

NongHyup Bank and its subsidiaries

**Consolidated financial statements
as of and for the years ended December 31, 2022 and 2021**

Attachment: The independent auditors' report

NongHyup Bank

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INDEPENDENT AUDITOR'S REPORT

English Translation of a Report Originally Issued in Korean on March 6, 2023.

To the Shareholders and Board of Directors of NongHyup Bank:

Report on the Audited Consolidated Financial Statements

Audit Opinion

We have audited the accompanying consolidated financial statements of NongHyup Bank (the "Bank") and its subsidiaries (collectively, the "Group"), which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, respectively, and the related consolidated statements of profit or loss and other comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows, all expressed in Korean won, for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as of December 31, 2022 and 2021, respectively, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean International Financial Reporting Standards.

Basis for Audit Opinion

We conducted our audits in accordance with Korean Auditing Standards ("KGAAS"). Our responsibilities under those standards are further described in the Auditor's responsibilities for the audits 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 audits 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.

Responsibilities of Management and Those Charged with Governance for the Consolidated Financial Statements

Management is responsible for the preparation and fair presentation of these consolidated financial statements in accordance with Korean International Financial Reporting Standards, 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 Audits 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 KGAAS 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 KGAAS, we exercise professional judgment and maintain professional skepticism throughout the audit. We also:

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

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

Deloitte Idnjin LLC

March 6, 2023

This audit report is effective as of March 6, 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.

NongHyup Bank and its subsidiaries

Consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

The accompanying consolidated financial statements, including all footnote disclosures, were prepared by, and are the responsibility of, the management of NongHyup Bank.

Lee, Seok Yong
Chief Executive Officer

Headquarters Address: (Road Name and Address) 120, Tongil-ro, Jung-gu, Seoul
(Phone Number) 02-2080-5114

NongHyup Bank and its subsidiaries
Consolidated statements of financial position
as of December 31, 2022 and 2021

(Korean won in millions)

	Notes	December 31, 2022	December 31, 2021
Assets			
Cash and due from banks	5, 6, 35, 36, 39	₩ 14,912,464	₩ 7,380,870
Financial assets at fair value through profit or loss ("FVTPL")	5, 7, 35, 36	13,571,544	13,529,661
Derivative assets	5, 23, 35, 36	1,089,745	531,414
Financial assets at fair value through other comprehensive income ("FVTOCI")	5, 8, 35, 36	29,336,664	26,286,562
Securities at amortized cost	5, 9, 35, 36	15,490,104	15,283,824
Loans at amortized cost	5, 10, 35, 36	308,633,317	296,441,906
Investments in subsidiaries	11	91,556	82,331
Tangible assets	12, 15	2,920,768	2,856,209
Investment properties	13	575,436	602,280
Intangible assets	14	521,070	499,500
Deferred income tax assets	27	268,649	359,885
Other assets	16, 35, 36	148,130	150,452
Net defined benefit assets	24	108,250	-
Non-current assets classified as held for sale	13, 35	15	15
Total assets		₩ 387,667,712	₩ 364,004,909
Liabilities			
Deposits	17, 18, 35, 36	₩ 307,727,928	₩ 290,595,674
Financial liabilities at FVTPL	17, 35, 36	-	19,685
Derivative liabilities	17, 23, 35, 36	1,213,080	486,989
Borrowings	17, 19, 35, 36	17,213,232	15,001,425
Debentures	17, 20, 35, 36	21,121,965	22,431,474
Provisions	21, 38	351,762	345,996
Current income tax liabilities		226,847	143,667
Net defined benefit liabilities	24	-	372,565
Other liabilities	17, 22, 35, 36	18,259,913	15,373,015
Share capital repayable on demand		5	19
Total liabilities		₩ 366,114,732	₩ 344,770,509
Equity			
Controlling interests:			
Capital stock	25	2,384,351	2,241,494
Other paid-in capital	25	12,303,856	10,818,052
Retained earnings	25	7,919,227	6,940,836
(Regulatory reserves for bad debts as of December 31, 2022 and 2021, are ₩2,173,304 million and ₩2,045,017 million, respectively.			
Regulatory reserves for bad debts to be reserved as of December 31, 2022 and 2021, are ₩54,426 million and ₩128,287 million, respectively.			
Planned provisions of regulatory reserves for bad debts as of December 31, 2022 and 2021, are ₩54,426 million and ₩128,287 million, respectively.)			
Other components of equity	25	(1,054,454)	(765,982)
		21,552,980	19,234,400
Non-controlling interests		-	-
Total equity		21,552,980	19,234,400
Total liabilities and equity		₩ 387,667,712	₩ 364,004,909

The accompanying notes are an integral part of the consolidated financial statements.

NongHyup Bank and its subsidiaries
Consolidated statements of profit or loss and other comprehensive income
for the years ended December 31, 2022 and 2021

(Korean won in millions)

	Notes	For the year ended December 31, 2022	For the year ended December 31, 2021
Net interest income	4, 28		
Interest income:			
Interest income calculated using the effective interest method		₩ 11,248,906	₩ 8,004,981
Interest income on financial instruments at FVTPL		119,526	93,158
		<u>11,368,432</u>	<u>8,098,139</u>
Interest expenses		4,430,161	2,207,323
		<u>6,938,271</u>	<u>5,890,816</u>
Net commission income	4, 29		
Commission income		1,162,007	1,166,958
Commission expenses		453,677	435,232
		<u>708,330</u>	<u>731,726</u>
Gain on financial instruments at FVTPL, net	28		
Gain on financial instruments at FVTPL		3,643,122	2,104,787
Loss on financial instruments at FVTPL		3,623,036	1,870,084
		<u>20,086</u>	<u>234,703</u>
Gain on financial assets at FVTOCI, net	28		
Gain on financial assets at FVTOCI		8,343	71,069
Loss on financial assets at FVTOCI		49,920	62,512
		<u>(41,577)</u>	<u>8,557</u>
Loss on disposal of financial assets at amortized cost, net	28		
Gain on disposal of financial assets at amortized cost		8,038	13,228
Loss on disposal of financial assets at amortized cost		5,982	14,030
		<u>2,056</u>	<u>(802)</u>
Other operating expenses, net	4, 30		
Other operating income		1,776,904	1,502,583
Other operating expenses		2,575,786	2,337,368
		<u>(798,882)</u>	<u>(834,785)</u>
Operating income before expected credit losses (“ECLs”) and general and administrative expenses		6,828,284	6,030,215
Transfer in allowance for ECLs	4, 21, 28	670,560	301,451
Operating income before general and administrative expenses		<u>6,157,724</u>	<u>5,728,764</u>

(Continued)

NongHyup Bank and its subsidiaries
Consolidated statements of profit or loss and other comprehensive income (cont'd)
for the years ended December 31, 2022 and 2021

(Korean won in millions)

	Notes	For the year ended December 31, 2022	For the year ended December 31, 2021
General and administrative expenses	4		
Employee benefits	31	₩ 2,303,187	₩ 2,177,686
Depreciation and amortization expenses	12, 14, 15	449,791	431,504
Other selling and administrative expenses	32	686,149	628,931
		<u>3,439,127</u>	<u>3,238,121</u>
Operating income		2,718,597	2,490,643
Gain on valuation of equity method investments, net	11	(1,161)	(1,686)
Other expenses, net	33	(321,398)	(345,312)
Income before income tax expenses		<u>2,396,038</u>	<u>2,143,645</u>
Income tax expenses	4, 27	677,804	588,082
Net income	25		
(Net income after the provision of regulatory reserve for bad debts for the years ended December 31, 2022 and 2021, is ₩1,663,808 million and ₩1,427,276 million, respectively.)			
Controlling interests		1,718,234	1,555,563
Non-controlling interests		-	-
		<u>1,718,234</u>	<u>1,555,563</u>
Other comprehensive income (loss)			
Items not subsequently reclassified to profit or loss:			
Remeasurements of net defined benefit liabilities	24, 25	281,923	10,677
Gain on equity securities at FVTOCI	25	(9,744)	26,117
		<u>272,179</u>	<u>36,794</u>
Items subsequently reclassified to profit or loss:			
Gain on valuation of debt securities at FVTOCI	25	(570,847)	(236,602)
Exchange differences on translation of foreign operations	25	7,989	9,044
		<u>(562,858)</u>	<u>(227,558)</u>
		<u>(290,679)</u>	<u>(190,764)</u>
Total comprehensive income			
Controlling interests		1,427,555	1,364,799
Non-controlling interests		-	-
		<u>₩ 1,427,555</u>	<u>₩ 1,364,799</u>
Earnings per share ("EPS")	34		
Basic and diluted EPS (Korean won)		₩ 3,549	₩ 3,466

(Concluded)

The accompanying notes are an integral part of the consolidated financial statements.

NongHyup Bank and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2022 and 2021

(Korean won in millions)

	Other paid-in capital				Retained earnings (deficit)	Other components of equity	Controlling interests	Non-controlling interests	Total
	Capital stock	Capital surplus	Capital adjustment	Hybrid equity securities					
Balance as of January 1, 2021	₩ 2,175,704	₩ 9,588,213	₩ (3,019)	₩ 349,648	₩ 6,149,505	₩ (639,960)	₩ 17,620,091	₩ -	₩ 17,620,091
Issuance of capital stock	65,790	433,890	-	-	-	-	499,680	-	499,680
Changes due to consolidated tax	-	-	-	-	44,435	-	44,435	-	44,435
Total comprehensive income:									
Net income	-	-	-	-	1,555,563	-	1,555,563	-	1,555,563
Other comprehensive income (loss):									
Remeasurements of net defined benefit liabilities	-	-	-	-	-	10,677	10,677	-	10,677
Gain on valuation of debt securities at FVTOCI	-	-	-	-	-	(236,602)	(236,602)	-	(236,602)
Gain (loss) on equity securities at FVTOCI	-	-	-	-	(64,742)	90,859	26,117	-	26,117
Exchange differences on translation of foreign operations	-	-	-	-	-	9,044	9,044	-	9,044
Issuance of hybrid equity securities	-	-	-	449,320	-	-	449,320	-	449,320
Dividends on hybrid equity securities	-	-	-	-	(23,925)	-	(23,925)	-	(23,925)
Dividends	-	-	-	-	(720,000)	-	(720,000)	-	(720,000)
Balance as of December 31, 2021	<u>₩ 2,241,494</u>	<u>₩ 10,022,103</u>	<u>₩ (3,019)</u>	<u>₩ 798,968</u>	<u>₩ 6,940,836</u>	<u>₩ (765,982)</u>	<u>₩ 19,234,400</u>	<u>₩ -</u>	<u>₩ 19,234,400</u>
	Other paid-in capital				Retained earnings (deficit)	Other components of equity	Controlling interests	Non-controlling interests	Total
	Capital stock	Capital surplus	Capital adjustment	Hybrid equity securities					
Balance as of January 1, 2022	₩ 2,241,494	₩ 10,022,103	₩ (3,019)	₩ 798,968	₩ 6,940,836	₩ (765,982)	₩ 19,234,400	₩ -	₩ 19,234,400
Issuance of capital stock	142,857	1,056,454	-	-	-	-	1,199,311	-	1,199,311
Changes due to consolidated tax	-	-	-	-	39,663	-	39,663	-	39,663
Total comprehensive income:									
Net income	-	-	-	-	1,718,234	-	1,718,234	-	1,718,234
Other comprehensive income (loss):									
Remeasurements of net defined benefit liabilities	-	-	-	-	-	281,923	281,923	-	281,923
Gain on valuation of debt securities at FVTOCI	-	-	-	-	-	(570,847)	(570,847)	-	(570,847)
Gain (loss) on equity securities at FVTOCI	-	-	-	-	(2,207)	(7,537)	(9,744)	-	(9,744)
Exchange differences on translation of foreign operations	-	-	-	-	-	7,989	7,989	-	7,989
Issuance of hybrid equity securities	-	-	-	429,350	-	-	429,350	-	429,350
Dividends on hybrid equity securities	-	-	-	-	(37,299)	-	(37,299)	-	(37,299)
Dividends	-	-	-	-	(740,000)	-	(740,000)	-	(740,000)
Balance as of December 31, 2022	<u>₩ 2,384,351</u>	<u>₩ 11,078,557</u>	<u>₩ (3,019)</u>	<u>₩ 1,228,318</u>	<u>₩ 7,919,227</u>	<u>₩ (1,054,454)</u>	<u>₩ 21,552,980</u>	<u>₩ -</u>	<u>₩ 21,552,980</u>

The accompanying notes are an integral part of the consolidated financial statements.

NongHyup Bank and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2022 and 2021

(Korean won in millions)

	Note	For the year ended December 31, 2022	For the year ended December 31, 2021
Operating activities			
Income before income tax expenses	₩	2,396,038	₩ 2,143,645
Adjustments to reconcile income before income tax expenses to net cash provided by operating activities:			
Net interest income		(6,939,167)	(5,890,816)
Dividend income		(9,508)	(9,529)
Gain related to financial assets at FVTPL		96,670	(33,174)
Loss (gain) on valuation of trading derivatives		92,021	108
Loss (gain) on valuation of hedging derivatives		34,127	24,634
Loss (gain) on fair value hedge		(52,752)	(28,437)
Gain related to financial assets at FVTOCI		47,120	(3,615)
Loss related to financial assets at amortized cost		(2,056)	801
Loss (gain) on valuation of equity method investments		1,161	1,686
Depreciation and amortization		455,476	437,226
Loss (gain) on disposal of assets		(3,389)	1,205
Allowance for ECLs		670,560	301,451
Reversal of provisions		(3,441)	38,553
Retirement expenses of net defined benefit liabilities		211,070	212,888
Loss (gain) on transaction of foreign exchange		(17,449)	5,781
Others		107,954	79,418
		<u>(5,311,603)</u>	<u>(4,861,820)</u>
Changes in operating assets and liabilities:			
Due from banks		88,176	435,593
Derivative assets		365,765	1,126,541
Financial assets at FVTPL		1,037,249	(384,961)
Loans at amortized cost		(12,368,146)	(29,182,392)
Other assets		15,687	(7,489)
Deposits		17,104,492	19,886,268
Derivative liabilities		(324,342)	(1,109,069)
Financial liabilities at FVTPL		(19,685)	(13,151)
Defined benefit obligations		(196,700)	(179,997)
Plan assets		(114,091)	(98,372)
Provisions		(9,924)	(11,195)
Other liabilities		490,553	1,106,411
		<u>6,069,034</u>	<u>(8,431,813)</u>
Cash received for interest		11,014,507	8,302,010
Payment of interest expenses		(3,581,368)	(2,322,917)
Cash received for dividend		9,372	9,529
Payment of income tax		(354,318)	(558,535)
Net cash provided by (used in) operating activities		<u>10,241,662</u>	<u>(5,719,901)</u>

(Continued)

NongHyup Bank and its subsidiaries
Consolidated statements of cash flows (cont'd)
for the years ended December 31, 2022 and 2021

(Korean won in millions)

	Note	For the year ended December 31, 2022	For the year ended December 31, 2021
Investing activities			
Cash flows provided by investing activities:			
Disposal of financial assets at FVTPL	₩	22,890,340	₩ 21,810,047
Disposal or redemption of financial assets at FVTOCI		17,258,510	30,878,213
Disposal or redemption of securities at amortized cost		8,438,110	11,834,431
Disposal of tangible assets		18,274	4,461
Disposal of right-of-use assets		-	21
Disposal of intangible assets		2,112	803
Disposal of investment properties		2	1,737
Disposal of investments in associates		5,782	35,839
Dividend on investments in associates		12,165	7,000
		<u>48,625,295</u>	<u>64,572,552</u>
Cash flows used in investing activities:			
Purchase of financial assets at FVTPL		24,044,278	23,135,046
Purchase of financial assets at FVTOCI		21,034,013	31,396,666
Purchase of securities at amortized cost		8,579,788	12,669,312
Purchase of investment in associates		28,332	18,679
Purchase of tangible assets		214,076	159,856
Purchase of intangible assets		206,208	266,637
Purchase of investment properties		5,144	3,970
Purchase of right-of-use assets		12,627	14,049
		<u>(54,124,466)</u>	<u>(67,664,215)</u>
Net cash used in investing activities		<u>(5,499,171)</u>	<u>(3,091,663)</u>
Financing activities			
Cash flows provided by financing activities:			
Issuance of capital stock		1,199,312	499,680
Increase in borrowings, net		1,998,419	1,899,422
Increase in debentures		10,193,828	11,301,641
Increase in borrowings from trust accounts, net		1,419,419	-
Issuance of hybrid equity securities		429,350	449,320
		<u>15,240,328</u>	<u>14,150,063</u>
Cash flows used in financing activities:			
Decrease in debentures		11,633,340	9,130,849
Dividends		777,299	743,925
Decrease in borrowings from trust accounts, net		-	256,117
Decrease in lease liabilities		77,171	68,555
		<u>(12,487,810)</u>	<u>(10,199,446)</u>
Net cash provided by financing activities		<u>2,752,518</u>	<u>3,950,617</u>
Net increase (decrease) in cash and cash equivalents		7,495,009	(4,860,947)
Cash and cash equivalents at the beginning of year		7,045,897	11,888,266
Effect of exchange rate changes on cash and cash equivalents		5,357	18,578
Cash and cash equivalents at the end of year	39	<u>₩ 14,546,263</u>	<u>₩ 7,045,897</u>

(Concluded)

The accompanying notes are an integral part of the consolidated financial statements.

