other operating expenses

Details of other operating expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Loss on disposal of loans	3,070	12
Provision for unused commitments	44,922	–
Provisions for other allowances	–	18,600
Contribution to Korea Credit Guarantee Fund	409,833	369,238
Insurance fee on deposit	449,567	443,482
Loss on foreign exchange transaction	6,794,255	4,553,986
Loss on merchant banking accounts (*)	89,351	20,853
Others	47,214	33,702
Total	7,838,212	5,439,873

(\*) Details of loss on merchant banking accounts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Interest expenses	89,351	20,402
Others	–	451
Total	89,351	20,853

#### 45. Non-operating income

Details of non-operating income for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Rental fee income	9,608	8,485
Gain on disposal of property, plant and equipment	6,202	11,168
Gain on disposal of investment properties	7,241	22,811
Gain on disposal of intangible assets	–	37
Gain on disposal of investments in associates and a joint venture	3,414	389
Gain on equity method	221,832	136,687
Gain on termination of right-of-use assets	1,511	1,677
Others	17,485	56,599
Total	267,293	237,853

#### 46. Non-operating expenses

Details of non-operating expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Loss on disposal of property and equipment	1,146	5,128
Loss on impairment of property and equipment	12	7,963
Loss on disposal of investment properties	1,044	4,608
Loss on impairment of investment properties	–	4,859
Loss on disposal of intangible assets	–	1,304
Loss on impairment of intangible assets	220	13
Loss on equity method	32,819	9,015
Collection expenses for written-off claims	1,741	1,578
Collection commissions for written-off claims	5,455	6,204
Loss on disposal of investments in associates	1,099	5,901
Loss on impairment of investments in associates	520	628
Loss on termination of right-of-use assets	1,871	4,310
Donations	42,321	54,984
Others	74,161	71,321
Total	162,409	177,816

#### 47. Income tax expenses

47-1 The components of income tax expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Current income taxes		
Current income taxes	1,214,080	1,017,075
Prior year's income tax adjustments recognized in the current year	(24,481)	(5,001)
Changes in deferred tax assets (liabilities)	(282,051)	(96,169)
Income taxes directly recognized in equity	224,156	37,317
Tax effect of consolidated tax returns	(71,917)	(50,494)
Income tax expenses	1,059,787	902,728

47-2 Reconciliations of income tax expenses applicable to the net income before income tax expenses at the Korea statutory tax rate and to income tax expenses at the effective income tax rate of the Group for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Net income before tax	4,171,486	3,478,474
Tax at domestic statutory rate (*)	1,168,977	935,405
Non-taxable income	(7,176)	(3,658)
Expenses not deductible for tax purposes	4,184	5,901
Tax credit	(28,674)	(30,120)
Income tax expenses of foreign branches and subsidiaries	60,708	46,874
Tax effect of consolidated tax return	(71,917)	(50,494)
Prior year's income tax adjustments recognized in the current year	(24,481)	(5,001)
Others (Effect of tax rates change, etc.)	(41,834)	3,821
Income tax expenses	1,059,787	902,728

Classification	2022	2021
Effective tax rate (%)	25.41	25.95

(\*) 11% is applied to income under ₩200 million, 22% is applied to income exceeding ₩200 million and under ₩20 billion, 24.2% is applied to income exceeding ₩20 billion and under ₩300 billion and 27.5% is applied to income above ₩300 billion.

47-3 Temporary differences and deferred tax assets (liabilities) as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Deductible (taxable) temporary differences	Deferred tax assets (liabilities)
Gain (loss) on valuation of securities	559,829	147,795
Valuation of investment in associates	(589,134)	(155,531)
Gain (loss) on valuation of derivatives	927,438	244,844
Deemed dividends	281,421	74,295
Deferred loan fees, net of expenses	(363,572)	(95,983)
Accrued income	(344,814)	(91,031)
Accrued expenses	94,987	25,077
Provisions for payment guarantees	81,109	21,413
Plan assets	(1,987,305)	(524,648)
Defined benefit obligations	1,987,305	524,648
Other provisions	429,186	113,305
Bad debt expenses	707,373	186,747
Depreciation	(1,724)	(455)
Fair value valuation resulting from merger	6,937	1,831
Dormant deposits	22,133	5,843
Allowance for advanced depreciation	(180,315)	(47,603)
Deemed cost for property and equipment	(607,839)	(160,469)
Gain (loss) on valuation of financial instruments at FVOCI	1,380,998	364,583
Investment in kind	18,479	4,878
Financial guarantee contracts	4,631	1,222
Others	(1,657,614)	(437,611)
Subtotal	769,509	203,150
Domestic deferred tax assets		203,150
Foreign deferred tax assets (*)		112,868
Foreign deferred tax liabilities(*)		(2,259)

Classification	Deductible (taxable) temporary differences	Deferred tax assets (liabilities)
Total		313,759

(\*) Deferred tax assets of foreign branches are not offset against the deferred tax liabilities due to the differences in tax jurisdictions.

<December 31, 2021>

Classification	Deductible (taxable) temporary differences	Deferred tax assets (liabilities)
Gain on valuation of securities	358,807	98,672
Valuation of investment in associates	(584,697)	(160,792)
Loss on valuation of derivatives	(255,783)	(70,340)
Deerred dividends	292,686	80,489
Deferred loan fees, net of expenses	(388,842)	(106,932)
Accrued income	(211,289)	(58,104)
Accrued expenses	49,102	13,503
Provisions for payment guarantees	33,345	9,170
Plan assets	(1,849,862)	(508,712)
Defined benefit obligations	2,013,771	553,787
Other provisions	408,579	112,359
Bad debt expenses	722,889	198,794
Depreciation	(1,428)	(393)
Fair value valuation resulting from merger	9,281	2,552
Dormant deposits	25,219	6,935
Allowance for advanced depreciation	(180,315)	(49,587)
Deerred cost for property and equipment	(615,586)	(169,286)
Gain on valuation of financial instruments at FVOCI	544,460	149,727
Investment in kind	18,479	5,082
Financial guarantee contracts	4,127	1,135
Deferred reward points income	7	2
Others	129,511	35,616
Subtotal	522,461	143,677
Domestic deferred tax assets		143,677
Foreign deferred tax assets (*)		39,174
Foreign deferred tax liabilities(*)		(151,143)
Total		31,708

(\*) Deferred tax assets of foreign branches are not offset against the deferred tax liabilities due to the differences in tax jurisdictions.



The effective income tax rate of 26.4% as of December 31, 2022, is applied when calculating deferred tax assets or liabilities. Also, deferred tax assets are recognized when it is foreseeable that future taxable income will be incurred and that future tax credits will be realized.