NongHyup Bank and its subsidiaries
Notes to the consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

1. CORPORATE INFORMATION:

1.1 NongHyup Bank as the parent company

NongHyup Bank (the “Bank”) was established by the split-off of the Credit and Banking Business from the National Agricultural Cooperative Federation (“NACF”) on March 2, 2012. The Bank’s headquarters is located at 120 Tongil-ro, Jung-gu in Seoul.

As of December 31, 2022, the Bank’s capital stock amounts to ₩2,384,351 million with 476,870,202 shares of common stock outstanding, which are wholly owned by NongHyup Financial Group. As of December 31, 2022, the Bank operates 157 regional offices, 663 branches, 285 branch offices and 10 overseas branches and offices.

1.2 Scope and principles of consolidation

The Bank’s consolidated subsidiaries as of December 31, 2022 and 2021, are as follows:

Subsidiaries	December 31, 2022			Date of the financial statements
	Main business	Location	Percentage of ownership (%)	
Nonghyup Finance Myanmar Co., Ltd.	Small loan business	Myanmar	100.00	December 31, 2022
NongHyup Finance Cambodia Co., Ltd.	Small loan business	Cambodia	100.00	December 31, 2022
Personal pension trust and 10 other trusts (*1)	Trust business	Korea	-	December 31, 2022
KAMCO Value Recreation 4th Securitization Specialty Ltd. (*2)	Asset securitization business	Korea	15.00	December 31, 2022
NH Hyunjung Holdings Co., Ltd. and 3 other special-purpose entities (“SPEs”) (*2)	Asset securitization business	Korea	-	December 31, 2022
HDC Value Up Private 5 (Bond-derivative) and 29 others (*2)	Beneficiary certificate	Korea	100.00	December 31, 2022
NH-Amundi New Pri. Total Return SIT 12-23 (Bond-derivative) and another (*2)	Beneficiary certificate	Korea	99.98	December 31, 2022

(*1) The Bank controls the trusts because it has power over the trusts to determine the operational performance and is exposed to variable returns to absorb loss from the agreement of guarantees of the principal or that of principal and interest.

(*2) The Bank controls these investees because it is exposed to variable returns from its involvement with the investees and has ability to use power over the investees to affect performance result.

NongHyup Bank and its subsidiaries
Notes to the consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

1. Corporate information (cont'd)

1.2 Scope and principles of consolidation (cont'd)

Subsidiaries	December 31, 2021			Date of the financial statements
	Main business	Location	Percentage of ownership (%)	
Nonghyup Finance Myanmar Co., Ltd.	Small loan business	Myanmar	100.00	December 31, 2021
NongHyup Finance Cambodia Co., Ltd.	Small loan business	Cambodia	100.00	December 31, 2021
Personal pension trust and 10 other trusts (*1)	Trust business	Korea	-	December 31, 2021
KAMCO Value Recreation 4th Securitization Specialty Ltd. (*2)	Asset securitization business	Korea	15.00	December 31, 2021
NH Inno First Co., Ltd. and 5 other special-purpose entities ("SPEs") (*2)	Asset securitization business	Korea	-	December 31, 2021
HDC Value Up Private 5 (Bond-derivative) and 29 others (*2)	Beneficiary certificate	Korea	100.00	December 31, 2021
NH-Amundi New Pri. Total Return SIT 12-23 (Bond-derivative) and another (*2)	Beneficiary certificate	Korea	99.98	December 31, 2021

(*1) The Bank controls the trusts because it has power over the trusts to determine the operational performance and is exposed to variable returns to absorb loss from the agreement of guarantees of the principal or that of principal and interest.

(*2) The Bank controls these investees because it is exposed to variable returns from its involvement with the investees and has ability to use power over the investees to affect performance result.

The Bank and its subsidiaries (collectively, the "Group") include the structured entities, to which Korean International Financial Reporting Standard ("K-IFRS") 1110 Consolidated Financial Statements and K-IFRS 1112 Disclosure Of Interests In Other Entities, Control, Structured Entities are applicable, in the consolidation scope and controls the structured entity when the Group has power over the entity, exposure to variable returns from its involvement with the entity and the ability to use power over the entity to affect the amount of those returns.

NongHyup Bank and its subsidiaries
Notes to the consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

1. Corporate information (cont'd)

1.3 Summary of financial information of subsidiaries

A summary of financial information of subsidiaries consolidation as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Subsidiaries	December 31, 2022						Total comprehensive income (loss)
	Assets	Liabilities	Equity	Operating revenue	Net income (loss)		
NongHyup Finance Myanmar Co., Ltd.	₩ 17,591	₩ 1,682	₩ 15,909	₩ 5,512	₩ 2,328	₩ 502	
NongHyup Finance Cambodia Co., Ltd.	127,963	83,331	44,632	16,155	3,883	6,445	
Personal pension trust and 10 other trusts	3,568,338	3,568,338	-	101,082	-	-	
Consolidated securitizations	176,166	302,369	(126,203)	9,273	(5,494)	(5,494)	
Consolidated beneficiary certificates	2,043,528	504,859	1,538,669	68,628	11,109	11,109	

Subsidiaries	December 31, 2021						Total comprehensive income (loss)
	Assets	Liabilities	Equity	Operating revenue	Net income (loss)		
NongHyup Finance Myanmar Co., Ltd.	₩ 16,505	₩ 1,099	₩ 15,406	₩ 5,060	₩ (4,782)	₩ (8,948)	
NongHyup Finance Cambodia Co., Ltd.	80,394	42,208	38,186	11,033	3,428	6,400	
Personal pension trust and 10 other trusts	3,677,280	3,677,280	-	71,982	-	-	
Consolidated securitizations	183,474	304,214	(120,740)	10,295	(5,057)	(5,057)	
Consolidated beneficiary certificates	2,454,081	862,196	1,591,885	57,044	8,583	8,583	

NongHyup Bank and its subsidiaries
Notes to the consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

1. Corporate information (cont'd)

1.4 Consolidated structured entities

Characteristics and intentions of contractual commitments offered by the Group to consolidated structured entities are as follows:

Entity	Characteristics	Purpose
KAMCO Value Recreation 4th Securitization Specialty Ltd.	The Group has purchased subordinated bonds amounting to ₩42,165 million issued by its subsidiary, KAMCO Value Recreation 4th Securitization Specialty Ltd.	Credit risk mitigation of liquidation plan
11 trusts, including personal pension trust	The Group offers principal and interest conservation commitment to trust accounts. The Group is required to conserve the deficit amount in case of the operation result of trust account standing below the principal.	Credit risk mitigation on financial management of trust account
NH Inno First Co., Ltd. and five other SPEs	The Group offers the ABCP purchase agreement with the limit of ₩170,600 million to SPEs.	Credit risk mitigation of liquidation plan

1.5 Changes in subsidiaries

N-On First Co., Ltd. and two other SPEs became subsidiaries for the year ended December 31, 2022.

1.6 Unconsolidated structured entities

A structured entity is designed such that voting rights or similar rights are not the dominant factor in deciding who controls the entity, and the Group is accordingly involved in the structured entity through project financing, asset-backed securitization, investment fund contracts and others as of December 31, 2022. Of the structured entities, the interests and nature of the risks of unconsolidated structured entities, for which the Group does not have control, are as follows:

1.6.1 Asset-backed securitization

The unconsolidated structured entity, whose objective is the securitization of assets, issues asset-backed securities based on the securitized assets and pays the redemption proceeds on such asset-backed securities with profits from the management, operation and sales of the securitized assets. The Group is liable for the risks associated with the issuance of asset-backed securities through the purchase of subordinated bonds, execution of asset-backed securities purchase agreements and granting of credit, and thus recognizes the related interest income and commission income.

1.6.2 Investment funds

Non-consolidated structured entities, which are classified as investment funds, include investment trusts and private equity funds. The structure of an investment trust is formed by funding from various investors, engaging a manager in the trust to operate and distributing proceeds from investments to the investors according to the trust agreements. The structure of a private equity fund is normally established by distributing profit from investment fund of equity securities in order to acquire ownership interests in a target group and implement financial and operational restructuring. The Group recognizes gains and losses on dividend income and valuation of investments in relation to its interest in investment funds. It is exposed to loss of principals when the value of investment fund decreases.

NongHyup Bank and its subsidiaries
Notes to the consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

1. Corporate information (cont'd)

1.6 Unconsolidated structured entities (cont'd)

1.6.3 Project financing

Project financing is the main financing method for large-scale risky project, where investors will make investment decisions based on the project economic feasibility, instead of the credit rating of the principal party driving the project or the physical collateral involved, and will receive the profits that occur upon project progression. For effective implementation of the project financing, structured entities will be established as SPEs, funded through investment or lending institutions and participating entities. Structured entities for project financing include investment companies for real estate project financing, business infrastructure enforcement corporations and special-purpose companies for acquisition of ships and airlines. The Group has an influence on the structured entities' investment, loans and granting of credit and thus recognizes the related interest income, gain and loss on valuation of equity investments and dividend income. Although the entities that provide financial support, in the form of funding guarantees, bonds and senior credit facilities, exist, the Group may still be exposed to risk of loss resulting from failure of return on capital investment or discontinuation of the project, joint liabilities on guarantees, etc.

Total asset size of the unconsolidated structured entities, book value for the line items as recognized in the consolidated financial statements, maximum exposure to loss and loss incurred for the years ended December 31, 2022 and 2021, are as follows. The maximum exposure to loss includes investment amounts recognized in the consolidated financial statements and the amounts which are determined in the future by meeting certain condition based on the agreements of purchase, granting credit, etc. (Korean won in millions):

	December 31, 2022			
	Asset-backed securitization	Investment funds	Project financing	Total
Total assets of unconsolidated structured entity	₩ 81,283,461	₩ 91,073,732	₩ 92,591,629	₩ 264,948,822
Recognized assets related to unconsolidated structured entities:				
Loans	8,272,588	5,717,667	3,337,626	17,327,881
Securities	1,131,457	-	3,313,043	4,444,500
	7,141,131	5,717,667	24,583	12,883,381
Recognized liabilities related to unconsolidated structured entities	30,994	-	-	30,994
Loss on unconsolidated structured entity	-	2,757	-	2,757
Maximum exposure to loss:	11,962,961	5,717,667	3,337,626	21,018,254
Commitments and guarantees	3,690,373	-	-	3,690,373
Securities (including derivatives)	7,141,131	5,717,667	24,584	12,883,382
Loans	1,131,457	-	3,313,042	4,444,499

NongHyup Bank and its subsidiaries
Notes to the consolidated financial statements
as of and for the years ended December 31, 2022 and 2021

1. Corporate information (cont'd)

1.6 Unconsolidated structured entities (cont'd)

1.6.3 Project financing (cont'd)

	December 31, 2021			
	Asset-backed securitization	Investment funds	Project financing	Total
Total assets of unconsolidated structured entity	₩ 94,508,716	₩ 71,145,563	₩ 55,027,238	₩ 220,681,517
Recognized assets related to unconsolidated structured entities:				
Loans	7,649,026	5,457,380	2,238,579	15,344,985
Securities	609,978	-	2,212,464	2,822,442
	7,039,048	5,457,380	26,115	12,522,543
Recognized liabilities related to unconsolidated structured entities	26,248	-	-	26,248
Loss on unconsolidated structured entity	-	3,959	24,567	28,526
Maximum exposure to loss:	11,916,952	5,457,380	2,238,579	19,612,911
Commitments and guarantees	4,267,926	-	-	4,267,926
Securities (including derivatives)	7,039,048	5,457,380	26,115	12,522,543
Loans	609,978	-	2,212,464	2,822,442

2. BASIS OF PREPARATION AND SIGNIFICANT ACCOUNTING POLICIES:

2.1 Basis of preparation

The Group's consolidated financial statements are prepared in accordance with K-IFRSs since the Group was established on March 2, 2012. The board of directors approved the accompanying consolidated financial statements on February 14, 2023.

The significant accounting policies are set out below, and the accounting policies adopted in the preparation of the consolidated financial statements are consistent with those followed in the preparation of the Group's annual financial statements for the year ended December 31, 2021, except for the new and amended standards adopted as explained below.

The accompanying consolidated financial statements have been translated into English from the Korean language financial statements. In the event of any differences in interpreting the financial statements or the independent auditor's report thereon, the Korean version, which is used for regulatory reporting purposes, shall prevail.

The accompanying consolidated financial statements have been prepared on the historical cost basis, except for certain non-current assets and financial assets that are measured at revalued amounts or fair values at the end of the reporting period, as explained in the accounting policies below. Historical cost is generally based on the fair value of the cost of acquiring the asset.

2. Basis of preparation and significant accounting policies (cont'd)

2.2 Changes in significant accounting policies and disclosures

The nature and the impact of each new standard, amendments and enactments are described below:

Amendments to K-IFRS 1103, Business Combination – Reference to the Conceptual Framework

The amendments update K-IFRS 1103 so that it refers to the 2018 Conceptual Framework instead of the 2007 Framework. They also add to K-IFRS 1003 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.

These amendments have no significant impact on the consolidated financial statements of the Group.

Amendments to K-IFRS 1016, Property, Plant and Equipment - Proceeds before Intended Use

The amendments prohibit deducting from the cost of an item of property, plant and equipment any proceeds from selling items produced before that asset is available for use, i.e., proceeds while bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. Consequently, an entity recognizes such sales proceeds and related costs in profit or loss. The entity measures the cost of those items in accordance with K-IFRS 1002, Inventories.

The amendments also clarify the meaning of ‘testing whether an asset is functioning properly.’ K-IFRS 1016 now specifies this as assessing whether the technical and physical performance of the asset is such that it is capable of being used in the production or supply of goods or services, for rental to others or for administrative purposes.

If not presented separately in the consolidated statements of profit or loss and other comprehensive income, the financial statements shall disclose the amounts of proceeds and cost included in profit or loss that relate to items produced that are not an output of the entity’s ordinary activities, and which line item(s) in the consolidated statements of profit or loss and other comprehensive income include(s) such proceeds and cost.

The amendments are applied retrospectively, but only to items of property, plant and equipment that are brought to the location and condition necessary for them to be capable of operating in the manner intended by management on or after the beginning of the earliest period presented in the consolidated financial statements in which the entity first applies the amendments. 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 beginning of that earliest period presented.

These amendments have no significant impact on the consolidated financial statements of the Group.

Amendments to K-IFRS 1037, Provisions, Contingent Liabilities and Contingent Assets – Onerous Contracts: Cost of Fulfilling a Contract

The amendments specify 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).

These amendments have no significant impact on the consolidated financial statements of the Group.

2. Basis of preparation and significant accounting policies (cont'd)

2.2 Changes in significant accounting policies and disclosures(cont'd)

Annual Improvements to K-IFRSs 2018 – 2020

The amendments are effective for annual periods beginning on or after January 1, 2022, with early application permitted. These amendments have no significant impact on the consolidated financial statements of the Group.

- K-IFRS 1101, First-Time Adoption of International Financial Reporting Standards: A subsidiary which is a first-time adopter of K-IFRSs
- K-IFRS 1109, Financial Instruments: Applying the '10 per cent' test to assess whether to derecognize a financial liability
- K-IFRS 1116, Leases: Removing the illustration of the reimbursement of leasehold improvements
- K-IFRS 1041, Agriculture: Fair value measurement

2.3 Standards issued, but not yet effective

The standards and interpretations that are issued, but not effective, until the issuance day of the Group's consolidated financial statements are as follows:

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

The amendments to K-IFRS 1001 affect only the presentation of liabilities as current or non-current in the consolidated statements of financial position and not the amount or timing of recognition of any asset, liability, income or expenses, or the information disclosed about those items.

The amendments clarify that the classification of liabilities as current or non-current is based on rights that are in existence at the end of the reporting period, specifying that classification is unaffected by expectations about whether an entity will exercise its right to defer settlement of a liability, explaining that rights are in existence if covenants are complied with at the end of the reporting period, and introduce a definition of 'settlement' to make clear that settlement refers to the transfer to the counterparty of cash, equity instruments, other assets or services.

The amendments are effective for annual periods beginning on or after January 1, 2023, with early application permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Amendments to K-IFRS 1001, Presentation of Financial Statement – Refined Definition of Material

The amendments require companies to disclose their 'material' accounting policies rather than their 'significant' accounting policies. Material accounting policies mean that it could reasonably be expected to influence decisions that the primary users of general-purpose financial statements make on the basis of those financial statements, which provide financial information about a specific reporting entity.

The amendments are effective for annual periods beginning on or after January 1, 2023, with early application permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Amendments to K-IFRS 1008 Accounting Policies, Changes in Accounting Estimates and Errors – Definition of Accounting Estimates

The amendments introduce a new definition for accounting estimates, clarifying that they are monetary amounts in the consolidated financial statements that are subject to measurement uncertainty. The amendments also clarify that changes in inputs or measurement techniques used in developing accounting estimates are changes in accounting estimates, not prior-period errors correction.

The amendments are effective for annual periods beginning on or after January 1, 2023, with early application permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

2. Basis of preparation and significant accounting policies (cont'd)

2.3 Standards issued, but not yet effective (cont'd)

Amendments to K-IFRS 1012 Income Taxes – Deferred Tax related to Assets and Liabilities Arising from a Single Transaction

The amendments narrow the scope of the initial recognition exemption to exclude transactions that give rise to equal and offsetting temporary differences. Even if the asset or liability does not arise from a business combination and does not affect accounting or taxable profit at the time of the transaction, deferred income tax is recognized only for transactions that give rise to an equal and offsetting temporary difference on the transaction date.

The amendments are effective for annual periods beginning on or after January 1, 2023, with early application permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Enactments of K-IFRS 1117 Insurance Contracts

K-IFRS 1117 'Insurance Contracts' will replace K-IFRS 1104 'Insurance Contracts.' This standard requires an entity to estimate future cash flows of an insurance contract and measure insurance liabilities using discount rates applied with assumptions and risks at the measurement date and recognize insurance revenue on an accrual basis, including services (insurance coverage) provided to the policyholder by each annual reporting period. In addition, investment components (refunds due to termination and maturity) repaid to a policyholder even if an insured event does not occur are excluded from insurance revenue, and net insurance income and net investment income are presented separately to enable users of the information to understand the sources of net income.

This standard should be applied for annual reporting periods beginning on or after January 1, 2023, and earlier application is permitted for entities that applied K-IFRS 1109 'Financial Instruments.' The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

Amendments to K-IFRS 1001 Presentation of Financial Statements - Disclosure of financial liabilities with condition to adjust exercise price

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 effective for annual periods beginning on or after January 1, 2023, with early application permitted. The Group does not expect that these amendments have a significant impact on the consolidated financial statements.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies

The significant accounting policies that the Group adopts in preparing the consolidated financial statements are as follows.

2.4.1 Consolidation

The consolidated financial statements incorporate the financial statements of the Group and entities (including structured entities) controlled by the Group (and its subsidiaries). Control is achieved where the Group 1) has the power over the investee; 2) is exposed, or has rights, to variable returns from its involvement with the investee; and 3) has the ability to use its power to affect its returns. The Group reassesses whether or not it controls an investee if facts and circumstances indicate that there are changes to one or more of the three elements of control listed above.

When the Group has less than a majority of the voting rights of an investee, it has power over the investee when the voting rights are sufficient to give it the practical ability to direct the relevant activities of the investee unilaterally. The Group considers all relevant facts and circumstances in assessing whether or not the Group's voting rights in an investee are sufficient to give it power, including:

- the size of the Group's holding of voting rights relative to the size and dispersion of holdings of the other vote holders;
- potential voting rights held by the Group, other vote holders or other parties;
- rights arising from other contractual arrangements; and
- any additional facts and circumstances that indicate that the Group has, or does not have, the current ability to direct the relevant activities at the time that decisions need to be made, including voting patterns at previous shareholders' meetings.

Income and expenses of subsidiaries that are acquired or disposed of during the year are included in the consolidated statements of profit or loss and other comprehensive income from the effective date of acquisition and up to the effective date of disposal, as appropriate. The carrying amount of non-controlling interests is adjusted to reflect their proportional share of changes in equity subsequent to the initial recognition. Total comprehensive income of subsidiaries is attributed to the owners of the Group and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

If a subsidiary uses accounting policies other than those adopted in the consolidated financial statements for transactions and events in similar circumstances, appropriate adjustments are made to the financial statements of subsidiaries to bring their accounting policies in line with those used by the Group.

All intragroup balances and transactions, income and expenses are fully eliminated in consolidation.

Changes in the Group's ownership interests in subsidiaries that do not result in the Group losing control over the subsidiaries are accounted for as equity transactions. The carrying amounts of the controlling interests and the non-controlling interests are adjusted to reflect the changes in their relative interests in the subsidiaries. Any difference between the amount by which the non-controlling interests are adjusted and the fair value of the consideration paid or received is recognized directly in equity and attributed to owners of the Group.

When the Group loses control of a subsidiary, the profit or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in other comprehensive income and accumulated in equity, the amounts previously recognized in other comprehensive income and accumulated in equity are accounted for as if the Group had directly disposed of the relevant assets (i.e., as required or allowed in the amendments applied, it is reclassified to profit or loss or transferred directly to retained earnings). The fair value of any investment retained in the former subsidiary at the date when control is lost is recognized as the fair value on initial recognition for subsequent accounting under K-IFRS 1109 or, when applicable, the cost on initial recognition of an investment in an associate or a jointly controlled entity.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.2 Business combination

Acquisitions of businesses are accounted for using the acquisition method. The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the fair values of the assets transferred by the Group, liabilities incurred by the Group to the former owners of the acquiree and the equity interests issued by the Group in exchange for control of the acquiree. Acquisition-related costs are generally recognized in profit or loss as incurred.

At the acquisition date, the identifiable assets acquired and the liabilities assumed are recognized at their fair value at the acquisition date, except that:

- deferred tax assets or liabilities and liabilities or assets related to employee benefit arrangements are recognized and measured in accordance with K-IFRS 1012 Income Taxes and K-IFRS 1019, respectively;
- liabilities or equity instruments related to share-based payment arrangements of the acquiree or share-based payment arrangements of the Group entered into to replace share-based payment arrangements of the acquiree are measured in accordance with K-IFRS 1102 Share-Based Payment at the acquisition date; and
- assets (or disposal groups) that are classified as held for sale in accordance with K-IFRS 1105 Non-current Assets Held for Sale and Discontinued Operations are measured in accordance with that standard.

Goodwill is measured as the excess of the sum of a) the consideration transferred, b) the amount of any non-controlling interests in the acquiree and c) the fair value of the acquirer's previously held equity interest in the acquiree (if any), over the net of the acquisition-date amounts of the identifiable assets acquired and the liabilities assumed. If, after reassessment, the net of the acquisition-date amounts of the identifiable assets acquired and liabilities assumed exceeds the sum of a) the consideration transferred, b) the amount of any non-controlling interests in the acquiree and c) the fair value of the acquirer's previously held interest in the acquiree (if any), the excess is recognized immediately in profit or loss as a bargain purchase gain.

Non-controlling interests that are present ownership interests and entitle their holders to a proportionate share of the entity's net assets in the event of liquidation may be initially measured either at fair value or at the non-controlling interests' proportionate share of the recognized amounts of the acquiree's identifiable net assets. The choice of measurement basis is made on a transaction-by-transaction basis. Other types of non-controlling interests are measured at fair value or, when applicable, on the basis specified in another K-IFRS.

When the consideration transferred by the Group in a business combination includes assets or liabilities resulting from a contingent consideration arrangement, the contingent consideration is measured at its acquisition-date fair value and included as part of the consideration transferred in a business combination. Changes in the fair value of the contingent consideration that qualify as measurement period adjustments are adjusted retrospectively, with corresponding adjustments against goodwill. Measurement period adjustments are adjustments that arise from additional information obtained during the 'measurement period' (which cannot exceed one year from the acquisition date) about facts and circumstances that existed at the acquisition date.

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement period adjustments depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity. Contingent consideration that is classified as an asset or a liability is remeasured at subsequent reporting dates in accordance with K-IFRS 1109 *Financial Instruments*, as appropriate, with the corresponding gain or loss being recognized in profit or loss or other comprehensive income or loss. If K-IFRS 1109 is not applied to contingent consideration, the Group applies another K-IFRS to measure.

When a business combination is achieved in stages, the Group's previously held equity interest in the acquiree is remeasured to fair value at the acquisition date and the resulting gain or loss, if any, is recognized in profit or loss. Amounts arising from interests in the acquiree prior to the acquisition date that have previously been recognized in other comprehensive income are reclassified to profit or loss where such treatment would be appropriate if that interest were disposed of.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.2 Business combination (cont'd)

If the initial accounting for a business combination is incomplete by the end of the reporting period in which the combination occurs, the Group reports provisional amounts for the items for which the accounting is incomplete. Those provisional amounts are adjusted during the measurement period (see above), or additional assets or liabilities are recognized, to reflect new information obtained about facts and circumstances that existed at the acquisition date that, if known, would have affected the amounts recognized at that date.

2.4.3 Investments in associates

An associate is an entity over which the Group has significant influence. Significant influence is the power to participate in the financial and operating policy decisions of the investee, but is not having control or joint control over those policies.

A joint venture is a joint arrangement whereby the parties that have joint control of the arrangement have rights to the net assets of the joint arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require unanimous consent of the parties sharing control.

The results and assets and liabilities of associates or joint ventures are incorporated in these consolidated financial statements using the equity method of accounting, except when the investment is classified as held for sale, in which case it is accounted for in accordance with K-IFRS 1105. Under the equity method, an investment in an associate or a joint venture is initially recognized in the consolidated statement of financial position at cost and adjusted thereafter to recognize the Group's share of the profit or loss and other comprehensive income of the associate or joint venture. When the Group's share of losses of an associate or a joint venture exceeds the Group's interest in that associate or joint venture (which includes any long-term interests that, in substance, form part of the Group's net investment in the associate or joint venture), the Group discontinues recognizing its share of further losses. Additional losses are recognized only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate or joint venture.

An investment in an associate or a joint venture is accounted for using the equity method from the date on which the investee becomes an associate or a joint venture. Any excess of the cost of acquisition over the Group's share of the net fair value of the identifiable assets, liabilities and contingent liabilities of an associate or a joint venture recognized at the date of acquisition is recognized as goodwill, which is included within the carrying amount of the investment. Any excess of the Group's share of the net fair value of the identifiable assets, liabilities and contingent liabilities over the cost of acquisition, after reassessment, is recognized immediately in profit or loss.

If there is objective evidence that associate and joint venture have been impaired, in order to determine whether it is necessary to recognize impairment in related to net investment of Group, we apply the requirements of 'Impairment of Assets' of K-IFRS 1036. When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with K-IFRS 1036 by comparing its recoverable amount (higher of value in use and fair value, less costs to sell) with its carrying amount, and any impairment loss recognized forms part of the carrying amount of the investment. Any impairment loss recognized is not allocated to any asset, including goodwill that forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with K-IFRS 1036 to the extent that the recoverable amount of the investment subsequently increases.

The Group discontinues the use of the equity method from the date when the investment ceases to be an associate or a joint venture. Upon disposal of an associate or a joint venture that results in the Group losing significant influence over that associate or joint venture, any retained investment is measured at fair value at that date and the fair value is regarded as its fair value on initial recognition as a financial asset in accordance with K-IFRS 1109. The difference between the previous carrying amount of the associate or joint venture attributable to the retained interest and its fair value is included in the determination of the gain or loss on disposal of the associate or joint venture. In addition, the Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate or joint venture on the same basis it would be required if that associate or joint venture had directly disposed of the related assets or liabilities.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.3 Investments in associates (cont'd)

Therefore, if a gain or loss previously recognized in other comprehensive income by that associate or joint venture would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as reclassification adjustment) when it loses significant influence over that associate or joint venture.

When the Group reduces its ownership interest in an associate or a joint venture, but the Group continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities. In addition, the Group applies K-IFRS 1105, *Non-current Assets Held for Sale and Discontinued Operations*, to a portion of investment in an associate or a joint venture that meets the criteria to be classified as held for sale.

The Group continues to use the equity method when an investment in an associate becomes an investment in a joint venture or an investment in a joint venture becomes an investment in an associate. There is no remeasurement to fair value upon such changes in ownership interests.

When the Group transacts with an associate or a joint venture of the Group, profits and losses resulting from the transactions with the associate or joint venture are recognized in the Group's consolidated financial statements only to the extent of interests in the associate or joint venture that are not related to the Group.

The Group applies K-IFRS 1109, including the impairment requirements, to long-term interests in an associate or joint venture to which the equity method is not applied and which form part of the net investment in the investee. Furthermore, in applying K-IFRS 1109 to long-term interests, the Group does not consider adjustments to their carrying amount required by K-IFRS 1028 (i.e., adjustments to the carrying amount of long-term interests arising from the allocation of losses of the investee or assessment of impairment in accordance with K-IFRS 1028).

2.4.4 Goodwill

Goodwill arising from business combination is measured at cost, less any accumulated impairment losses.

For the purpose of impairment testing, goodwill is allocated to each of the Group's cash-generating units ("CGUs") (or groups of CGUs) expected to benefit from the synergies of the combination.

CGUs to which goodwill has been allocated are tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the CGU is less than the carrying amount of the unit, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit pro rata on the basis of the carrying amount of each asset in the unit. An impairment loss recognized for goodwill is not reversed in a subsequent period. On disposal of a CGU, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

2.4.5 Non-current assets held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the non-current asset (or disposal group) is available for immediate sale in its present condition.

Non-current assets (and disposal groups) classified as held for sale are measured at the lower of their carrying amount or their fair value.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.6 Revenue recognition

Under K-IFRS 1115, revenue is recognized by applying a five-stage revenue recognition model (① identify a contract with a customer, → ② identify the performance obligations in the contract, → ③ determine the transaction price, → ④ allocate the transaction price to the separate performance obligations in the contract and → ⑤ recognize revenue when the entity satisfies a performance obligation) to its all contracts with customers.