47-4 The unrealized temporary differences on investment assets of associates related companies as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Less: temporary difference	337,867	337,867
Add: temporary difference	(355,579)	(355,579)
Total	(17,712)	(17,712)

47-5 Changes in deferred taxes charged (credited) directly to equity for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<2022>

Classification	December 31, 2022	December 31, 2021	Changes
Gain on valuation of financial assets at FVOCI	362,656	147,772	214,884
Changes in equity on investments in associates	(27,044)	(27,859)	815
Exchange differences on translation of foreign operations	213	2,610	(2,397)
Gain (loss) on valuation of net investment hedges of foreign operations	18,898	11,112	7,786
Gain (loss) on valuation of fairvalue hedges	9,477	4,978	4,499
Remeasurement of defined benefit plans	161,991	164,438	(2,447)
Subtotal	526,191	303,051	223,140
Reclassification as loss on valuation of equity securities at FVOCI			1,016
Total			224,156

<2021>

Classification	December 31, 2021	December 31, 2020	Changes
Gain on valuation of financial assets at FVOCI	147,772	16,008	131,764
Changes in equity on investments in associates	(27,859)	37,083	(64,942)
Exchange differences on translation of foreign operations	2,610	21,082	(18,472)
Gain (loss) on valuation of net investment hedges of foreign operations	11,112	(4,359)	15,471
Gain (loss) on valuation of fairvalue hedges	4,978	(384)	5,362
Remeasurement of defined benefit plans	164,438	182,221	(17,783)
Subtotal	303,051	251,651	51,400
Reclassification as loss on valuation of equity securities at FVOCI			(14,083)
Total			37,317

#### 48. Earnings per share

48-1 Weighted-average number of common stocks for the years ended December 31, 2022 and 2021, are as follows (shares):

Classification	Periods	Number of shares	Weights	Weighted-average number of ordinary stocks
December 31, 2022	2022.01.01~2022.12.31	1,071,915,717	365/365	1,071,915,717
December 31, 2021	2021.01.01~2021.12.31	1,071,915,717	365/365	1,071,915,717

Since the Group does not have potentially dilutive common stock, the weighted average number of common stock outstanding per basic share is the same as the weighted-average number of shares of common stock outstanding per diluted share.

48-2 The Group's basic EPS for the years ended December 31, 2022 and 2021, are calculated as follows (Korean won in millions except per share amounts):

Classification	2022	2021
Net income attributable to equity holders of the parent for the year	3,095,845	2,570,361
Dividends on hybrid equity securities	(23,770)	(9,814)
Total	3,072,075	2,560,547
Weighted-average number of shares of common stocks outstanding	1,071,915,717	1,071,915,717
Basic EPS (In Korean won) (*)	₩2,866	₩2,389

(\*) Basic EPS are the same as diluted EPS for the years ended December 31, 2022 and 2021.

#### 49. Share-based payment

When the stock options are exercised, the Group has the option to settle either through issuance of new shares or treasury stock or through payment of cash equivalents to the difference between the market price and the exercise price. The number of exercisable stock options is determined in accordance with management performance and the calculation criteria for the number of exercisable shares. In addition, the Group operates a Performance Share Plan to provide performance-linked shares to the executives and heads of the Group.

49-1 Details of liabilities related to share-based payment and total intrinsic value of rights accounted for as accounts payable in case that option holders achieve rights to receive cash or other assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Book value of liabilities related to share-based payment		
Performance Share (granted by the Group)	36,127	31,949

49-2 The compensation costs for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Costs recognized due to share-based payment		
Equity-linked special incentive (granted by the Group)	10,782	15,197
Stock options (granted by subsidiary)	15	2
Total	10,797	15,199

49-3 Details of performance-linked stocks granted to the executives and department head of the Group as of December 31, 2022 are as follows:

Classification	8th	9th	10th	11th	12th
Granted by	Hana Bank	Hana Bank	Hana Bank	Hana Bank	Hana Bank
Grant date	2018.01.01	2019.01.01	2020.01.01	2021.01.01	2022.01.01
Payment date	2020.12.31	2021.12.31	2022.12.31	2023.12.32	2024.12.31
Grant period	2018.01.01~2020.12.31	2019.01.01~2021.12.31	2020.01.01~2022.12.31	2021.01.01~2023.12.31	2022.01.01~2024.12.31
Grace period	2021.01.01~2021.12.31	2022.01.01~2022.12.31	2023.01.01~2023.12.31	2024.01.01~2024.12.31	2025.01.01~2025.12.31
Payment period	Within 2022.4.30	Within 2023.4.30	Within 2024.4.30	Within 2025.04.30	Within 2026.4.30
Grant method	Payment of cash equivalents to the difference between the market price and the exercise price	Payment of cash equivalents to the difference between the market price and the exercise price	Payment of cash equivalents to the difference between the market price and the exercise price	Payment of cash equivalents to the difference between the market price and the exercise price	Payment of cash equivalents to the difference between the market price and the exercise price
Shares at settlement date (*)	10,438 shares	335,446 shares	275,347 shares	148,721 shares	56,515 shares

(\*) The Group provides the executives and department head of the Group with the right to receive stocks. The number of stocks granted is adjusted based on the performance. The number of stocks granted is adjusted based on the assessment indicator that constitutes the Group's performance (relative shareholders' rate of return) of 40% and the Group's performance (ROE, net income, soundness) of 60%.

49-4 Details of the stock option granted by the Group as of December 31, 2022, are as follows:

Classification	Details
Granted by	GLN international Inc.
Stocks subject to exercise	Registered common stock of GLN international Inc.
Grant method	Issuance of new shares
Grant date	2021.11.04
Number of shares	400,000
Exercise period	2024.11.04~2029.11.03
Exercise price	₩500
Evaluation model	LSMC(Least-Squares Monte Carlo) simulation
Risk-free rate	Treasury bond rate

Classification	Details
Stock price volatility	15.48%
Interest rate volatility	Periodic volatility applied to Hull and White model
Fair value per share(*)	₩109.03

(\*) The fair value per share is the fair value at the time the stock option is granted.

49-5 There is no stock purchase option that can be exercised as of December 31, 2022

#### 50. Cash flow information

50-1 Details of cash and cash equivalents as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Cash	1,903,972	2,023,877
Due from banks in Korean won	15,950,890	13,047,514
Due from banks in foreign currencies	23,232,995	12,622,541
Subtotal	41,087,857	27,693,932
Restricted balances (*)	2,010,077	1,624,307
Deposits with a maturity of more than three months at the time of acquisition	577,354	590,990
Net amount	38,500,426	25,478,635

(\*) Restricted balances exclude reserve deposits that meet the definition of cash equivalents.

50-2 Significant non-cash transactions for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	2022	2021
Reduction in capital surplus	3,500,000	-
Change in right-of-use assets during the period	306,049	133,060
Change in lease liabilities during the period	311,888	122,651
Gain on valuation of financial assets at FVOCI	852,663	422,742
Transfer from property, plant and equipment to investment properties	97,994	250,324
Changes in equity on investments in associates	1,132	236,155
Exchange differences on translation of foreign operations	313	300,301
Conversion from debt instruments	40,370	-

50-3 Reconciliation of liabilities arising from financing activities for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

<2022>

Classification	Beginning balance	Financing activities	Exchange rate fluctuation	Fair value hedging	Acquisition and termination of lease	Others	Ending balance
Borrowings	17,524,480	3,926,509	805,608	-	-	-	22,256,597
Debentures	27,699,757	(1,465,060)	257,968	(271,934)	-	12,608	26,233,339
Lease liabilities	561,562	(199,280)	-	-	311,888	(6,391)	667,779
Total	45,785,799	2,262,169	1,063,576	(271,934)	311,888	6,217	49,157,715

<2021>

Classification	Beginning balance	Financing activities	Exchange rate fluctuation	Fair value hedging	Acquisition and termination of lease	Others	Ending balance
Borrowings	17,106,246	(510,352)	928,586	-	-	-	17,524,480
Debentures	24,383,015	2,943,323	392,646	(24,207)	-	4,980	27,699,757
Lease liabilities	673,481	(220,521)	-	-	122,651	(14,049)	561,562
Total	42,162,742	2,212,450	1,321,232	(24,207)	122,651	(9,069)	45,785,799

## 51. Related parties

51-1 Transactions with related parties for the years ended December 31, 2022 and 2021, are summarized as follows (Korean won in millions):