1) Dividend and interest income

Dividend income from investments is recognized when the shareholder's right to receive payment has been established.

Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

2) Commission income

According to the imposition purpose of the commission and related accounting standards for financial assets, commission income is classified and accounted for as follows:

Classification	Details
Commission composing effective revenues of the financial instruments	Accounted for as an adjustment to the effective interest rate
Commission by rendering services	Recognized revenue when the services are provided
Commission by performing significant activities	Recognized revenue when significant activities have been completed

3) Customer loyalty program

The Group provides its customers with incentives to buy goods or services by providing awards called (customer loyalty programs) and allocates the fair value of the consideration received or receivable between the award credits granted and the other components of the revenue transaction. The Group supplies the awards, such as discounted payments or free gifts. The consideration allocated to the award credits is measured by reference to their fair value, i.e., the amount for which the award credits could be sold separately. The fair value of the consideration allocated to the award credits is estimated by considering expected redemption rates, etc., and recognized as deferred revenue until the Group fulfills its obligations to deliver awards to customers.

The amount of revenue recognized is to be based on the number of award credits that have been redeemed in exchange for awards, relative to the total number expected to be redeemed. If a third party supplies the awards, the Group shall assess whether it is collecting the consideration allocated to the award credits on its own account (as the principal in the transaction) or on behalf of the third party (as agent for the third party). The amount of revenue recognized shall be the net amount retained on its own account.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.7 Foreign currencies

In preparing the Group's consolidated financial statements, transactions in currencies other than the Group's functional currency (foreign currencies) are recognized at the rates of exchange prevailing at the dates of the transactions. At the end of each reporting period, monetary items denominated in foreign currencies are retranslated at the rates prevailing at that date. Non-monetary items carried at fair value that are denominated in foreign currencies are retranslated at the rates prevailing at the date when the fair value was determined. Non-monetary items that are measured in terms of historical cost in a foreign currency are not retranslated.

Exchange differences are recognized in profit or loss in the period in which they arise, except for:

- exchange differences on foreign currency borrowings relating to assets under construction for future productive use, which are included in the cost of those assets when they are regarded as an adjustment to interest costs on those foreign currency borrowings;
- exchange differences on transactions entered into in order to hedge certain foreign currency risks (see Note 2.4.17 above for hedging accounting policies); and
- exchange differences on monetary items receivable from or payable to a foreign operation for which, in the foreseeable future, settlement is neither planned nor likely to occur (therefore, forming part of the net investment in the foreign operation), which are recognized initially in other comprehensive income and reclassified from equity to profit or loss on disposal or partial disposal of the net investment.

For the purpose of presenting consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in Korean won using exchange rates prevailing at the end of the reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuated significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate).

2.4.8 Retirement benefit costs and termination benefits

The Group operates defined benefit retirement benefit plans. For defined benefit retirement benefit plans, the cost of providing benefits is determined using the projected unit credit method, with an independent actuary being carried out at the end of each reporting period. Remeasurement, comprising actuarial gains and losses, of the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest) is recognized immediately in the consolidated statements of financial position with a corresponding debit or credit to retained earnings through other comprehensive income in the period in which they occur. Remeasurements are not reclassified to profit or loss in subsequent periods. Past service costs are recognized in profit or loss on the earlier of the date of the plan amendment or curtailment, and the date that the Group recognizes restructuring-related costs. Net interest is calculated by applying the discount rate to the defined benefit pension plans or asset. Defined benefit costs are composed of service cost (including current service cost and past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income) and remeasurement.

The Group presents the service cost and net interest expense (income) components in profit or loss and the remeasurement component in other comprehensive income.

The retirement benefit obligation recognized in the consolidated statement of financial position represents the actual deficit or surplus in the Group's defined benefit plans. Any surplus resulting from this calculation is limited to the present value of any economic benefits available in the form of refunds from the plans or reductions in future contributions to the plans.

A liability for a termination benefit is recognized at the earlier of when the Group can no longer withdraw the offer of the termination benefit and when the Group recognizes any related restructuring costs.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.9 Income tax

Income tax consists of current tax and deferred tax.

1) Current tax

The current tax payable is based on taxable profit for the year. Taxable profit differs from profit in the consolidated statements of profit or loss and other comprehensive income because taxable profit excludes items taxable or deductible for different tax years or not taxable or deductible permanently. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

Domestic subsidiaries including the Group, which are wholly owned by NH Financial Group Inc., apply the consolidated tax and report and pay income tax through the consolidated tax. The Group recognizes income tax payable, which is calculated using consolidated tax as current income tax liabilities.

2) Deferred tax

Deferred tax is recognized on temporary differences between the carrying amounts of assets and liabilities in the consolidated financial statements and the corresponding tax bases used in the computation of taxable profit. Deferred tax liabilities are generally recognized for all taxable temporary differences. Deferred tax assets are generally recognized for all deductible temporary differences to the extent it is probable that taxable profits will be available against which those deductible temporary differences can be utilized. Such deferred tax assets and liabilities are not recognized if the temporary difference arises from goodwill or from the initial recognition (other than in a business combination) of other assets and liabilities in a transaction that affects neither the taxable profit nor the accounting profit.

Deferred tax liabilities are recognized for taxable temporary differences associated with investments in subsidiaries and associates and interests in joint ventures, except where the Group is able to control the reversal of the temporary difference, and it is probable that the temporary difference will not reverse in the foreseeable future. Deferred tax assets arising from deductible temporary differences are only recognized to the extent it is probable that there will be sufficient taxable profits against which the benefits of the temporary differences can be utilized and they are expected to reverse in the foreseeable future.

The carrying amount of deferred tax assets is reviewed at the end of each reporting period and reduced to the extent it is no longer probable that sufficient taxable profits will be available to allow all or part of the asset to be recovered.

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

The Group shall offset deferred tax assets and deferred tax 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 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.

If a deferred tax liability or asset arises from investment property that is measured using the fair value model in K-IFRS 1040 *Investment Property*, there is a rebuttable presumption that the carrying amount of the investment property will be recovered through sale. Accordingly, unless the presumption is rebutted, the measurement of the deferred tax liability or deferred tax asset shall reflect the tax consequences of recovering the carrying amount of the investment property entirely through sale. This presumption is rebutted if the investment property is depreciable and is held within a business model whose objective is to consume substantially all of the economic benefits embodied in the investment property over time, rather than through sale.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.9 Income tax (cont'd)

3) Recognition of current and deferred taxes for the year

Current and deferred taxes are recognized in profit or loss, except when they relate to items that are recognized in other comprehensive income or directly in equity, in which case the current and deferred taxes are also recognized in other comprehensive income or directly in equity. Where current tax or deferred tax arises from the initial accounting for a business combination, the tax effect is included in the accounting for the business combination.

2.4.10 Tangible assets

Tangible assets are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of tangible assets is directly attributable to their purchase or construction, which includes any cost directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the assets and restoring the site on which it is located.

Subsequent costs are recognized in the carrying amount of an asset or as an asset separately if it is probable that future economic benefits associated with the assets will flow into the Group and the cost of an asset can be measured reliably. The carrying amount of those parts that are replaced is derecognized. Routine maintenance and repairs are expensed as incurred.

The Group does not depreciate land. Depreciation expense is computed using the straight-line method, and the estimated useful lives of the assets are as follows:

<u>Classification</u>	<u>Estimated useful life</u>
Buildings	10–60 years
Leasehold improvements	4–5 years
Furniture and equipment	4 years

Each part of property and equipment with a cost that is significant in relation to the total cost is depreciated separately.

The Group reviews the depreciation method; the estimated useful lives; and residual values of property, plant and equipment at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate.

An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognized.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.11 Government grants

Government grants are recognized where there is reasonable assurance that the grant will be received and all attached conditions will be complied with. When the grant relates to an expense item, it is recognized as income on a systematic basis over the periods that the related costs, for which it is intended to compensate, are expensed. When the grant relates to an asset, it is recognized as income in equal amounts over the expected useful life of the related asset.

When the Group receives grants of non-monetary assets, the asset and the grant are recorded at nominal amounts and released to profit or loss over the expected useful life of the asset, based on the pattern of consumption of the benefits of the underlying asset by equal annual instalments. When loans or similar assistance are provided by the government or related institutions, with an interest rate below the current applicable market rate, the effect of this preferential interest is regarded as a government grant.

2.4.12 Investment properties

Investment properties are properties held to earn rentals and/or for capital appreciation. Investment properties are measured initially at cost, including transaction costs. Subsequent to initial recognition, investment properties are reported at cost, less accumulated depreciation and accumulated impairment losses.

Subsequent costs are recognized in carrying amount of an asset or as a separate asset if it is probable that future economic benefits associated with the assets will flow into the Group and the cost of an asset can be measured reliably. The carrying amount of parts that are replaced is derecognized due to subsequent expenditure. Routine maintenance and repairs are expensed as incurred.

While land is not depreciated, all other investment properties are depreciated based on the respective assets' estimated useful lives of 10 to 60 years using the straight-line method.

The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis.

An investment property is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of investment properties, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss in the period in which the asset is derecognized.

2.4.13 Intangible assets

1) Intangible assets acquired separately

Intangible assets with finite useful lives that are acquired separately are carried at cost, less accumulated amortization and accumulated impairment losses. Amortization is recognized on a straight-line basis over their estimated useful lives. The estimated useful life and amortization method are reviewed at the end of each reporting period, with the effect of any changes in estimate being accounted for on a prospective basis. Intangible assets with indefinite useful lives that are acquired separately are carried at cost, less accumulated impairment losses.

2) Internally generated intangible assets - research and development cost

Expenditure on research activities is recognized as an expense in the period in which it is incurred. An internally generated intangible asset arising from development (or from the development phase of an internal project) is recognized if, and only if, all of the following have been demonstrated:

- The technical feasibility of completing the intangible asset so that it will be available for use or sale
- The availability of adequate technical, financial and other resources to complete the development and to use or sell the intangible asset
- The ability to measure reliably the expenditure attributable to the intangible asset during its development

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.13 Intangible assets (cont'd)

The amount initially recognized for internally generated intangible assets is the sum of the expenditure incurred from the date when the intangible asset first meets the recognition criteria listed above. Where no internally generated intangible asset can be recognized, development expenditure is recognized in profit or loss in the period in which it is incurred.

Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses.

3) Derecognition of intangible assets

An intangible asset is derecognized upon disposal or when no future economic benefits are expected from its use or disposal. Gains or losses arising from derecognition of an intangible asset, measured as the difference between the net disposal proceeds and the carrying amount of the asset, are recognized in profit or loss in the period in which the asset is derecognized.

2.4.14 Lease

1) The Group as lessee

At the commencement date, the Group assesses whether the lessee is reasonably certain to exercise an option to extend the lease or to purchase the underlying asset, or not to exercise an option to terminate the lease. For a contract that contains a lease component and one or more additional lease or non-lease components, a lessee shall allocate the consideration in the contract to each lease component on the basis of the relative stand-alone price of the lease component and the aggregate stand-alone price of the non-lease components. Lease contracts are negotiated individually by lessors and contain a wide range of different terms and conditions. The lease contracts do not impose any covenants, but leased assets may not be used as security for borrowing purposes. The Group recognizes a right-of-use asset and a corresponding lease liability with respect to all lease arrangements in which it is the lessee.

The Group determines the lease term as the non-cancelable period of a lease, together with both periods covered by an option to extend the lease if the lessee is reasonably certain to exercise that option; and periods covered by an option to terminate the lease if the lessee is reasonably certain not to exercise that option. A lease is no longer enforceable when the lessee and the lessor each has the right to terminate the lease without permission from the other party with no more than an insignificant penalty.

The lease liability is initially measured at the present value of the lease payments that are not paid at the commencement date.

Lease payments included in the measurement of the lease liability comprise:

- fixed lease payments (including in-substance fixed payments), less any lease incentives receivable;
- variable lease payments that depend on an index or rate, initially measured using the index or rate at the commencement date;
- the amount expected to be payable by the lessee under residual value guarantees;
- the exercise price of purchase options, if the lessee is reasonably certain to exercise the options; and
- payments of penalties for terminating the lease, if the lease term reflects the exercise of an option to terminate the lease.

Lease payments are discounted by using the rate implicit in the lease. If this rate cannot be readily determined, the Group uses its incremental borrowing rate. Generally, the Group uses its incremental borrowing rate as the discount rate.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.14 Lease (cont'd)

The lease liability is subsequently measured by increasing the carrying amount to reflect interest on the lease liability (using the effective interest method) and by reducing the carrying amount to reflect the lease payments made.

The right-of-use asset is measured at its cost, less subsequent accumulated depreciation and accumulated impairment loss, with adjustments reflected arising from remeasurements of the lease liability. The cost of the right-of-use asset comprise the amount of the initial measurement of the lease liability; any initial direct costs incurred by the lessee and any lease payments made at or before the commencement date, less any lease incentive received.

The right-of-use asset is depreciated over the shorter of the asset's useful life or the lease term on a straight-line basis from the commencement date of the lease. If the lease transfers ownership of the underlying asset to the lessee by the end of the lease term or if the cost of the right-of-use asset reflects that the lessee will exercise a purchase option, the lessee shall depreciate the right-of-use asset from the commencement date to the end of the useful life of the underlying asset.

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

2) The Group as lessor

Rental income from operating leases is recognized on a straight-line basis over the term of the relevant lease. Initial direct costs incurred in negotiating and arranging an operating lease are added to the carrying amount of the leased asset and recognized on a straight-line basis over the lease term.

2.4.15 Impairment of tangible and intangible assets other than goodwill

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible assets to, except for goodwill, determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the CGU to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual CGUs, or otherwise, they are allocated to the smallest group of CGUs for which a reasonable and consistent allocation basis can be identified.

Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually and whenever there is an indication that the asset may be impaired.

Recoverable amount is the higher of fair value, less costs to sell or value in use. If the recoverable amount of an asset (or a CGU) is estimated to be less than its carrying amount, the carrying amount of the asset (or the CGU) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss.

Where an impairment loss subsequently reverses, the carrying amount of the asset (or a CGU) is increased to the revised estimate of its recoverable amount, so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the CGU) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.16 Provisions

Provisions are recognized when the Group has a present obligation (legal or constructive) as a result of a past event, it is probable that the Group will be required to settle the obligation and when the amount of the obligation is reliably estimated.

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, considering the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material).

Provisions on confirmed and unconfirmed acceptances and guarantees, unfunded commitments of credit cards and unused credit lines of consumer and corporate loans are recognized using a valuation model that applies the credit conversion factor, probability of default ("PD"), and loss given default ("LGD").

When some or all of the economic benefits required to settle a provision are expected to be recovered from a third party, a receivable is recognized as an asset if it is virtually certain that reimbursement will be received and the amount of the receivable can be measured reliably.

At the end of each reporting period, the remaining provision balance is reviewed and assessed to determine if the current best estimate is being recognized. If the existence of an obligation to transfer economic benefit is no longer probable, the related provision is reversed during the period.

The Group recognizes provisions related to unused credit card point, guarantees and litigations. In addition, provisions for decommissioning or restoration are recognized in relation to restoration of rented assets, which are utilized as the place of business under the rental agreements. Decommissioning or restoration costs are present value of expected costs of restoration using future cash outflows.

2.4.17 Financial assets

A financial asset is recognized when the Group becomes a party to the contract and at initial recognition. A financial asset, excluding a financial asset at FVTPL, is measured at its fair value, plus or minus transaction costs that are directly attributable to the acquisition of the financial asset. Otherwise, the transaction cost that is directly attributable to the acquisition of the financial asset at FVTPL is recognized in profit or loss immediately when it arises.

A regular-way purchase and sale of financial assets is recognized and derecognized at trade date. It is a purchase or sale of a financial asset under a contract whose terms require delivery of the asset within the time frame established generally by regulation or convention in the marketplace concerned.