<2022>

Classification	Entity	Income			Expenses			
		Interest income	Fees and commission income	Other income	Bad debt expenses	Interest expenses	Fees and commission expenses	Other expenses
Ultimate parent company	Hana Financial Group (HFG)	15	4,421	-	-	58	-	-
Associates	Bank of Jilin	100	3	-	-	-	-	5
	CM International financing leases	2,407	-	-	16,015	-	-	-
	Beijing Langzi Asset Management Co., Ltd.	67	1	1	(22)	8	-	-
	Hana Equity Partners I, L.P	-	5	-	-	2	-	-
	Korea Credit Bureau	978	-	-	16	108	-	-
	Templeton Hana Asset Management Co., Ltd.	-	1	2	-	213	-	-
	Hana - KVIC Unicorn Fund of Funds	-	-	-	-	78	-	-
	Bank for Investment and Development of Vietnam (BIDV)	780	-	-	(15)	1,284	1	-
	Hana Micro Finance., Ltd.	-	1,600	-	(343)	-	-	-
	All Together Korea Fund 5	-	-	62	-	-	-	-
	Hana Ventures No. 7 New Technology Business Investment Association	-	3	-	-	3	-	-
	TossBank Corp.	10,541	-	1	-	2	-	-
	SHINJIN INTERNATIONAL COPORATION	4	-	-	-	-	-	-
	Inhee.Co.,Ltd	-	1	-	-	-	-	-
	Sinsa Station area Complex Development PFV Co., Ltd.	1,606	100	-	9,199	-	-	-
	Hana-Capstone AI Platform Fund	-	-	-	-	54	-	-
	Cheongna Medipolis PFV Co., Ltd.	-	-	-	-	53	-	-
Hana Beyond Finance Fund	-	8	-	-	229	-	-	
	Subtotal	16,483	1,722	66	24,850	2,034	1	5
Joint venture	PT. SINARMAS HANA FINANCE	2,398	2	-	76	-	-	-
Entities under common control	Hana Securities Co., Ltd.	76	1,947	469,067	44	3,823	-	552,481
	Hana Card Co., Ltd.	29	36,985	6,813	20	2,574	8,803	562
	Hana Capital Co., Ltd.	17	407	-	4	300	-	398
	Hana Asset Trust Co., Ltd.	-	39	-	-	3,856	3,380	-
	Hana Alternative Asset Management Co., Ltd.	5	53	-	-	823	-	-
	Hana TI Co., Ltd.	-	16	56	-	7,368	7,099	77,039
	Hana Life Insurance Co., Ltd.	8	10,757	7,782	-	31	-	3,066
	Hana Savings Bank	-	19	-	-	-	-	-
	Hana Investors Services Company	7	2	-	-	47	-	-
	Hana Ventures Inc.	-	1	-	-	97	-	-
	Hana Alternative Special Investment Private Trust No. 123-1	2,775	-	1,916	-	-	-	-
	Hana F&I Inc	298	237	1	2	72	-	-
	Hana Ventures No. 4 New Technology Business Investment Association	-	3	-	-	2	-	-
	Hana Insurance. Co., Ltd.	-	48	9	-	-	2,141	-
Hana Alternative Infra Special Investment Private Trust No.3-1	-	-	499	-	-	-	-	
Hana Alternative Infra Special Investment Private Trust No.3-2	-	-	211	-	-	-	-	



Classification	Entity	Income			Expenses			
		Interest income	Fees and commission income	Other income	Bad debt expenses	Interest expenses	Fees and commission expenses	Other expenses
	Hana Ventures No. 6 new technology business investment Association	-	3	-	-	3	-	-
	Hana Alternative Infra Special Investment Private Trust No.3-4	-	-	734	-	-	-	-
	Hana Alternative General Private Real Estate Investment Trust No. 180	-	-	799	-	-	-	-
	Finnq Co., Ltd.	-	405	2	-	486	684	-
	Subtotal	3,215	50,922	487,889	70	19,482	22,107	633,546
Other related parties	Mirae Credit Information Services Corp.	227	10	72	9	42	1,139	-
	UBS Hana Asset Management Co., Ltd.	-	1	9	-	353	-	-
	F&U Credit Information Co., Ltd.	-	17	-	-	11	-	-
	Lotte Ventures Corp.	-	-	1	-	-	-	-
	Hana Power Infrastructure No. 1 Private Investment Co., Ltd.	588	60	-	(69)	20	-	-
	GMHB Co., Ltd.	857	-	-	(266)	1	-	-
	KORAMCO THE ONE REIT	-	-	-	-	-	-	2,069
	Daegu MBC Site Complex Development PFV	5,201	219	-	181	-	-	-
	Lakebridge Growth First Private Investment Co., Ltd	-	-	39	-	1	-	-
	YH Leisure Development Co., Ltd.	3,917	-	-	(160)	29	-	-
	Hana Ventures No. 5 New Technology Business Investment Association	-	-	-	-	6	-	-
	Hana Innovation Venture Scale-up Fund	-	-	-	-	76	-	-
	Hana Must Seven Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Fourteen Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Fifteenth Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Sixteenth Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Seventeen Special Purpose Acquisition Company	-	2	-	-	40	-	-
	Hana Financial Nineteen Special Purpose Acquisition Company	-	-	-	-	29	-	-
	Hana-History No1 Investment Fund	-	-	-	-	3	-	-
	Hana Financial twentieth Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Gyeonggi Hana Turn around Fund No.2	-	-	16	-	94	-	-
	Hana Untact Digital Innovation Fund	-	-	21	-	69	-	-
	Ingok Rental Housing CO., Ltd.	-	-	-	-	1	-	-
	Hana Financial Twenty One Special Purpose Acquisition Company	-	-	-	-	17	-	-
	The Hahm Green Energy Fund	-	-	-	-	25	-	-
	Hana Financial Twenty-second Special Purpose Acquisition Company	-	-	-	-	13	-	-
Hana Financial Twenty-third Special Purpose Acquisition Company	-	-	-	-	12	-	-	
Hana Financial Twenty-fourth Special Purpose Acquisition Company	-	-	-	-	19	-	-	
Hana Financial Twenty-fifth Special Purpose Acquisition Company	-	-	-	-	44	-	-	
Eugene Asia Food Tech Fund-1	-	-	37	-	-	-	-	
	Subtotal	10,790	309	195	(305)	910	1,139	2,069
Key management	Key management	25	-	-	-	89	-	-
	Total	32,926	57,376	488,150	24,691	22,573	23,247	635,620

<2021>

Classification	Entity	Income			Expenses			
		Interest income	Fees and commission income	Other income	Bad debt expenses	Interest expenses	Fees and commission expenses	Other expenses
Ultimate parent company	Hana Financial Group (HFG)	41	4,885	–	–	19	116	–
Associates	Bank of Jilin	62	3	1	–	–	–	2
	CM International financing leases	2,282	–	–	7,590	–	–	–
	Beijing Langzi Asset Management Co.,Ltd.	629	538	20	(50)	8	–	–
	Hana Equity Partners I, L.P	–	6	–	–	8	–	–
	Korea Credit Bureau	–	–	–	–	13	–	–
	Templeton Hana Asset Management Co., Ltd.	–	1	5	–	127	–	–
	Company K Startup Winwin Fund	–	–	–	–	1	–	–
	Hana – KVIC Unicorn Fund of Funds	–	–	–	–	27	–	–
	Our Crowd International Invest III	–	–	137	–	–	–	27
	Bank for Investment and Development of Vietnam (BIDV)	307	–	–	(105)	500	–	–
	Hana Micro Finance., Ltd.	–	1,520	–	(40)	–	–	–
	Hana Ventures No. 7 New Technology Business Investment Association	–	3	–	–	1	–	–
	TossBank Corp.	12	–	–	–	330	–	–
	SHINJIN INTERNATIONAL COOPERATION	–	–	–	92	–	–	–
	Inhee Co.,Ltd	–	2	–	–	–	–	–
	Sinsa Station area Complex Development PFV Co., Ltd.	185	900	–	646	–	–	–
Hana-Capstone AI Platform Fund	–	–	–	–	8	–	–	
	Subtotal	3,477	2,973	163	8,133	1,023	–	29
Joint venture	PT. SINARMAS HANA FINANCE	1,427	1	–	89	–	–	–
Entities under common control	Hana Securities Co., Ltd.	127	3,653	361,563	(19)	881	–	307,850
	Hana Card Co., Ltd.	82	33,094	3,880	(13)	651	6,603	15
	Hana Capital Co., Ltd.	10	735	–	(8)	165	–	580
	Hana Asset Trust Co., Ltd.	–	57	–	–	1,247	2,268	–
	Hana Alternative Asset Management Co., Ltd.	14	51	–	–	353	–	–
	Hana TI Co., Ltd.	–	10	26	–	3,466	6,598	73,988
	Hana Life Insurance Co., Ltd.	23	14,110	4,318	–	31	–	1,067
	Hana Savings Bank	–	10	–	–	–	–	–
	Hana Investors Services Company	20	1	–	–	15	–	–
	Hana Ventures Inc.	–	–	–	–	128	501	–
	Hana F&I Inc	61	139	–	(4)	31	–	–
	Hana Insurance. Co., Ltd.	–	103	–	–	–	481	536
	Hana Alternative Investment Land Chip Real Estate Private Trust 68	–	–	–	–	–	–	43
	Hana Alternative Special Investment Private Trust No.123-1	–	–	3,811	–	–	–	–
	Hana Alternative Infra Special Investment Private Trust No.3-1	–	–	234	–	–	–	–
	Hana Alternative Infra Special Investment Private Trust No.3-2	–	–	611	–	–	–	–
	Hana Ventures No. 4 new technology business investment association	–	3	–	–	–	–	–
	Hana Ventures No. 6 new technology business investment association	–	3	–	–	–	–	–
	Subtotal	337	51,969	374,443	(44)	6,968	16,451	384,079
	Gunsan bio-energy Corp.	–	–	–	–	1	–	–
	Finnq Co., Ltd.	–	674	3	–	19	1,062	–
	Mirae Credit Information Services Corp.	–	10	72	–	18	1,144	–
	UBS Hana Asset Management Co., Ltd.	–	1	15	–	148	–	–
	F&U Credit Information Co., Ltd.	–	10	–	–	4	–	–
	Lotte Ventures Corp.	–	–	1	–	6	–	–
	Hana Power Infrastructure No. 1 Private Investment Co., Ltd.	528	60	–	(104)	17	–	–

Classification	Entity	Income			Expenses			
		Interest income	Fees and commission income	Other income	Bad debt expenses	Interest expenses	Fees and commission expenses	Other expenses
Other related parties	GMHB Co., Ltd.	1,511	-	-	(142)	1	-	-
	KOCREF REIT 30	-	-	-	-	-	-	1,779
	Myoung Shin Industrial Co., Ltd.	8	-	-	(9)	-	-	-
	Fresheasy Co., Ltd.	222	1	-	(3)	41	-	-
	Dowon asset development Co., Ltd.	-	-	-	-	1	-	-
	YH Leisure Development Co., Ltd.	3,994	-	-	(31)	3	-	-
	Hana Ventures No. 5 New Technology Business Investment Association	-	-	-	-	1	-	-
	Hana Innovation Venture Scale-up Fund	-	-	-	-	12	-	-
	Daegu MBC Site Complex Development PFV	805	3,000	-	946	-	-	-
	Lakebridge Growth First Private Investment Co., Ltd	-	-	28	-	-	-	-
	Apollon Private equity fund	-	-	1,863	-	-	-	-
	Hana Must Seven Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Must Sixth Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Fourteen Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Fifteenth Special Purpose Acquisition Company	-	-	-	-	2	-	-
	Hana Financial Sixteenth Special Purpose Acquisition Company	-	-	-	-	1	-	-
	Hana Financial Seventeen Special Purpose Acquisition Company	-	-	-	-	3	-	-
	Hana Financial Nineteen Special Purpose Acquisition Company	-	-	-	-	9	-	-
	Odin2.LLC	14,648	-	-	-	-	-	-
	People Korea Two Co., Ltd.	-	-	-	-	1	-	-
	Subtotal	21,716	3,756	1,982	657	291	2,206	1,779
Key management	Key management	18	-	-	-	44	-	-
	Total	27,016	63,584	376,588	8,835	8,345	18,773	385,887

51-2 Significant financial transactions with related parties for the years ended December 31, 2022 and 2021, are as follows:

51-2-1 Details of significant loans to related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

<2022>

Classification	Entity	Loans (*1)				
		Beginning balance	Increase	Decrease	Others (*2)	Ending balance
Associates	Bank of Jilin	6,300	108,600	(111,700)	-	3,200
	CM International financing leases	63,341	-	-	(1,372)	61,969
	Beijing Langzi Asset Management Co.,Ltd.	11,161	-	(12,083)	922	-
	Korea Credit Bureau	-	40,000	-	-	40,000
	Bank for Investment and Development of Vietnam (BIDV)	11,855	419,413	(425,749)	818	6,337
	TossBank Corp.	-	1,060,000	(1,060,000)	-	-
	SHINJIN INTERNATIONAL COPORATION	1,444	-	-	-	1,444
	Sinsa Station area Complex Development PFV Co., Ltd.	75,500	9,800	(75,500)	-	9,800
	Subtotal	169,601	1,637,813	(1,685,032)	368	122,750
Joint venture	PT. SINARMAS HANA FINANCE	32,491	7,086	(1,572)	(861)	37,144
Entities under common control	Hana Securities Co., Ltd.	924	4,061	(1,746)	-	3,239
	Hana Capital Co., Ltd.	-	100,000	(100,000)	-	-
	Hana Alternative Special Investment Private Trust No. 123-1	-	45,537	(45,537)	-	-
	Hana F&I Inc	-	265,400	(265,400)	-	-
	Subtotal	924	414,998	(412,683)	-	3,239
Other related parties	Mirae Credit Information Services Corp.	-	7,000	-	-	7,000
	Smartscore Co., Ltd.	-	38	(38)	-	-
	Hana Power Infrastructure No. 1 Private Investment Co., Ltd.	13,023	-	(1,907)	-	11,116
	GMHB Co., Ltd.	32,500	-	(32,500)	-	-
	Daegu MBC Site Complex Development PFV	85,120	9,588	-	-	94,708
	YH Leisure Development Co., Ltd.	115,463	-	(3,140)	-	112,323
	Subtotal	246,106	16,626	(37,585)	-	225,147
Key management	Key management	749	25	-	-	774
	Total	449,871	2,076,548	(2,136,872)	(493)	389,054

(\*1) Intraday overdrafts between related parties are excluded.

(\*2) Others include the effect of changes in exchange rate.