1) Effective interest method

The effective interest rate method is used for calculating the amortized cost of a debt instrument and allocating interest income over the relevant period. The effective interest rate is the interest rate that exactly matches the present value of the estimated future cash outflows or cash inflows of a financial asset to the total carrying amount (or amortized cost) over the expected duration. Estimated cash flows should be estimated considering all of the terms and conditions of the financial assets and, in the case of financial assets with impaired credit on acquisition, additional ECLs should be considered.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.17 Financial assets (cont'd)

2) Financial assets at FVTPL

Financial assets at FVTPL include financial assets that are held for trading purposes, designated as financial assets at FVTPL or financial assets that are not classified as measured at FVTOCI or measured at amortized cost.

The Group has options to designate on initial recognition any 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 on different bases or recognizing the gains and losses on them on different bases.

Financial assets at FVTPL are measured at fair value and the change in value is recognized in income (loss) for the period. Dividend or interest income from financial assets at FVTPL is also recognized in income (loss) for the period.

3) Financial assets at FVTOCI

Financial assets at FVTOCI include the financial debts that are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. And if the Group invests the financial equities as a 'strategic investment' issued by another entity, the Group designates them as financial assets at FVTOCI.

Financial assets at FVTOCI are subsequently measured at fair value. Gains and losses arising from changes in fair value are recognized and accumulated in other comprehensive income, with the exception of interest calculated using the effective interest rate method and foreign exchange gains and losses on monetary financial assets at FVTOCI, which are recognized in income (loss) for the period.

Where the financial assets at FVTOCI are disposed of or are determined to be impaired, the cumulative gains or losses previously accumulated in the other comprehensive income are recognized in income (loss) for the period. However, where the financial securities designated at FVTOCI are disposed, the cumulative gains or losses previously accumulated in the other comprehensive income are not recognized in income (loss) for the period.

Fair value of monetary financial assets at FVTOCI denominated in foreign currencies is measured in foreign currencies and translated at the rates prevailing at the end of the reporting period. Gains on translation of the assets recognized in income (loss) for the period are determined based on amortized cost of the monetary assets and other gains on translation of the assets are recognized in other comprehensive income.

4) Financial assets at amortized cost

The Group measures financial assets at amortized cost if the financial asset is held within a business model with the objective to hold financial assets in order to collect contractual cash flows and the contractual terms of the financial asset give rise on specified dates to cash flows that are solely payments of principal and interest on the principal amount outstanding. Subsequent to initial recognition, the Group measures the amortized cost using the effective interest rate method and deducts the loss allowance from the amortized cost. Interest income is recognized using the effective interest method.

Limitation of costs ("LOCs") that incurred from loan origination are deferred and presented as a deduction from the balance of loan and limitation of fund ("LOF") accompanying the future economic benefits that are separately identified and reconciled to the loan transaction is deferred and presented as an addition to the balance of loan. The deferred LOF/LOC is amortized using the effective interest rate method with the amortization recognized as adjustments to interest revenue.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.17 Financial assets (cont'd)

5) ECLs on financial assets

For financial assets except financial assets at FVTPL, impairment loss is calculated by the measurement of ECLs at the end of the reporting period. ECLs reflect an unbiased and probability-weighted amount that is determined by evaluating a range of possible outcomes, the time value of money and reasonable and supportable information that is available without undue cost or effort at the reporting date about past events, current conditions and forecasts of future economic conditions.

- General approach : Financial assets that are not classified as purchased or originated credit-impaired financial assets or off-balance unused credit limits
- Credit-impaired approach : Financial assets that are classified as purchased or originated credit-impaired financial assets

The method of general approach recognition of ECLs is different according to whether the credit risk on that financial assets has increased significantly since initial recognition. At the reporting date, if the credit risk on a financial asset has not increased significantly since initial recognition, the Group measures the loss allowance for that financial assets at an amount equal to 12-month ECLs. At each reporting date, the Group measures the loss allowance for a financial asset at an amount equal to the lifetime ECLs if the credit risk on that financial instrument has increased significantly since initial recognition. The lifetime refers to the contractual maturity over the expected life of a financial instrument. The information that the Group may use, on a financial instrument to determine whether there has been significant increase in credit risk since initial recognition, is (but not limited to) as follows:

- Significant change of credit ratings at initial recognition date or the reporting date
- Monitoring ratings by an early alert system
- Adverse or disclaimer opinion on auditor's report
- Overdue period, etc.

a. Forward-looking information

The Group uses forward-looking information on determining whether there has been an increase in credit risk or measuring ECLs. The Group assumes that a statistical correlation exists between the risk component and the economic cycle, and recognizes ECLs reflecting forward-looking information to measure the risk component by modeling between the macroeconomic environment and the risk component. The forward-looking information used to recognize ECLs reflects the analysis of risk situations, etc.

The Group reflects future macroeconomic conditions anticipated from a neutral standpoint that is free from bias in measuring ECLs. In applying the forward-looking information, the Group considers scenarios for each economic situation, such as boom, moderate, deteriorating and crisis, and calculates weights based on the forecasts of GDP and macroeconomic indicators for each period of the past.

The Group estimates the regression model to calculate the measurement factor as a dependent variable, using the GDP and CD (91 days) published by NH Financial Research Institute as independent variables and the Group measures the ECLs based on the estimated measurement factor.

The Group decides the dependent variables used to predict forward-looking information, considering significant relationship between macroeconomic indicators and the model and the used independent variables could be changed based on economic implications, etc.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.17 Financial assets (cont'd)

As of December 31, 2022, the effect on ECLs by changing the growth rate of GDP and maintaining other assumptions is as follows (Korean won in millions):

Classification	Increase	Decrease
0.1% change in growth rate of GDP	₩ 4,177	₩ 4,083

(*) The sensitivity analysis presented above may not present the actual change in the ECLs as it is unlikely that the change in assumptions would occur in isolation of one another, as the assumptions of the forward-looking information are correlated.

b. Measurement of ECLs of financial assets at amortized cost

ECL of financial assets at amortized cost is the present value of the difference between the contractual cash flows that are due under the contract and the cash flows that are expected to be received. For financial assets that are individually significant, the Group calculates future cash flows. For financial assets that are not individually significant, it includes the asset in a group of financial assets with similar credit risk characteristics and collectively assesses them for measuring ECLs.

① Allowance for ECLs by individual assessment

Allowance for losses on credit is measured by the best estimate of the cash flows that the Group expects to receive. The Group expects the cash flows by reasonable and supportable information available, considering borrower's future ability to repay the debt, including its management performance and financial position, overdue period and mortgage amount, etc.

② Allowance for ECLs by collective assessment

Allowance for losses on credit is recognized by adjusting probability ECLs, based on historical loss data that reflects the forward-looking information. Such approach considers elements, including loan and borrower type, credit ratings, and size of portfolio and collection period, and allowance for losses on credit by collective assessment is recognized by adjusting PD and LGD. The assumptions are consistently applied so as to model the measurement of built-in loss and determine input variables based on historical loss experience and current conditions. This approach and assumptions are regularly conducted to reduce the difference between the allowance for losses for loss and the actual loss.

ECLs of financial assets at amortized cost, that are, the allowance for ECLs, are deducted from the balance of loans and receivables. They are deducted from allowance for ECLs when the asset is considered unrecoverable. If it is subsequently recovered, allowance for ECLs increases and the changes are recognized in profit or loss.

c. ECLs on financial debts at FVTOCI

ECLs on financial debts at FVTOCI are measured by using the same approach as for the financial assets at amortized cost, and the changes of allowance for losses are recognized in other comprehensive income. Where the financial debts at FVTOCI are disposed of or are repaid, allowance for losses are reclassified to profit or loss in the current period.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.17 Financial assets (cont'd)

6) Derecognition of financial assets

The Group derecognizes a financial asset only when the contractual rights to the cash flows from the asset expire, or when it transfers the financial asset and substantially all the risks and rewards of ownership of the asset to another entity. If the Group neither transfers nor retains substantially all the risks and rewards of ownership and continues to control the transferred asset, the Group recognizes its retained interest in the asset and an associated liability for amounts it may have to pay. If the Group retains substantially all the risks and rewards of ownership of a transferred financial asset, the Group continues to recognize the financial asset and recognize a liability for the proceeds received.

On derecognition of a financial asset in its entirety, the difference between the carrying amount of the asset and the consideration received shall be recognized as a gain or loss on derecognition in profit or loss in the current period. However, accumulated evaluation gain (loss) from financial assets at FVTOCI is not recognized in profit or loss in the current period.

If the transfer of a part of a financial asset is qualified for derecognition, the entire carrying amount of the transferred financial asset shall, between the part that is derecognized and the part that is still to be recognized, be apportioned according to their respective relative fair value of that part. The difference between (1) the consideration for the part derecognized and (2) the sum of accumulated other comprehensive income and the carrying amount allocated to the part derecognized is recognized in profit or loss in the current period. Accumulated gain (loss) recognized as other comprehensive income (loss) shall, between the part that is derecognized and the part that is still to be recognized, be apportioned according to its respective relative fair value of those parts.

7) Offset of financial assets and liabilities

Financial assets and liabilities shall be offset only when the Group has the legal right to set off assets and liabilities and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

8) Interest rate benchmark reform

When the basis for determining the contractual cash flows of a financial asset or financial liability measured at amortized cost changed as a result of interest rate benchmark reform, the Group updated the effective interest rate of the financial asset or financial liability to reflect the change that is required by the reform. A change in the basis for determining the contractual cash flows is required by interest rate benchmark reform if the following conditions are met:

- The change is necessary as a direct consequence of the reform.
- The new basis for determining the contractual cash flows is economically equivalent to the previous basis – i.e., the basis immediately before the change.

When changes were made to a financial asset or financial liability in addition to changes to the basis for determining the contractual cash flows required by interest rate benchmark reform, the Group first updated the effective interest rate of the financial asset or financial liability to reflect the change that is required by interest rate benchmark reform. After that, the Group applied the policies on accounting for modifications to the additional changes.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.18 Financial liabilities and equity instruments

1) Classification as debt or equity

Debt and equity instruments are classified as either financial liabilities or equity in accordance with the substance of the contractual arrangement and the definition of financial liabilities and equity instruments.

2) Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities.

3) Financial liabilities

A financial liability is recognized when the Group becomes a party to the contract and at initial recognition. A financial liability other than financial liability at FVTPL is measured at its fair value, plus or minus transaction costs that are directly attributable to the issue of the financial liability. Otherwise, the transaction cost that is directly attributable to the issue of the financial liability at FVTPL is recognized in profit or loss for the period immediately when it arises.

Financial liabilities are classified as either financial liabilities at FVTPL or other financial liabilities.

a. Financial liabilities at FVTPL

Financial liabilities are classified as of FVTPL when the financial liability either is held for trading or is designated as liability at FVTPL.

A financial liability is classified as held for trading if:

- it has been issued principally for the purpose of repurchasing in the near term;
- on initial recognition, it is a part of a portfolio of identified financial instruments that the Group manages together and has a recent actual pattern of short-term profit taking; or
- it is a derivative that is not designated as a hedging instrument and that is ineffective for hedging.

A financial liability other than a financial liability held for trading may be designated as FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise;
- in accordance with the Group's documented risk management or investment strategy, the financial liability forms a part of a group of financial assets or financial liabilities, or both, which is managed, and its performance is evaluated on a fair value basis, and information about the performance is provided internally on that basis; or
- it forms a part of a contract containing one or more embedded derivatives, and K-IFRS 1109 permits the entire combined contract to be designated as of FVTPL.

Financial liabilities at FVTPL are measured at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. Changes of fair value or changes in own credit risk on financial liabilities designated at FVTPL are recognized in other comprehensive income. In addition, the transaction costs incurred related to issuance upon initial recognition are recognized in profit or loss.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.18 Financial liabilities and equity instruments (cont'd)

b. Other financial liabilities

Other financial liabilities are subsequently measured at amortized cost using the effective interest rate method, with interest expense recognized on an effective yield basis.

The effective interest rate method is used for calculating the amortized cost of a financial liability and allocating interest expense over the relevant period. The effective interest rate is the discounted rate used to estimate the net carrying value of future cash payment, including commission and points to be paid or received, transaction cost and other premium or discounts throughout the expected life of financial liability or, where appropriate, a shorter period.

c. Derecognition of financial liabilities

The Group derecognizes financial liabilities when, and only when, the Group's obligations are discharged, canceled or expired. The difference between the consideration paid and the carrying amount of a derecognized financial liability is recognized in profit or loss.

4) Hybrid equity securities

Hybrid equity are classified as equity when all requirements for equity classification are satisfied in conformity with contract terms at issuance.

5) Financial guarantee contract

A financial guarantee contract refers to the contract that requires the issuer to pay the specified amounts to reimburse the holder for a loss because the specified debtor fails to make payment when due under original or revised contractual terms of debt instruments. The financial guarantee contract is measured on initial recognition at the fair value, and the fair value is amortized over the financial guarantee contract term.

After initial recognition, financial guarantee contract is measured at the higher of:

- the amount of the obligation under the contract, as determined in accordance with K-IFRS 1109 *Financial Instruments* or
- the amount initially recognized, less cumulative amortization recognized in accordance with the K-IFRS 1115, *Revenue from Contracts with Customers*.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.19 Derivative financial instruments

The Group enters into a variety of derivative contracts to manage its exposure to interest rate and foreign exchange rate risk associated with the financial instruments, including currency forward contracts, interest rate swaps and cross-currency swaps.

Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. Derivatives used for trading purposes are recognized as financial assets and liabilities at FVTPL, and derivatives for hedging purposes are recognized as hedging-purpose derivative assets and liabilities in the consolidated financial statements at fair value.

The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in which case the timing of the recognition in profit or loss depends on the nature of the hedge relationship. The fair value hedge or cash flow hedge accounting is applied to the derivatives when the derivatives meet the certain requirements for hedging.

A derivative with a positive fair value is recognized as a financial asset, and a derivative with a negative fair value is recognized as a financial liability.

1) Embedded derivatives

A derivative embedded in a hybrid contract, with a financial liability or non-financial host, is separated from the host and accounted for as a separate derivative if the economic characteristics and risks are not closely related to the host, a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative and the hybrid contract is not measured at FVTPL.

2) Hedge accounting

At the inception of the hedge relationship, the Group documents the risk management objective and strategy and the hedging relationship for undertaking the hedge. Furthermore, at the inception of the hedge and on an ongoing basis, the Group documents whether the hedging instrument is highly effective in offsetting changes in fair values or cash flows of the hedged item.

A hedging relationship qualifies for hedge accounting if the hedging relationship meets all of the following hedge effectiveness requirements:

- There is an economic relationship between the hedged item and the hedging instrument.
- The effect of credit risk does not dominate the value changes that result from that economic relationship.
- The hedge ratio of the hedging relationship is the same as that resulting from the quantity of the hedged item that the Bank actually hedges and the quantity of the hedging instrument that the Bank actually uses to hedge that quantity of hedged item.

If a hedging relationship ceases to meet the hedge effectiveness requirement relating to the hedge ratio, but the risk management objective for that designated hedging relationship remains the same, the Group adjusts the hedge ratio of the hedging relationship (i.e., rebalances the hedge) so that it meets the qualifying criteria again.

3) Fair value hedges

Changes in the fair value of derivatives that are designated and qualified for fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk.

Hedge accounting treatment is no longer applied when the Group revokes the hedge designation; when the derivative expires or is sold, terminated or exercised; or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to

profit or loss from that date.

2. Basis of preparation and significant accounting policies (cont'd)

2.4 Significant accounting policies (cont'd)

2.4.19 Derivative financial instruments (cont'd)

4) Day 1 profit or loss

When the Group assesses fair values of over-the-counter derivatives using inputs that are not based on the observable market data, the Group does not recognize the difference between the transaction price and fair value (a Day 1 profit or loss) as profit or loss, but defers and recognizes it as an asset. The difference is depreciated during the trading period of financial instruments using the straight-line method. The Group did not defer any of Day 1 profit or loss as of December 31, 2022 and 2021.

5) Hedges directly affected by interest rate benchmark reform

When the basis for determining the contractual cash flows of the hedged item or hedging instrument changes as a result of IBOR reform and therefore there is no longer uncertainty arising about the cash flows of the hedged item or the hedging instrument, the Bank amends the hedge documentation of that hedging relationship to reflect the changes required by IBOR reform. For this purpose, the hedge designation is amended only to make one or more of the following changes.

- designating an alternative benchmark rate as the hedged risk;
- updating the description of the hedged item, including the description of the designated portion of the cash flows or fair value being hedged; or
- updating the description of the hedging instrument.

The Group amends the description of the hedging instrument only if the following conditions are met:

- it makes a change required by IBOR reform by using an approach other than changing the basis for determining contractual cash flows of the hedging instrument;
- the chosen approach is economically equivalent to changing the basis for determining the contractual cash of the original hedging instrument; and
- the original hedging instrument is not derecognized.

The Group amends the formal hedge documentation by the end of the reporting period during which a change required by IBOR reform is made to the hedged risk, hedged item or hedging instrument. These amendments in the formal hedge documentation do not constitute the discontinuation of the hedging relationship or the designation of a new hedging relationship.

If changes are made in addition to those changes required by IBOR reform described above, then the Group first considers whether those additional changes result in the discontinuation of the hedge accounting relationship. If the additional changes do not result in the discontinuation of the hedge accounting relationship, then the Group amends the formal hedge documentation for changes required by IBOR reform as mentioned above.

When a hedged item in a cash flow hedge was amended to reflect the changes that were required by the reform, the amount accumulated in the cash flow hedge reserve was deemed to be based on the alternative benchmark rate on which the hedged future cash flows are determined.

Similarly, for a discontinued hedging relationship, when the interest rate benchmark on which the hedged future cash flows had been based is changed as required by IBOR reform, for the purpose of determining whether the hedged future cash flows are expected to occur, the Group deems that the hedging reserve recognized in other comprehensive income for that hedging relationship is based on the alternative benchmark rate on which the hedged future cash flows will be based.

2. Basis of preparation and significant accounting policies (cont'd)

2.4.20 Fair values

1) Valuation techniques and assumptions applied in measurement of fair values

Fair values of financial assets or liabilities are determined as follows:

Classification	Fair value measurement
Financial assets and liabilities designated at FVTPL	Financial assets and liabilities designated at FVTPL are measured at fair value based on valuation performed by independent professionals or the estimated amount using valuation model of the Group.
Financial assets/liabilities at FVTPL and financial assets at FVTOCI	Government and public bonds and listed stocks in financial assets/liabilities at FVTPL and financial assets at FVTOCI are measured at fair value based on the quoted prices in active market. If quoted price in active market does not exist, the Group uses fair value based on valuation performed by independent professionals or the estimated amount using valuation model of the Group.
Securities at amortized cost	Fair value of securities at amortized cost is based on valuation performed by independent professionals.
Loans at amortized cost	Fair value of loans at amortized cost is computed by discounting expected future cash flows using the market interest rate used for homogeneous loans.
Derivative assets and liabilities	Fair value of derivatives is computed using the quoted prices if they are traded in active market. If quoted price in active market does not exist, fair value of derivatives is computed using internal valuation techniques.
Deposits and borrowings	Fair value of deposits and borrowings is computed by discounting future cash flows using the yield of debentures issued by the Group. If the difference between the book value and the fair value is not important, it is assumed that the fair value and the book value are the same.
Debentures	In principle, fair values of debentures are computed by discounting future cash flows using the yield of debentures issued by the Group. However, some of them are based on valuation performed by independent professionals.

2) Three-level fair value hierarchy

The Group classifies financial assets or liabilities measured by fair values by reference to the source of inputs used to derive the fair values. The classification is as follows:

Classification	Details
Level 1	Quoted prices (unadjusted) in active markets for identical assets or liabilities
Level 2	Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices)
Level 3	Inputs for the asset or liability that are not based on the observable market data (unobservable inputs)

3. SIGNIFICANT JUDGMENTS AND ESTIMATIONS:

Under K-IFRSs, management is required to make judgments, estimates and assumptions that affect the accounting policies and the reported amounts of assets, liabilities, income and expenses in preparation of the consolidated financial statements. When the estimates and associated assumptions based on the management's optimal determination at the end of reporting period are not consistent with the actual environment, actual results may differ from those 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 periods if the revision affects both current and future periods.

3.1 Critical judgment in applying accounting policies

3.1.1 Effective hedge relationships

As described in Note 2.4.19, the Group designates certain derivatives as hedges when the hedge is expected to be highly effective in offsetting the exposure to changes in the hedged item's fair value or cash flows. The Group continuously assesses the effectiveness of the hedge during the hedging period and determines if the hedge has been highly effective throughout the financial reporting periods for which the hedge was designated, prospectively.

Also, fair value hedge accounting is applied for the purpose of avoiding risk of fair value changes of recognized assets and liabilities or unrecognized confirmed contract as a whole or in part. Cash flow hedge accounting is applied for the purpose of avoiding risk of cash flow changes of recognized asset, liabilities and expected transactions that are highly likely to happen.

3.1.2 Business model

Classification and measurement of financial assets depends on the results of the SPPI and the business model test (please see financial assets sections of Note 2). The Group determines the business model at a level that reflects how groups of financial assets are managed together to achieve a particular business objective. This assessment includes judgement reflecting all relevant evidence, including how the performance of the assets is evaluated and their performance measured, the risks that affect the performance of the assets and how these are managed and how the managers of the assets are compensated. The Group monitors financial assets measured at amortized cost or FVTOCI that are derecognized prior to their maturity to understand the reason for their disposal and whether the reasons are consistent with the objective of the business for which the asset was held. Monitoring is part of the Group's continuous assessment of whether the business model for which the remaining financial assets are held continues to be appropriate and if it is not appropriate whether there has been a change in business model and so a prospective change to the classification of those assets. No such changes were required during the periods presented.

3.1.3 Significant increase in credit risk

As explained in Note 2, ECLs are measured as an allowance equal to 12-month ECLs for Stage 1 assets, or lifetime ECLs for Stage 2 or Stage 3 assets. An asset moves to Stage 2 when its credit risk has increased significantly since initial recognition. K-IFRS 1109 does not define what constitutes a significant increase in credit risk. In assessing whether the credit risk of an asset has significantly increased, the Group considers qualitative and quantitative reasonable and supportable forward-looking information.

To determine significant increase in credit risk since initial recognition, the Group mainly uses credit rating downgrade above a certain level at each reporting date. For the year ended December 31, 2022, the Group additionally separated portfolios and changed criteria used in determining significant increase in credit risk through the statistical analysis.

3. Significant judgements and estimations (cont'd)

3.1 Critical judgment in applying accounting policies

3.1.4 Impact of COVID-19 (cont'd)

The spread of COVID-19 is having a negative impact on the global economy. It could potentially negatively affect the Group's future business performance. The Group predicted that major economic factors, such as GDP growth rate, will be recovered. As of December 31, 2022, the Group changes significant assumptions and indices used to measure ECLs, considering the prediction, and the Group recalculates ECLs to reflect such changes.

The Group judged that the PD is being maintained stably due to the impact of comprehensive support measures for COVID-19. To reflect the potential effect of credit deterioration by the COVID-19 pandemic, the Group recognized additional loss allowance for the credit rating downgrade of the borrower who uses the financial support program or the industry related to COVID-19.

The Group will continue to monitor significant accounting estimates and assumptions used in preparing the consolidated financial statements, responding to uncertainty of the COVID-19 pandemic. The Group classifies the exposures of the financial assets by industries affected by the uncertainty associated with COVID-19, and the exposures by industries could be changed according to economic fluctuations (refer to Note 35).

3.2 Key sources of estimation uncertainty

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

3.2.1 Determination of fair value

In order to determine fair values of financial assets and liabilities without observable market values, valuation techniques are necessary. Financial instruments for which transactions do not occur frequently and prices are less objective, extensive judgment is required with regard to liquidity, concentration, uncertainty of market factors and assumptions related to price determination and broad range of judgment of other risks. Management believes that valuation techniques and assumptions used in the determination of fair values for financial instruments are reasonable.

3.2.2 Allowance for losses on credit (allowance ECLs, provision for acceptances and guarantees and unused credit limits)

It is necessary to record provisions for acceptances and guarantees and unused credit limits and to record the allowance for ECLs for loans at amortized cost or financial assets at FVTOCI by performing impairment test. The accuracy of allowance for losses on credit is determined by assumptions and variables used in the model to estimate expected cash flows by individual borrowers for individual assessment and estimation of allowance for losses on credit by collective method and guarantees/unused credit limit liabilities.

3.2.3 Measurement of present value of defined benefit obligation

Present value of defined benefit obligation is calculated by performing actuarial valuation using the projected unit credit method at the end of each reporting period. In order to apply actuarial valuation method, it is necessary to estimate the discount rate, rates of future salary increase, mortality, etc. The present value of defined benefit obligation includes significant uncertainty of the ultimate cost of defined benefit plan on such estimation as it may last in the long term.

3.2.4 Impairment of goodwill

When the Group tests goodwill for impairment, the recoverable amount of the CGU is determined based on a value in use calculation. To estimate the value in use, the management calculates cash flow projections of the CGU and determines the relevant discount rate.

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4. OPERATING SEGMENT INFORMATION:

The Group is organized into four operating segments based on its products and services as follows:

Segment	Main business activities
Personal financing	Personal banking services for general public - lending and borrowing, financial services, etc.
Corporate financing	Corporate banking services for conglomerates, small- and medium-sized companies and institutions - lending and borrowing, import and export supports, financial services, etc.
Credit card	Credit card services for credit card holders, etc.
Others	Activities other than the above

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

	For the year ended December 31, 2022						
	Personal financing	Corporate financing	Credit card	Others	Subtotal	Adjustments	Total
Operating income:							
Net interest income	₩ 3,693,283	₩ 2,606,500	₩ 612,557	₩ 216,481	₩ 7,128,821	₩ (190,550)	₩ 6,938,271
Net commission income	201,919	283,685	20,778	222,873	729,255	(20,925)	708,330
Net other operating income (losses)	(492,784)	(202,232)	(2,154)	136,994	(560,176)	(258,141)	(818,317)
	3,402,418	2,687,953	631,181	576,348	7,297,900	(469,616)	6,828,284
Operating expenses:							
General and administrative expenses	1,216,386	572,065	323,848	56,951	2,169,250	1,269,877	3,439,127
Operating income before credit losses and income tax expenses	2,186,032	2,115,888	307,333	519,397	5,128,650	(1,739,493)	3,389,157
Other expenses	-	-	-	-	-	(322,559)	(322,559)
Allowance for ECLs	-	-	-	-	-	670,560	670,560
Income tax expenses	-	-	-	-	-	677,804	677,804
Net income (loss) for the year	₩ 2,186,032	₩ 2,115,888	₩ 307,333	₩ 519,397	₩ 5,128,650	₩ (3,410,416)	₩ 1,718,234
	For the year ended December 31, 2021						
	Personal financing	Corporate financing	Credit card	Others	Subtotal	Adjustments	Total
Operating income:							
Net interest income	₩ 3,143,969	₩ 1,492,056	₩ 675,212	₩ 336,758	₩ 5,647,995	₩ 242,821	₩ 5,890,816
Net commission income	223,090	268,447	3,513	198,925	693,975	37,751	731,726
Net other operating income (losses)	(417,813)	(190,026)	(5,596)	362,115	(251,320)	(341,007)	(592,327)
	2,949,246	1,570,477	673,129	897,798	6,090,650	(60,435)	6,030,215
Operating expenses:							
General and administrative expenses	1,217,908	546,146	286,888	40,525	2,091,467	1,146,654	3,238,121
Operating income before credit losses and income tax expenses	1,731,338	1,024,331	386,241	857,273	3,999,183	(1,207,089)	2,792,094
Other expenses	-	-	-	-	-	(346,998)	(346,998)
Allowance for ECLs	-	-	-	-	-	301,451	301,451
Income tax expenses	-	-	-	-	-	588,082	588,082
Net income (loss) for the year	₩ 1,731,338	₩ 1,024,331	₩ 386,241	₩ 857,273	₩ 3,999,183	₩ (2,443,620)	₩ 1,555,563

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4. Operating segment information (cont'd)

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

Classification	Revenue from external customers		Non-current assets	
	For the year ended December 31, 2022	For the year ended December 31, 2021	December 31, 2022	December 31, 2021
Domestic	₩ 16,419,420	₩ 12,929,925	₩ 3,985,258	₩ 4,036,580
Foreign	37,176	26,839	14,871	3,740
	<u>₩ 16,456,596</u>	<u>₩ 12,956,764</u>	<u>₩ 4,000,129</u>	<u>₩ 4,040,320</u>

Trust accounts' assets and operating income of the Group as of and for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	As of or for the year end December 31, 2022		As of or for the year end December 31, 2021	
	Assets	Operating income	Assets	Operating income
Consolidated trust accounts	₩ 3,568,338	₩ 101,082	₩ 3,677,280	₩ 71,982
Unconsolidated trust accounts	54,118,081	905,340	43,793,852	799,093
	<u>₩ 57,686,419</u>	<u>₩ 1,006,422</u>	<u>₩ 47,471,132</u>	<u>₩ 871,075</u>

Receivables and payables between the Group and trust accounts as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification		December 31, 2022	December 31, 2021
Receivables	Accrued fee on trust accounts	₩ 31,058	₩ 24,272
Payables	Borrowings from trust accounts	₩ 2,311,918	₩ 838,763

Transactions between the Group and trust accounts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification		December 31, 2022	December 31, 2021
Profit	Fees on trust accounts	₩ 86,560	₩ 95,095
Loss	Interest expenses	₩ 54,592	₩ 12,938

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5. FINANCIAL ASSETS:

Details of book value and fair value of financial assets as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	
	Book value	Fair value
Financial assets at FVTPL:		
Financial assets at FVTPL	₩ 13,571,544	₩ 13,571,544
Trading derivative assets	1,086,370	1,086,370
	<u>14,657,914</u>	<u>14,657,914</u>
Derivative assets:		
Hedging derivative assets	3,375	3,375
Financial assets at FVTOCI:		
Financial assets at FVTOCI	29,336,664	29,336,664
Financial assets at amortized cost:		
Deposits (*1)		
Deposits in Korean won	9,827,554	9,827,554
Deposits in foreign currency	2,896,591	2,896,591
	<u>12,724,145</u>	<u>12,724,145</u>
Debt securities (*1)	15,490,104	14,766,136
Loans (*2)		
Loans in Korean won	268,209,479	258,623,576
Loans in foreign currency	3,823,614	3,981,552
Credit card receivables	8,688,708	8,773,245
Others	22,071,075	22,064,705
	<u>302,792,876</u>	<u>293,443,078</u>
Receivables (*3 and *4)	5,543,033	4,973,975
	<u>336,550,158</u>	<u>325,907,334</u>
	<u>₩ 380,548,111</u>	<u>₩ 369,905,287</u>

(*1) Deposits and debt securities are presented at net carrying amount after deduction of allowance for ECLs.

(*2) Loans are presented at net carrying amount after deduction of allowance for ECLs and present-value discounts. Deferred LOF/LOC amounting to ₩297,408 million as of December 31, 2022, is excluded (see Note 10. (3)).

(*3) Accrued interests included in the calculation of fair value of loans are excluded from fair value of receivables.

(*4) Receivables consist of domestic exchange settlement debits, leasehold deposits, etc. Those amounts are presented in net carrying amount after deduction of allowance for ECLs and present-value discounts.