<2021>

Classification	Entity	Loans (*1)				
		Beginning balance	Increase	Decrease	Others (*2)	Ending balance
Associates	Bank of Jilin	10,600	216,800	(221,100)	-	6,300
	CM International financing leases	56,793	-	-	6,548	63,341
	Beijing Langzi Asset Management Co., Ltd.	11,675	-	(1,860)	1,346	11,161
	Bank for Investment and Development of Vietnam (BIDV)	16,320	898,147	(904,075)	1,463	11,855
	SHINJIN INTERNATIONAL COPORATION	-	-	-	1,444	1,444
	Sinsa Station area Complex Development PFV Co., Ltd.	-	75,500	-	-	75,500
	Subtotal	95,388	1,190,447	(1,127,035)	10,801	169,601
Joint venture	PT. SINARMAS HANA FINANCE	18,578	15,062	(2,517)	1,368	32,491
Entities under common control	Hana Securities Co., Ltd.	580	10,850	(6,676)	(3,830)	924
	Hana Capital Co., Ltd.	-	130,000	(130,000)	-	-
	Hana F&I Inc	-	126,200	(126,200)	-	-
	Subtotal	580	267,050	(262,876)	(3,830)	924
Other related parties	Smartscore Co., Ltd.	-	70	(70)	-	-
	Hana Power Infrastructure No. 1 Private Investment Co., Ltd.	14,186	-	(1,163)	-	13,023
	GMIHB Co., Ltd.	32,500	-	-	-	32,500
	Myoung Shin Industrial Co., Ltd.	1,000	-	-	(1,000)	-
	Fresheasy Co., Ltd.	9,100	1,600	-	(10,700)	-
	Daegu MBC Site Complex Development PFV	-	85,120	-	-	85,120
	YH Leisure Development Co., Ltd.	116,944	-	(1,481)	-	115,463
	Subtotal	173,730	86,790	(2,714)	(11,700)	246,106
Key management	Key management	690	59	-	-	749
	Total	288,966	1,559,408	(1,395,142)	(3,361)	449,871

(\*1) Intraday overdrafts between related parties are excluded.

(\*2) Others include the effect of changes in exchange rate.

51-2-2 Details of significant cash investments with related parties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Entity	Investment in cash	
		Investment	Collection and others
Associates	Beijing Langzi Asset Management Co., Ltd.	-	(1,708)
	Hana Equity Partners I, L.P	-	(120)
	Templeton Hana Asset Management Co., Ltd.	-	(198)
	Company K Startup Winwin Fund	-	(7,090)
	BSK-6 Patent Technology Investment Association	-	(327)
	Hana - KMC Unicom Fund of Funds	25,130	-
	Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	-	(27)
	All Together Korea Fund 5	62	(62)
	HORIZON PRIVATE EQUITY FUND	-	(15,436)
	TossBank Corp.	70,000	-
	Hana-New Deal K-Growth fund	22,500	-
	Hana-Capstone AI Platform Fund	15,000	-
	Taurus Cloud Fund	77	-
	Hana Beyond Finance Fund	24,000	-
	Defense Technology Innovation Private Investment Trust	2,950	-
Subtotal		159,719	(24,968)
Entities under common control	Hana Securities Co., Ltd.	-	(563)
	Hana Alternative Investment Infrastructure Private Equity Real Estate Investment Trust No. 3-1	14,454	-
	Hana Alternative Infra Special Investment Private Trust No.3-4	356	-
	Hana Alternative Investment General Private Equity Real Estate Investment Trust No.180	37,233	-
Subtotal		52,043	(563)
Other related parties	Hana Digital Transformation Fund	-	(1,596)
	Lakebridge Growth First Private Investment Co., Ltd	-	(175)
	Hana Innovation Venture Scale-up Fund	1,040	-
	Gyeonggi Hana Support Timber Equipment Support Fund No.2	1,350	-
	Hana Untact Digital Innovation Fund	2,700	-
	Hana K-NewDeal Unicom Fund	7,200	-
	The Hahm Green Energy Fund	6,000	-
Subtotal		18,290	(1,771)
Total		230,052	(27,302)

<2021>

Classification	Entity	Investment in cash	
		Investment	Collection and others
Associates	Beijing Langzi Asset Management Co., Ltd.	-	(1,344)
	Hana First Private Equity Fund	-	(4,689)
	Korea Credit Bureau	-	(90)
	Templeton Hana Asset Management Co., Ltd.	-	(990)
	Company K Startup Winwin Fund	-	(300)
	Hana – KMC Unicom Fund of Funds	18,000	-
	Our Crowd International Invest III	-	(497)
	Bank for Investment and Development of Vietnam (BIDV)	-	(6,262)
	Harvest Private Equity Fund Specializing in Start-Up and Venture Business I	-	(27)
	TossBank Corp.	47,500	-
	Sinsa Station area Complex Development PFV Co., Ltd.	450	-
	Hana-New Deal K-Growth fund	1,800	-
	Hana-Capstone AI Platform Fund	15,000	-
	Taurus Cloud Fund	9,401	-
	Cheongna Medpolis PFV Co., Ltd	3,372	-
NPX-Welcome Metaverse Contents fund	1,000	-	
	Subtotal	96,523	(14,199)
Entities under common control	Hana Securities Co., Ltd.	-	(10,877)
	Hana Alternative Infra Special Investment Private Trust No.3-2	950	(9,035)
	Hana Alternative Infra Special Investment Private Trust No.3-4	17,912	-
	Subtotal	18,862	(19,912)
Other related parties	Hana Digital Transformation Fund	-	(3,098)
	Apollon Private equity fund	-	(681)
	Lakebridge Growth First Private Investment Co., Ltd	-	(175)
	Hana Innovation Venture Scale-Up Fund	2,080	-
	Gyeonggi Hana Turn around Fund No.2	2,700	-
	Hana Untact Digital Innovation Fund	1,350	-
	Subtotal	6,130	(3,954)
	Total	121,515	(38,065)

51-2-3 Details of significant deposits with related parties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Entity	Deposits (*1)			
		Beginning balance	Increase	Decrease	Ending balance
Associates	Korea Credit Bureau	-	8,000	-	8,000
	Templeton Hana Asset Management Co., Ltd.	11,000	10,500	(11,000)	10,500
	Company K Startup Winwin Fund	300	-	(300)	-
	Hana Ventures No. 7 New Technology Business Investment Association	-	400	(200)	200
	Hana-Capstone AI Platform Fund	42	42	(42)	42
	Cheongna Medipolis PFV Co., Ltd	-	2,500	-	2,500
	Hana Beyond Finance Fund	-	35,000	-	35,000
	Subtotal	11,342	56,442	(11,542)	56,242
Joint venture	PT. SINARMAS HANA FINANCE	12	5	(12)	5
Entities under common control	Hana Securities Co., Ltd.	5,100	7,560	(1,615)	11,045
	Hana Card Co., Ltd.	1,005	10	(1,005)	10
	Hana Capital Co., Ltd.	-	5,800	(3,900)	1,900
	Hana Asset Trust	165,000	175,000	(165,000)	175,000
	Hana Alternative Asset Management Co., Ltd.	49,000	98,000	(134,000)	13,000
	Hana TI Co., Ltd.	-	100,000	(100,000)	-
	Hana Fund Service Co., Ltd.	-	3,000	-	3,000
	Hana Ventures Inc.	3,000	16,500	(8,500)	11,000
	Hana F&I Inc	-	1,500	(1,500)	-
	Hana Ventures No. 4 New Technology Business Investment Association	-	400	(200)	200
	Hana Ventures No. 6 New Technology Business Investment Association	-	400	(200)	200
	Finnq Co., Ltd.	-	89,000	(41,500)	47,500
	Subtotal	223,105	497,170	(457,420)	262,855
	Mirae Credit Information Services Corp.	300	-	(300)	-
	UBS Hana Asset Management Co., Ltd.	16,000	18,000	(16,000)	18,000
	F&U Credit information Co., Ltd.	509	502	(1,011)	-
	GMHB Co., Ltd.	100	-	-	100
	YH Leisure Development Co., Ltd.	-	5,000	-	5,000
	Creation Innovation Co., Ltd	10	-	(10)	-
	Hana Ventures No. 5 New Technology Business Investment Association	-	1,000	(500)	500
	Hana Innovation Venture Scale-up Fund	-	13,000	(8,000)	5,000
	Hana Financial Nineteenth Special Purpose Acquisition	1,800	13	-	1,813