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5. Financial assets (cont'd)

Classification		December 31, 2021	
		Book value	Fair value
Financial assets at FVTPL:			
Financial assets at FVTPL		₩ 13,529,661	₩ 13,529,661
Trading derivative assets		492,706	492,706
		<u>14,022,367</u>	<u>14,022,367</u>
Derivative assets:			
Hedging derivative assets		38,708	38,708
Financial assets at FVTOCI:			
Financial assets at FVTOCI		26,286,562	26,286,562
Financial assets at amortized cost:			
Deposits (*1)	Deposits in Korean won	2,830,535	2,830,535
	Deposits in foreign currency	2,613,980	2,613,980
		<u>5,444,515</u>	<u>5,444,515</u>
Debt securities (*1)		15,283,824	15,211,972
Loans (*2)	Loans in Korean won	253,322,094	265,411,280
	Loans in foreign currency	3,028,794	3,379,631
	Credit card receivables	7,786,713	7,889,049
	Others	25,358,074	25,429,512
		<u>289,495,675</u>	<u>302,109,472</u>
Receivables (*3 and *4)		6,577,412	6,297,324
		<u>316,801,426</u>	<u>329,063,283</u>
		<u>₩ 357,149,063</u>	<u>₩ 369,410,920</u>

(*1) Deposits and debt securities are presented at net carrying amount after deduction of allowance for ECLs.

(*2) Loans are presented at net carrying amount after deduction of allowance for ECLs and present-value discounts. Deferred LOF/LOC amounting to ₩368,819 million as of December 31, 2021, is excluded (see Note 10. (3)).

(*3) Accrued interests included in the calculation of fair value of loans are excluded from fair value of receivables.

(*4) Receivables consist of domestic exchange settlement debits, leasehold deposits, etc. Those amounts are presented in net carrying amount after deduction of allowance for ECLs and present-value discounts.

Transferred financial assets and related liabilities derecognized not in their entirety as of December 31, 2022 and 2021, are as follows:

1) Bonds sold under repurchase agreements

Transferred bonds sold under repurchase agreements with a condition to repurchase at a firm price derecognized not in their entirety as of December 31, 2022 and 2021, are as follow (Korean won in millions):

Classification		December 31, 2022	December 31, 2021
Transferred assets	Financial assets at FVTPL	₩ 545,498	₩ 895,463
	Financial assets at FVTOCI	502,070	58,947
	Financial assets at amortized cost	291,000	101,823
		<u>1,338,568</u>	<u>1,056,233</u>
Related liabilities	Bonds sold under repurchase agreements	₩ 1,218,881	₩ 989,457

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5. Financial assets (cont'd)

2) Securities for lending

In case the Group loans securities held by the Group, the ownership of the securities is transferred. However, those loaned securities must be returned at the end of the lending period. Therefore, as the Group holds most of the risks and rewards of the securities, the Group continues to recognize the entire securities for lending.

Securities for lending as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021	Loaned to Korea Securities Depository and others
Financial assets at FVTOCI - Debt securities	₩ -	₩ 58,791	

The fair values of collateral available to sell or repledge, and collateral sold or repledged, regardless of debtor's default, as of December 31, 2022 and 2021, are as follows (Korean won in millions):

	December 31, 2022		December 31, 2021	
	Fair value of collateral held	Fair value of collateral sold and repledged	Fair value of collateral held	Fair value of collateral sold and repledged
Securities	₩ 13,999,492	₩ -	₩ 18,774,786	₩ -

6. CASH AND DUE FROM BANKS:

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

Classification	Details	Financial institution	Interest rate (%)	December 31, 2022	December 31, 2021
Cash in Korean won	Cash on hand	-	-	₩ 1,649,634	₩ 1,523,121
Cash in foreign currency	Cash on hand	-	-	538,685	413,234
Due from banks in Korean won	Reserve deposits	The Bank of Korea	-	9,456,506	2,406,936
	Non-monetary financial institution deposits	Korea Exchange and others	-	937	501
	Bank deposits	Other financial institutions	1.88 - 3.06	25,827	64,282
	Other deposits	The Bank of Korea and others	-	344,290	358,820
				9,827,560	2,830,539
Due from banks in foreign currency	Reserve deposits	The Bank of Korea	-	436,498	327,832
	Deposits at other banks	Other financial institutions	0.00 - 5.62	2,385,380	2,272,858
	Time deposits	Other financial institutions	1.75 - 3.88	18,084	3,765
	Other deposits	Other financial institutions	4.23	61,279	12,507
				2,901,241	2,616,962
Allowance for ECLs				(4,656)	(2,986)
				₩ 14,912,464	₩ 7,380,870

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6. Cash and due from banks (cont'd)

Changes in the gross carrying amounts of due from banks for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 5,447,501	-	-	5,447,501
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Financial assets originated or derecognized	7,164,774	-	-	7,164,774
Others (*1)	116,526	-	-	116,526
Ending balance	₩ 12,728,801	-	-	12,728,801

(*1) Other changes are due to exchange rate fluctuations.

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 10,502,743	₩ -	₩ -	₩ 10,502,743
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Financial assets originated or derecognized	(5,228,664)	-	-	(5,228,664)
Others (*1)	173,422	-	-	173,422
Ending balance	₩ 5,447,501	₩ -	₩ -	₩ 5,447,501

(*1) Other changes are due to exchange rate fluctuations.

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6. Cash and due from banks (cont'd)

Changes in allowance for ECLs of due from banks for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 2,986	-	-	2,986
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Reversal of allowance for ECLs	698	-	-	698
Others (*1)	972	-	-	972
Ending balance	₩ 4,656	-	-	4,656

(*1) Other changes are due to exchange rate fluctuations.

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 2,762	₩ -	₩ -	₩ 2,762
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Reversal of allowance for ECLs	(12)	-	-	(12)
Others (*1)	236	-	-	236
Ending balance	₩ 2,986	₩ -	₩ -	₩ 2,986

(*1) Other changes are due to exchange rate fluctuations.

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6. Cash and due from banks (cont'd)

Cash and due from banks in Korean won and in foreign currency that are restricted in use as of December 31, 2022 and 2021, are as follows (Korean won in millions):

<u>Classification</u>	<u>Financial institution</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>Reason for restriction</u>
Reserve deposits in Korean won	The Bank of Korea	₩ 9,456,506	₩ 2,406,936	Required under the <i>Banking Act</i> and other related regulations
Other deposits in Korean won	The Bank of Korea	-	300,000	Required by the Bank of Korea for the purpose of liquidity management
Non-monetary financial institution deposits in Korean won	Korea Exchange	937	501	Penalty joint fund related to government bond transaction and guarantee deposit
Reserve deposits in foreign currency	The Bank of Korea	436,498	327,832	Required under the <i>Banking Act</i> and other related regulations
Other deposits in foreign currency	Other financial Institutions	13,940	-	Deposits in other foreign exchange banks according to money consumption loan contracts
Other deposits in foreign currency	Other financial Institutions	11,406	1,185	Deposits related to derivatives trading
Deposit on securities and futures	NH Futures Co., Ltd. and 7 others	331	360	Reserve securities and futures
Allowance for ECLs		(4)	(5)	
		<u>₩ 9,919,614</u>	<u>₩ 3,036,811</u>	

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7. FINANCIAL ASSETS AT FVTPL:

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

Classification	December 31, 2022	December 31, 2021
Equity securities:		
Marketable equity securities	₩ 2,436	₩ 84,599
Non-marketable equity securities	101,882	85,158
	<u>104,318</u>	<u>169,757</u>
Debt securities:		
Government bonds	462,630	1,198,664
Financial bonds	2,987,724	3,365,888
Corporate bonds	445,856	451,906
Public and private bonds	409,311	465,482
Others	204,758	214,056
	<u>4,510,279</u>	<u>5,695,996</u>
Other securities:		
Beneficiary certificate	4,045,164	4,048,278
Mutual fund	136,917	188,979
Foreign currencies	979,297	780,455
Others	3,778,934	2,626,406
	<u>8,940,312</u>	<u>7,644,118</u>
Loans and receivables	16,635	19,790
	<u>₩ 13,571,544</u>	<u>₩ 13,529,661</u>

The Group irrevocably designates a financial asset as measured at FVTPL at the time of initial recognition of the financial asset if doing so eliminates or significantly reduces the accounting mismatch. In this case, financial instruments designated as measured at FVTPL cannot be reversed. The Group does not hold financial instruments designated as measured at FVTPL as of December 31, 2022 and 2021.

Financial assets at FVTPL provided as collaterals as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Provided to	Remarks	December 31, 2022	
		Pledged amount	Book value of securities provided as collaterals
Industrial Bank of Korea and 36 others	Interinstitutional repurchase sale	₩ 575,178	₩ 545,498
NH Futures Co., Ltd. and 7 others	Substitute securities for derivative transactions	5,900	5,833
Korea Securities Depository and one other	Others	142,000	138,526
		<u>₩ 723,078</u>	<u>₩ 689,857</u>
Provided to	Remarks	December 31, 2021	
		Pledged amount	Book value of securities provided as collaterals
Woori Bank and 22 others	Interinstitutional repurchase sale	₩ 916,299	₩ 895,463
Samsung Futures Co., Ltd. and 10 others	Substitute securities for derivative transactions	11,400	10,997
Korea Securities Depository and two others	Others	88,600	87,683
		<u>₩ 1,016,299</u>	<u>₩ 994,143</u>

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8. FINANCIAL ASSETS AT FVTOCI:

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

Classification	December 31, 2022	
	Book value	Allowance for ECLs
Equity securities:		
Marketable equity securities	₩ 50,987	₩ -
Non-marketable equity securities	282,943	-
Foreign currencies	238	-
	<u>334,168</u>	<u>-</u>
Debt securities:		
Government bonds	10,262,495	-
Financial bonds	8,358,504	(1,533)
Corporate bonds	3,594,458	(2,768)
Public bonds	3,959,936	(890)
Foreign currencies	2,827,103	(603)
	<u>29,002,496</u>	<u>(5,794)</u>
	₩ 29,336,664	₩ (5,794)
Classification	December 31, 2021	
	Book value	Allowance for ECLs
Equity securities:		
Marketable equity securities	₩ 129,199	₩ -
Non-marketable equity securities	264,985	-
Foreign currencies	238	-
	<u>394,422</u>	<u>-</u>
Debt securities:		
Government bonds	7,648,177	-
Financial bonds	9,335,138	(838)
Corporate bonds	4,557,235	(1,923)
Public bonds	2,877,548	(271)
Foreign currencies	1,474,042	(452)
	<u>25,892,140</u>	<u>(3,484)</u>
	₩ 26,286,562	₩ (3,484)

Details of financial assets designated as measured at FVTOCI as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022		December 31, 2021	
Equity securities:				
Marketable equity securities	₩	50,987	₩	129,199
Non-marketable equity securities		282,943		264,985
Foreign currencies		238		238
	₩	<u>334,168</u>	₩	<u>394,422</u>

The Group designates financial assets that are held for strategic reasons as measured at FVTOCI as these financial assets are not held for capital appreciation through investment. In other cases, it is classified as financial assets at FVTPL.

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8. Financial assets at FVTOCI (cont'd)

Details of disposal of equity securities at FVTOCI for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	
	Fair value at the time of disposal	Accumulated profit or loss at the time of disposal(*1)
Equity securities:		
Marketable equity securities (*1)	₩ 179,349	₩ (3,045)
Non-marketable equity securities (*1)	-	-
	<u>₩ 179,349</u>	<u>₩ (3,045)</u>

(*1) The effect of income tax is not considered.

Classification	For the year ended December 31, 2021	
	Fair value at the time of disposal	Accumulated profit or loss at the time of disposal(*1)
Equity securities:		
Marketable equity securities (*1)	₩ 177,334	₩ (89,353)
Non-marketable equity securities (*1)	61	53
	<u>₩ 177,395</u>	<u>₩ (89,300)</u>

(*1) The effect of income tax is not considered.

The Group disposed equity securities at FVTOCI for the year ended December 31, 2022, due to disposal of equity securities acquired by debt-equity swap. The Group will reclassify the accumulative profit or loss on equity securities at FVTOCI from other comprehensive income to retained earnings at the end of the year.

Details of financial assets at FVTOCI provided as collaterals as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Provided to	Remarks	December 31, 2022	
		Pledged amount	Book value of securities provided as collateral
The Bank of Korea	Payment risk	₩ 670,000	₩ 631,406
Citibank Korea Inc.	Bonds sold under repurchase agreements	509,903	502,070
Citibank Korea Inc. and 14 others	Credit enhancement for derivative transactions	129,069	124,367
		<u>₩ 1,308,972</u>	<u>₩ 1,257,843</u>
Provided to	Remarks	December 31, 2021	
		Pledged amount	Book value of securities provided as collateral
The Bank of Korea	Payment risk	₩ 30,000	₩ 29,193
Citibank Korea Inc.	Daylight overdraft	100,000	99,384
	Bonds sold under repurchase agreements	58,646	58,947
Deutsche Bank and 20 others	Credit enhancement for derivative transactions	167,492	165,030
		<u>₩ 356,138</u>	<u>₩ 352,554</u>

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8. Financial assets at FVTOCI (cont'd)

Changes in the total book value of debt securities at FVTOCI for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 25,892,140	₩ -	₩ -	₩ 25,892,140
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Acquisition	20,900,703	-	-	20,900,703
Disposal or collection	(17,099,791)	-	-	(17,099,791)
Amortization of effective interest rate	57,350	-	-	57,350
Valuation	(808,594)	-	-	(808,594)
Others (*1)	60,688	-	-	60,688
Ending balance	₩ 29,002,496	₩ -	₩ -	₩ 29,002,496

(*1) Other changes are due to exchange rate fluctuations.

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 25,465,249	₩ -	₩ -	₩ 25,465,249
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Acquisition	31,384,125	-	-	31,384,125
Disposal or collection	(30,780,792)	-	-	(30,780,792)
Amortization of effective interest rate	(24,079)	-	-	(24,079)
Valuation	(248,249)	-	-	(248,249)
Others (*1)	95,886	-	-	95,886
Ending balance	₩ 25,892,140	₩ -	₩ -	₩ 25,892,140

(*1) Other changes are due to exchange rate fluctuations.

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8. Financial assets at FVTOCI (cont'd)

Changes in allowance for ECLs of debt securities at FVTOCI for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 3,484	₩ -	₩ -	₩ 3,484
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Provision of allowance for ECLs (*1)	2,670	-	-	2,670
Disposal	(387)	-	-	(387)
Others (*2)	27	-	-	27
Ending balance	₩ 5,794	₩ -	₩ -	₩ 5,794

(*1) The amount of reversal of allowance for ECLs due to collection of debt securities is included.

(*2) Other changes are due to exchange rate fluctuations.

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 4,373	₩ -	₩ -	₩ 4,373
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Provision of allowance for ECLs (*1)	846	-	-	846
Disposal	(1,778)	-	-	(1,778)
Others (*2)	43	-	-	43
Ending balance	₩ 3,484	₩ -	₩ -	₩ 3,484

(*1) The amount of reversal of allowance for ECLs due to collection of debt securities is included.

(*2) Other changes are due to exchange rate fluctuations.