Classification	Entity	Deposits (*1)			
		Beginning balance	Increase	Decrease	Ending balance
Other related parties	Company				
	Gyeonggi Hana Turn around Fund No.2	-	17,000	(10,000)	7,000
	Hana Untact Digital Innovation Fund	-	13,000	(10,000)	3,000
	Hana Financial Twenty One Special Purpose Acquisition Company	-	2,100	-	2,100
	The Hahm Green Energy Fund	-	5,600	(5,600)	-
	Hana Financial Twenty-second Special Purpose Acquisition Company	-	1,600	-	1,600
	Hana Financial Twenty-third Special Purpose Acquisition Company	-	1,500	-	1,500
	Hana Financial Twenty-fourth Special Purpose Acquisition Company	-	2,450	-	2,450
	Hana Financial Twenty-fifth Special Purpose Acquisition Company	-	5,800	-	5,800
	Subtotal	18,719	86,565	(51,421)	53,863
Key management	Key management	3,596	1,906	-	5,502
	Total	256,774	642,088	(520,395)	378,467

(\*1) Deposits/withdrawals arising from operations between related parties are excluded.

<2021>

Classification	Entity	Deposits (*1)				
		Beginning balance	Increase	Decrease	Others (*2)	Ending balance
Associates	Korea Credit Bureau	3,000	-	(3,000)	-	-
	Templeton Hana Asset Management Co., Ltd.	18,000	11,000	(18,000)	-	11,000
	Company K Startup Winwin Fund	-	300	-	-	300
	Hana - KMC Unicom Fund of Funds	-	15,000	(15,000)	-	-
	TossBank Corp.	20,000	180,000	(200,000)	-	-
	Hana-Capstone AI Platform Fund	-	42	-	-	42
	Subtotal	41,000	206,342	(236,000)	-	11,342
Joint venture	PT. SINARMAS HANA FINANCE	12	23	(24)	1	12
Entities under common control	Hana Securities Co., Ltd.	5,000	2,250	(2,150)	-	5,100
	Hana Card Co., Ltd.	1,005	1,005	(1,005)	-	1,005
	Hana Asset Trust	115,708	560,000	(510,708)	-	165,000
	Hana Alternative Asset Management Co., Ltd.	30,000	135,000	(116,000)	-	49,000
	Hana Investors Services Company	-	100	(100)	-	-
	Hana Ventures Inc.	15,000	3,000	(15,000)	-	3,000
	Hana F&I Inc	1,930	2,190	(4,120)	-	-
	Subtotal	168,643	703,545	(649,083)	-	223,105
Other related parties	Mirae Credit Information Services Corp.	-	310	(10)	-	300
	UBS Hana Asset Management Co., Ltd.	18,000	26,000	(28,000)	-	16,000
	F&J Credit Information Co., Ltd.	506	3	-	-	509
	Lotte Ventures Corp.	1,000	1,500	(2,500)	-	-
	GMHB Co., Ltd.	100	-	-	-	100
	Myoung Shin Industrial Co., Ltd.	40	30	-	(70)	-
	Fresheasy Co., Ltd.	90	450	-	(540)	-
	Creation Innovation Co., Ltd	-	110	(100)	-	10
	Hana Financial Nineteenth Special Purpose Acquisition Company	-	1,800	-	-	1,800
	Subtotal	19,736	30,203	(30,610)	(610)	18,719
Key management	Key management	1,565	2,031	-	-	3,596
	Total	230,956	942,144	(915,717)	(609)	256,774

(\*1) Deposits/withdrawals arising from operations between related parties are excluded.

(\*2) Others include the effect of changes in exchange rate.

51-2-4 Details of significant borrowings from related parties for the years ended December 31, 2022 and 2021 are as follows (Korean won in millions):

<2022>

Classification	Entity	Beginning balance	Increase	Decrease	Others (*)	Ending balance
Associates	Bank for Investment and Development of Vietnam (BIDV)	80,755	1,349,738	(1,422,233)	2,480	10,740

(\*) Others include the effect of changes in exchange rate

<2021>

Classification	Entity	Beginning balance	Increase	Decrease	Others (*)	Ending balance
Associates	Bank for Investment and Development of Vietnam (BIDV)	48,513	647,603	(620,511)	5,150	80,755

(\*) Others include the effect of changes in exchange rate

51-3 Outstanding receivables and payables with related parties arising from the above transactions as of December 31, 2022 and 2021 are summarized as follows (Korean won in millions):

<December 31, 2022>

Classification	Entity	Loans	Other receivables	Allowance for loan losses	Deposits	Other liabilities
Ultimate parent company	Hana Financial Group (HFG)	-	8,715	-	28,718	672,478
Associates	Bank of Jilin	3,200	2,409	-	1,611	-
	CM International financing leases	61,969	-	49,620	18	-
	Beijing Langzi Asset Management Co., Ltd.	-	-	-	3,601	-
	Hana Equity Partners I, L.P.	-	-	-	115	-
	Korea Credit Bureau	40,000	-	16	8,169	-
	Templeton Hana Asset Management Co., Ltd.	-	-	-	10,672	-
	Midan City Development Co., Ltd.	-	-	-	2	-
	Hana - KVIC Unicorn Fund of Funds	-	-	-	3,993	-
	Bank for Investment and Development of Vietnam (BIDV)	6,337	5,394	24	2,045	10,740
	Hana Ventures No. 7 New Technology Business Investment Association	-	-	-	495	-
	SHINJIN INTERNATIONAL CORPORATION	1,444	1	107	-	-
	Sinsa Station area Complex Development PFV Co., Ltd.	9,800	-	9,845	45	-
	Hana-Capstone AI Platform Fund	-	-	-	16,841	-
	Cheongna Medipolis PFV Co., Ltd.	-	-	-	2,500	-
	Hana Beyond Finance Fund	-	-	-	42,439	-
	Subtotal	122,750	7,804	59,612	92,546	10,740
Joint venture	PT. SINARMAS HANA FINANCE	37,144	47	229	5	-

Classification	Entity	Loans	Other receivables	Allowance for loan losses	Deposits	Other liabilities
Entities under common control	Hana Securities Co., Ltd.	3,239	69,942	100	925,719	151,692
	Hana Card Co., Ltd.	-	15,344	150	309,912	44,938
	Hana Capital Co., Ltd.	-	146	54	506,174	4,701
	Hana Asset Trust Co., Ltd.	-	-	-	179,749	1,968
	Hana Alternative Asset Management Co., Ltd.	-	4,229	-	36,762	1,114
	Hana TI Co., Ltd.	-	211,454	-	5,425	217,978
	Hana Life Insurance Co., Ltd.	-	8,691	-	-	4,671
	Hana Investors Services Company	-	4,090	-	4,190	841
	Hana Ventures Inc.	-	-	-	12,876	35
	Hana F&I Inc	-	1,430	27	40,340	284
	Hana Ventures No. 4 New Technology Business Investment Association	-	-	-	245	-
	Hana Insurance. Co., Ltd.	-	-	-	35	-
	HANA ASSET MANAGEMENT ASIA PTE. LTD.	-	-	-	5,117	-
	Hana Ventures No. 6 New Technology Business Investment Association	-	-	-	249	-
	Finnq Co., Ltd.	-	-	-	53,949	-
	Subtotal	3,239	315,326	331	2,080,742	428,222
Other related parties	Gunsan bio-energy Corp	-	-	-	549	-
	Mirae Credit Information Services Corp.	7,000	-	9	2,267	-
	UBS Hana Asset Management Co., Ltd.	-	-	-	18,287	-
	F&U Credit Information Co., Ltd.	-	-	-	1,149	-
	Lotte Ventures Corp.	-	-	-	96	-
	Hana Power Infrastructure No. 1 Private Investment Co., Ltd.	11,116	-	170	4,264	-
	GVIHB Co., Ltd.	-	-	-	100	-
	KORAMCO THE ONE REIT	-	1,354	-	-	-
	DangсандongPFV Co., Ltd.	-	-	-	675	-
	Daegu MBC Site Complex Development PFV	94,708	-	1,127	2	-
	Lakebridge Growth First Private Investment Co., Ltd	-	-	-	330	-
	YH Leisure Development Co., Ltd.	112,323	-	172	5,045	-
	Creation Innovation Co., Ltd	-	-	-	70	-
	Hana Ventures No. 5 New Technology Business Investment Association	-	-	-	592	-
	Hana Innovation Venture Scale-Up Fund	-	-	-	10,943	-
	Hana Must Seven Special Purpose Acquisition Company	-	-	-	1,389	-
	Hana Financial Sixteenth Special Purpose Acquisition Company	-	-	-	1,275	-
	Hana Financial Nineteenth Special Purpose Acquisition Company	-	-	-	2,423	-
	People Korea Two Co., Ltd.	-	-	-	47	-
	Hana Financial Twentieth Special Purpose Acquisition Company	-	-	-	778	-
	Gyeonggi Hana Turn around Fund No.2	-	-	-	11,370	-
	Hana Untact Digital Innovation Fund	-	-	-	8,252	-
	Imgok Rental Housing CO., Ltd.	-	-	-	38	-
	Hana Financial Twenty One Special Purpose Acquisition Company	-	-	-	2,572	-
Choice & Soyern Construction Co., Ltd.	-	-	-	104	-	
Hana Financial Twenty-second Special Purpose	-	-	-	2,007	-	

Classification	Entity	Loans	Other receivables	Allowance for loan losses	Deposits	Other liabilities
	Acquisition Company					
	Hana Financial Twenty-third Special Purpose Acquisition Company	-	-	-	1,911	-
	Hana Financial Twenty-fourth Special Purpose Acquisition Company	-	-	-	2,954	-
	Hana Financial Twenty-fifth Special Purpose Acquisition Company	-	-	-	6,536	-
	Eugene Asia Food Tech Fund-1	-	-	-	247	-
	Subtotal	225,147	1,354	1,478	86,272	-
Key management	Key management	774	-	-	8,007	-
	Total	389,054	333,246	61,650	2,296,290	1,111,440

<December 31, 2021>

Classification	Entity	Loans	Other receivables	Allowance for loan losses	Deposits	Other liabilities
Ultimate parent company	Hana Financial Group (HFG)	-	1,981	-	7,632	526,427
Associates	Bank of Jilin	6,300	11,573	-	3,492	-
	CM International financing leases	63,341	-	35,184	18	-
	Beijing Langzi Asset Management Co., Ltd.	11,161	-	21	13	-
	Hana Equity Partners I, L.P	-	-	-	536	-
	Korea Credit Bureau	-	-	-	109	-
	Templeton Hana Asset Management Co., Ltd.	-	-	-	11,694	-
	Midan City Development Co., Ltd.	-	-	-	2	-
	Company K Startup Winwin Fund	-	-	-	300	-
	Hana - KVIC Unicom Fund of Funds	-	-	-	3,779	-
	Bank for investment and Development of Vietnam(BIDV)	11,855	3,851	39	1,653	80,755
	Hana Micro Finance., Ltd.	-	-	343	-	-
	Hana Ventures No. 7 New Technology Business Investment Association	-	-	-	581	-
	SHINJIN INTERNATIONAL COPORATION	1,444	1	107	-	-
	Inhee.Co.,Ltd	-	-	-	2	-
	Sinsa Station area Complex Development PFV Co., Ltd.	75,500	-	646	92	-
Hana-Capstone AI Platform Fund	-	-	-	2,129	-	
	Subtotal	169,601	15,425	36,340	24,400	80,755
Joint venture	PT. SINARIMAS HANA FINANCE	32,491	33	163	12	-
Entities under common control	Hana Securities Co., Ltd.	924	177,884	56	707,056	185,734
	Hana Card Co., Ltd.	-	4,465	130	117,056	41,794
	Hana Capital Co., Ltd.	-	446	49	246,566	5,006
	Hana Asset Trust Co., Ltd.	-	-	-	233,773	241
	Hana Alternative Asset Management Co., Ltd.	-	675	-	62,538	1,043
	Hana TI Co., Ltd.	-	238,607	-	5,419	240,058
	Hana Life Insurance Co., Ltd.	-	4,291	-	-	2,664
	Hana Investors Services Company	-	967	-	1,114	810
	Hana Ventures Inc	-	-	-	9,545	3
	Hana Ventures No. 6 new technology business investment association	-	-	-	3,149	-
	Hana F&I Inc	-	338	25	44,961	284

Classification	Entity	Loans	Other receivables	Allowance for loan losses	Deposits	Other liabilities
	Hana Ventures No. 4 new technology business investment association	-	-	-	316	-
	Hana Insurance. Co., Ltd.	-	-	-	44	-
	HANA ASSET MANAGEMENT ASIA PTE. LTD.	-	-	-	8,010	-
	Subtotal	924	427,673	260	1,439,547	477,637
Other related parties	Gunsan bio-energy Corp	-	-	-	555	-
	Finnq Co., Ltd.	-	-	-	15,289	-
	Mirae Credit Information Services Corp.	-	-	-	4,631	-
	UBS Hana Asset Management Co., Ltd.	-	-	-	16,328	-
	F&J Credit Information Co., Ltd.	-	-	-	1,266	-
	Smartscore Co., Ltd.	-	-	-	188	-
	Lotte Ventures Corp.	-	-	-	777	-
	Hana Power Infrastructure No. 1 Private Investment Co., Ltd.	13,023	-	239	12,428	-
	GMHB Co., Ltd.	32,500	-	266	100	-
	KOCREF REIT 30	-	1,354	-	-	-
	DangсандongPFV Co., Ltd.	-	-	-	183	-
	Daegu MBC Site Complex Development PFV	85,120	-	946	2,402	-
	Heat Private Equity Fund	-	-	-	1	-
	Lakebridge Growth First Private Investment Co., Ltd	-	-	-	277	-
	YH Leisure Development Co., Ltd.	115,463	-	332	1,788	-
	Creation Innovation Co., Ltd	-	-	-	45	-
	Hana Ventures No. 5 new technology business investment association	-	-	-	661	-
	Hana Innovation Venture Scale-Up Fund	-	-	-	7,786	-
	Hana Must Seven Special Purpose Acquisition Company	-	-	-	1,405	-
	Dowon asset development Co., Ltd.	-	-	-	83	-
	Hana Financial Fourteen Special Purpose Acquisition Company	-	-	-	1,285	-
	Hana Financial Fifteenth Special Purpose Acquisition Company	-	-	-	1,588	-
	Hana Financial Sixteenth Special Purpose Acquisition Company	-	-	-	1,286	-
	Hana Financial Seventeen Special Purpose Acquisition Company	-	-	-	2,535	-
	Hana Financial Nineteenth Special Purpose Acquisition Company	-	-	-	2,496	-
	People Korea Two Co., Ltd.	-	-	-	57	-
	Hana Financial Twenty Special Purpose Acquisition Company	-	-	-	817	-
Impok Rental Housing CO., Ltd.	-	-	-	308	-	
HANA FINANCIAL TWENTY-ONE SPECIAL PURPOSE ACQUISITION COMPANY	-	-	-	2,786	-	
	Subtotal	246,106	1,354	1,783	79,351	-
Key management	Key management	749	-	-	6,766	-
	Total	449,871	446,466	38,546	1,557,708	1,084,819

51-4 Significant payment guarantees and collaterals provided to related parties as of December 31, 2022 and 2021 are as follows (Korean won in millions):

<December 31, 2022>

Classification	Entity	Payment guarantees or Collaterals provided	Limit
Associates	Hana Micro Finance., Ltd.	Acceptance and guarantees in foreign currencies	98,849
	Hana-New Deal K-Growth fund	Purchase of securities	65,700
	Taurus Cloud Fund	Purchase of securities	522
	Hana Beyond Finance Fund	Purchase of securities	56,000
	Cheongna Medipolis PFV Co., Ltd.	Purchase of securities	16,628
	Templeton Hana Asset Management Co., Ltd.	Purchase of securities	4,619
	All Together Korea Fund 5	Purchase of securities	990,000
	Defense Technology Innovation Private Investment Trust	Purchase of securities	56,050
Joint venture	PT. SINARMAS HANA FINANCE	Unused loan commitments in foreign currencies	1,688
Entities under common control	Hana Alternative Infra Special Investment Private Trust No.3-1	Purchase of securities	5,761
	Hana F&I Inc	Unused loan commitments in Korean won	140,000
	Hana Card Co., Ltd.	Unused loan commitments in Korean won	500,000
		Credit contribution limit related to payment	40,000
	Hana Capital Co., Ltd.	Unused loan commitments in Korean won	260,000
	Hana Alternative Infra Special Investment Private Trust No.3-4	Purchase of securities	2,632
	Hana Securities Co., Ltd.	Import L/C opened	37
		Unused loan commitments in Korean won	130,000
Hana Alternative General Private Real Estate Investment Trust No.180	Purchase of securities	114,359	
Other related parties	Hana Digital Transformation Fund	Purchase of securities	1,000
	Hana Innovation Venture Scale-Up Fund	Purchase of securities	520
	Daegu MBC Site Complex Development PFV	Unused loan commitments in Korean won	65,292
	Gyeonggi Hana Turn around Fund No.2	Purchase of securities	450
	Hana Untact Digital Innovation Fund	Purchase of securities	450
	Hana K-NewDeal Unicorn Fund	Purchase of securities	10,800

<December 31, 2021>

Classification	Entity	Payment guarantees or Collaterals provided	Limit
Associates	Hana-KMC Unicorn Fund of Funds	Purchase of securities	25,130
	Hana Micro Finance., Ltd.	Acceptance and guarantees in foreign currencies	104,324
	TossBank Corp.	Purchase of securities	227,273
	All Together Korea Fund 5	Purchase of securities	990,000
	Hana-New Deal K-Growth fund	Purchase of securities	88,200
	Hana-Capstone AI Platform Fund	Purchase of securities	15,000
	Taurus Cloud Fund	Purchase of securities	599
Joint venture	PT. SINARMAS HANA FINANCE	Unused loan commitments in foreign currencies	7,397
Entities under common control	Hana Securities Co., Ltd.	Unused loan commitments in Korean won	130,000
		Import L/C opened	588
		Acceptance and guarantees in foreign currencies	1,488
	Hana Card Co., Ltd.	Unused loan commitments in Korean won	500,000
		Credit contribution limit related to payment	40,000
	Hana Capital Co., Ltd.	Unused loan commitments in Korean won	260,000
	Hana F&I Inc	Unused loan commitments in Korean won	140,000
	Hana Alternative Infra Special Investment Private Trust No.3-1	Purchase of securities	21,465
	Hana Alternative Infra Special Investment Private Trust No.3-2	Purchase of securities	952
	Hana Alternative Infra Special Investment Private Trust No.3-4	Purchase of securities	2,988
Other related parties	GMHB Co., Ltd.	Unused loan commitments in Korean won	6,000
	Hana Digital Transformation Fund	Purchase of securities	1,000
	Hana Innovation Venture Scale-Up Fund	Purchase of securities	1,560
	Smartscore Co., Ltd.	Unused loan commitments in Korean won	7
	Daegu MBC Site Complex Development PFV	Unused loan commitments in Korean won	74,880



51-5 Significant payment guarantees and collaterals provided from related parties as of December 31, 2022 and 2021, are as follows  
(Korean won in millions):

<December 31, 2022>

Classification	Entity	Payment guarantees or Collaterals provided	Limit
Associates	Bank for Investment and Development of Vietnam (BIDV)	Acceptance and guarantees in foreign currencies	59,306
Entities under common control	Hana Life Insurance Co., Ltd.	Collateral provided	13,525
		Unsettled arrangements (Currency forward)	94,633
	Hana F&I Inc	Collateral provided	271,875
	Hana Card Co., Ltd.	Unsettled arrangements (Interest swap)	300,000
		Unsettled arrangements (Currency forward)	7,812
		Unused loan commitments in Korean won	139,110
	Hana Capital Co., Ltd.	Collateral provided	475,051
	Finnq Co., Ltd.	Collateral provided	50
	Hana Securities Co., Ltd.(*)	Collateral provided	70,000
		Unsettled arrangements (Currency forward)	3,519,325
Unsettled arrangements (Currency swap)		63,365	
Unsettled arrangements (Stock swap)		72,235	

(\*) As a swap bank of investment trust to which Hana securities Co., Ltd. is committed to purchase private bonds, the Group is provided with an obligation for additional investment or supplementation of forward exchange or currency swap of investment trust.

<December 31, 2021>

Classification	Entity	Payment guarantees or Collaterals provided	Limit
Associates	Bank for Investment and Development of Vietnam (BIDV)	Acceptance and guarantees in foreign currencies	26,782

Classification	Entity	Payment guarantees or Collaterals provided	Limit
Entities under common control	Hana Securities Co., Ltd.(*)	Collateral provided	70,000
		Unsettled arrangements (Currency forward)	1,471,839
		Unsettled arrangements (Currency swap)	13,084
	Hana Card Co., Ltd.	Collateral provided	1,000
		Unused loan commitments in Korean won	139,728
		Unsettled arrangements (Currency forward)	8,299
	Hana Capital Co., Ltd.	Collateral provided	474,805
	Hana Life Insurance Co., Ltd.	Collateral provided	5,098
		Unsettled arrangements (Currency forward)	87,852
Hana F&I Inc	Collateral provided	294,424	
Other related parties	Finnq Co., Ltd.	Collateral provided	50

(\*) As a swap bank of investment trust to which Hana Securities Co., Ltd. is committed to purchase private bonds, the Group is provided with an obligation for additional investment or supplementation of forward exchange or currency swap of investment trust.

51-6 The amount of intangible assets and others acquired by Hana TI Co., Ltd. for the years ended December 31, 2022 and 2021 are ₩10,867 million and ₩8,712 million, respectively.

51-7 The defined benefit plans deposited to the Hana Securities as of December 31, 2022 and 2021 are ₩111,311 million and ₩90,121 million, respectively.

51-8 For the year ended December 31, 2022, the Group purchased land from Hana TI Company Ltd., and the carrying amount of the purchased land was ₩226,530 million.

51-9 Details of compensation for standing directors and executive officers for

the years ended December 31, 2022 and 2021 are summarized as follows (Korean won in millions):

Classification	2022	2021
Short-term employee payment	19,986	19,778
Retirement benefit	682	961
Share-based payment	3,297	4,337