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9. SECURITIES AT AMORTIZED COST:

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

Classification	December 31, 2022	
	Book value	Allowance for ECLs
Debt securities:		
Government bonds	₩ 7,515,620	₩ -
Financial bonds	2,090,009	-
Corporate bonds	5,468,768	(3,342)
Public bonds	400,057	-
Foreign bonds	18,992	-
	₩ 15,493,446	₩ (3,342)

Classification	December 31, 2021	
	Book value	Allowance for ECLs
Debt securities:		
Government bonds	₩ 7,128,768	₩ -
Financial bonds	3,063,047	-
Corporate bonds	4,813,784	(1,893)
Public bonds	280,118	-
	₩ 15,285,717	₩ (1,893)

Details of securities at amortized cost provided as collaterals as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Provided to	Remarks	December 31, 2022	
		Pledged amount	Book value of securities provided as collateral
The Bank of Korea	Payment risk	₩ 6,060,000	₩ 5,967,528
	Daylight overdraft	1,050,000	1,036,633
	Borrowing	3,551,000	3,464,931
	Bonds sold under repurchase agreements	293,983	291,000
Citibank Korea Inc. NH Futures Co., Ltd. and five others	Substituted securities for derivative transaction	50,000	50,000
	Credit enhancement for derivative transactions	96,861	94,787
Deutsche Bank and seven others Korea Exchange and 1	Others	37,000	36,870
		₩ 11,138,844	₩ 10,941,749

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9. Securities at amortized cost (cont'd)

Provided to	Remarks	December 31, 2021	
		Pledged amount	Book value of securities provided as collateral
The Bank of Korea	Payment risk	₩ 3,940,000	₩ 3,902,194
	Daylight overdraft	1,110,000	1,090,453
	Borrowing	2,773,108	2,742,959
Citibank Korea Inc.	Bonds sold under repurchase agreements	101,842	101,823
NH Futures Co., Ltd. and three others	Substituted securities for derivative transaction	29,000	29,000
Societe Generale and 15 others	Credit enhancement for derivative transactions	43,723	43,499
Korea Exchange	Others	27,000	27,011
		<u>₩ 8,024,673</u>	<u>₩ 7,936,939</u>

Changes in the gross carrying amounts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	Lifetime ECLs			Total
	12-month ECLs	Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 15,285,717	₩ -	₩ -	₩ 15,285,717
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Acquisition	8,579,788	-	-	8,579,788
Collection	(8,437,853)	-	-	(8,437,853)
Amortization of effective interest rate	67,488	-	-	67,488
Others (*1)	(1,694)	-	-	(1,694)
Ending balance	<u>₩ 15,493,446</u>	<u>₩ -</u>	<u>₩ -</u>	<u>₩ 15,493,446</u>

(*1) Other changes are due to exchange rate fluctuations.

	For the year ended December 31, 2021			
	Lifetime ECLs			Total
	12-month ECLs	Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 14,421,215	₩ -	₩ -	₩ 14,421,215
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Acquisition	12,669,312	-	-	12,669,312
Collection	(11,826,153)	-	-	(11,826,153)
Amortization of effective interest rate	21,343	-	-	21,343
Ending balance	<u>₩ 15,285,717</u>	<u>₩ -</u>	<u>₩ -</u>	<u>₩ 15,285,717</u>

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9. Securities at amortized cost (cont'd)

Changes in allowance for ECLs for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 1,893	₩ -	₩ -	₩ 1,893
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Provision of allowance for ECLs (*1)	1,589	-	-	1,589
Disposal	(140)	-	-	(140)
Ending balance	₩ 3,342	₩ -	₩ -	₩ 3,342

(*1) The amount of reversal of allowance for ECLs due to collection of debt securities is included.

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 2,148	₩ -	₩ -	₩ 2,148
Transfer to 12-month ECLs	-	-	-	-
Transfer to financial assets with a significant increase in credit risk	-	-	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Provision of allowance for ECLs (*1)	386	-	-	386
Disposal	(641)	-	-	(641)
Ending balance	₩ 1,893	₩ -	₩ -	₩ 1,893

(*1) The amount of reversal of allowance for ECLs due to collection of debt securities is included.

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10. LOANS AT AMORTIZED COST:

Details of loans at amortized cost as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Type	December 31, 2022	December 31, 2021
Loans in Korean won	Corporate	₩ 127,158,255	₩ 113,781,048
	Household	133,393,913	134,576,771
	Public	8,833,677	5,744,986
	Integrated	272,529	346,888
		269,658,374	254,449,693
	Allowance for ECLs	(1,448,895)	(1,127,599)
	Book value, net	268,209,479	253,322,094
Loans in foreign currency	Loans	2,659,627	1,937,425
	Offshore	1,220,283	1,154,093
		3,879,910	3,091,518
	Allowance for ECLs	(56,296)	(62,724)
	Book value, net	3,823,614	3,028,794
Other loans	Credit card receivables	9,094,031	8,102,362
	Bills purchased	1,200,484	693,896
	Bills purchased in foreign currency	2,596,297	2,824,063
	Private placement bonds	47,130	55,813
	Payment for acceptances and guarantees	2,345	2,804
	Domestic import usance	3,097,540	2,510,441
	Others	15,182,833	19,307,136
		31,220,660	33,496,515
	Allowance for ECLs	(460,877)	(351,728)
	Book value, net	30,759,783	33,144,787
Receivables	Receivables	5,613,243	6,623,075
	Allowance for ECLs	(49,448)	(31,205)
	Book value, net	5,563,795	6,591,870
Total loans and receivables		310,372,187	297,660,801
Total allowance for ECLs		(2,015,516)	(1,573,256)
Deferred LOF/LOC		297,408	368,819
Present value discounts of receivables		(20,762)	(14,458)
Net loans and receivables		₩ 308,633,317	₩ 296,441,906

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10. Loans at amortized cost (cont'd)

Details of receivables at amortized cost as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Domestic exchange settlement debits	₩ 1,714,166	₩ 358,677
Accrued income	1,226,605	733,456
Accounts receivable	1,394,162	877,320
Suspense payment	48,160	31,866
Guarantee deposits paid	482,260	483,245
Unsettled credit card receivables	726,407	2,554,708
Receivables from proxy sale of NACF	869	2,278
Others	20,614	1,581,525
Total receivables	<u>5,613,243</u>	<u>6,623,075</u>
Allowance for ECLs	(49,448)	(31,205)
Present value discounts	(20,762)	(14,458)
Net receivables	<u>₩ 5,543,033</u>	<u>₩ 6,577,412</u>

Changes in deferred LOF/LOC for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022			
	January 1, 2022	Increase	Decrease	December 31, 2022
Deferred LOF	₩ (20,985)	₩ (22,647)	₩ (19,010)	₩ (24,622)
Deferred LOC	389,804	217,111	284,885	322,030
Deferred LOC, net	<u>₩ 368,819</u>	<u>₩ 194,464</u>	<u>₩ 265,875</u>	<u>₩ 297,408</u>
Classification	For the year ended December 31, 2021			
	January 1, 2021	Increase	Decrease	December 31, 2021
Deferred LOF	₩ (19,392)	₩ (17,001)	₩ (15,408)	₩ (20,985)
Deferred LOC	395,503	257,882	263,581	389,804
Deferred LOC, net	<u>₩ 376,111</u>	<u>₩ 240,881</u>	<u>₩ 248,173</u>	<u>₩ 368,819</u>

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10. Loans at amortized cost (cont'd)

Changes in the total book value for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs (*1)	Lifetime ECLs (*1)		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 277,809,703	₩ 19,002,927	₩ 848,171	₩ 297,660,801
Transfer to 12-month ECLs	7,184,094	(7,172,108)	(11,986)	-
Transfer to financial assets with a significant increase in credit risk	(13,849,712)	13,871,075	(21,363)	-
Transfer to credit-impaired financial assets	(428,370)	(354,901)	783,271	-
Financial assets originated or derecognized	13,948,737	(1,153,439)	(273,092)	12,522,206
Write-offs	-	-	(344,766)	(344,766)
Disposals	(39,409)	(72,832)	(48,370)	(160,611)
Others (*2)	694,561	-	(4)	694,557
Ending balance	₩ 285,319,604	₩ 24,120,722	₩ 931,861	₩ 310,372,187

(*1) Deferred LOF/LOC and present value discounts are not included.

(*2) Others include the amount of changes in exchange rates and restructured loans.

	For the year ended December 31, 2021			
	12-month ECLs (*1)	Lifetime ECLs (*1)		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 247,774,168	₩ 19,371,918	₩ 1,103,620	₩ 268,249,706
Transfer to 12-month ECLs	6,691,890	(6,678,423)	(13,467)	-
Transfer to financial assets with a significant increase in credit risk	(9,562,357)	9,622,267	(59,910)	-
Transfer to credit-impaired financial assets	(317,014)	(336,226)	653,240	-
Financial assets originated or derecognized	32,652,286	(2,870,228)	(304,929)	29,477,129
Write-offs	-	-	(393,897)	(393,897)
Disposals	(54,013)	(106,381)	(133,029)	(293,423)
Others (*2)	624,743	-	(3,457)	621,286
Ending balance	₩ 277,809,703	₩ 19,002,927	₩ 848,171	₩ 297,660,801

(*1) Deferred LOF/LOC and present value discounts are not included.

(*2) Others include the amount of changes in exchange rates and restructured loans.

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10. Loans at amortized cost (cont'd)

Changes in allowance for ECLs for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 792,772	₩ 400,029	₩ 380,455	₩ 1,573,256
Transfer to 12-month ECLs	54,552	(53,390)	(1,162)	-
Transfer to financial assets with a significant increase in credit risk	(33,186)	35,573	(2,387)	-
Transfer to credit-impaired financial assets	(90,451)	(112,977)	203,428	-
Provision (reversal) of allowance for ECLs (*1)	340,712	282,856	26,920	650,488
Write-offs	-	-	(344,766)	(344,766)
Recovery of write-offs	-	-	160,032	160,032
Disposals	(243)	(2,248)	(7,473)	(9,964)
Others (*2)	5,491	-	(19,021)	(13,530)
Ending balance	₩ 1,069,647	₩ 549,843	₩ 396,026	₩ 2,015,516

(*1) Responding the potential effect of credit deterioration, the Group recognizes additional ECLs amounting to ₩167,540 million by recalculating the PD reflecting forward-looking information and for the loans by the borrower who uses the financial support program (12-month ECLs ₩177,562 million, significant increase in credit risk ₩(-)8,985 million and credit-impaired financial assets ₩(-)1,037 million).

(*2) Others include the amount of changes in exchange rates, restructured loans and interest income on impaired loans.

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 436,876	₩ 513,997	₩ 407,950	₩ 1,358,823
Transfer to 12-month ECLs	107,559	(105,586)	(1,973)	-
Transfer to financial assets with a significant increase in credit risk	(48,155)	72,059	(23,904)	-
Transfer to credit-impaired financial assets	(101,873)	(136,408)	238,281	-
Provision (reversal) of allowance for ECLs (*1)	385,134	59,632	(76,937)	367,829
Write-offs	-	-	(393,897)	(393,897)
Recovery of write-offs	-	-	278,111	278,111
Disposals	(656)	(3,665)	(19,439)	(23,760)
Others (*2)	13,887	-	(27,737)	(13,850)
Ending balance	₩ 792,772	₩ 400,029	₩ 380,455	₩ 1,573,256

(*1) Responding the potential effect of credit deterioration, the Group recognizes additional ECLs amounting to ₩196,295 million by recalculating the PD reflecting forward-looking information and for the loans by the borrower who uses the financial support program (12-month ECLs ₩326,842 million, significant increase in credit risk ₩(-)131,584 million and credit-impaired financial assets ₩1,037 million).

(*2) Others include the amount of changes in exchange rates, restructured loans and interest income on impaired loans.

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10. Loans at amortized cost (cont'd)

The uncollected contractual amount of financial assets that was written off but still under the process of pursuing collection by the Group as of December 31, 2022, amounts to ₩3,591,263 million.

11. INVESTMENTS IN ASSOCIATES:

Details of investments in associates as of December 31, 2022 and 2021, are as follows (Korean won in millions, shares in thousands):

	Main business	Location	December 31, 2022			
			Date of the consolidated financial statements	Number of shares	Percentage of ownership (%)	Book value
Korea Credit Bureaus Co., Ltd. (*1)	Credit investigation and collection agency	Korea	December 31, 2022	180	9.00	₩ 6,788
IBK-NH Smallgiant PEF(*2))	Other financial business	Korea	December 31, 2022,	-	44.9	2,817
NH-AJUIB Growth 2013 PEF	Other financial business	Korea	December 31, 2022	1,581,959	29.95	3,207
Kyunggi-DSC Superman Investment Fund No. 1	Other financial business	Korea	December 31, 2022,	1.2	25	4,701
NH Agri-Biz Value Creative 1st PEF	Other financial business	Korea	December 31, 2022	3,076,870	48.08	3,688
NH_AJU Digital Fund	Other financial business	Korea	December 31, 2022,	6.9	40	11,954
NH Venture - AJU IB New Growth Fund	Other financial business	Korea	December 31, 2022	14.6	25	13,253
NH-NAU Agro Food 1st Private Equity Fund	Other financial business	Korea	December 31, 2022,	18,000,000	50	18,642
NH-NAU Agro Food 2nd Private Equity Fund	Other financial business	Korea	December 31, 2022	13,533,333	33.33	13,888
NH-DX Open Innovation Fund	Other financial business	Korea	December 31, 2022,	3.2	34.78	3,029
NH Digital Alliance Fund	Other financial business	Korea	December 31, 2022	4,065	50	3,812
NH-NICE Venture Fund-1	Other financial business	Korea	December 31, 2022,	5	50	4,972
NH Agtech Innovation Private Equity Fund	Other financial business	Korea	December 31, 2022	933,962	28.3	749
2012sunlight Co., Ltd(*3)	Meat processing and storage business	Korea	-	9.8	46.57	-
Seasons Shipping Co., Ltd(*3)	Cargo transportation	Korea	-	16	20.27	-
GNO Co., Ltd(*3)	Basic organic chemistry manufacturing	Korea	-	973	23.43	-
GARAK SUSAN CO., LTD(*3)	Seafood wholesale business	Korea	-	10	28.54	-
PROTEK KOREA CO., LTD(*3)	Metal cutting machine manufacturing	Korea	-	5	35.69	-
PARADISE CO., LTD(*3)	Seafood wholesale business	Korea	-	5	21.61	-
MEDI LAB CO., LTD(*3)	Electrical mechanical equipment and related equipment wholesale business	Korea	-	20.7	47.6	-
IFC KOREA INC(*3)	Feed Fertilizer Cosmetics Wholesale and Retail Manufacturing	Korea	-	5	21.21	-
Cardo Inc.(*1)	Financial support service business	Korea	December 31, 2022	2,990	14.95	56
						₩ <u>91,556</u>

(*1) Although the Group has less than 20% ownership, it has significant influence over the investee through its ability to designate members of the board of directors.

(*2) For the year ended December 31, 2022, the entire issued capital of the entity was refunded and the number of shares is nil. However, the Group's right to the distribution of residual property is still effective and the entity is recognized as an associate.

(*3) The shares were acquired pursuant to the debt-to-equity swaps. The investees are reclassified as investments in associates because their workout process was completed and the Group restored its voting rights over them.

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11. Investments in associates (cont'd)

		December 31, 2021				
	Main business	Location	Date of the consolidated financial statements	Number of shares	Percentage of ownership (%)	Book value
Korea Credit Bureaus Co., Ltd. (*1)	Credit investigation and collection agency	Korea	December 31, 2021	180	9.00	₩ 10,161
NH-QCP Global Partnership PEF (*2)	Other financial business	Korea	December 31, 2021	-	24.95	24
IBK-NH Smallgiant PEF (*3)	Other financial business	Korea	December 31, 2021	0.1	44.90	14,421
NH-AJUIB Growth 2013 PEF	Other financial business	Korea	December 31, 2021	1,581,959	29.95	5,714
Kyunggi-DSC Superman Investment Fund No. 1	Other financial business	Korea	December 31, 2021	1.3	25.00	8,665
NH Agri-Biz Value Creative 1st PEF	Other financial business	Korea	December 31, 2021	4,756,870	48.05	4,800
NH-AJU Digital Fund	Other financial business	Korea	December 31, 2021	8	40.00	7,651
NH Venture-AJU IB New Growth Fund	Other financial business	Korea	December 31, 2021	11	25.00	10,100
NH-NAU Agro Food 1st Private Equity Fund	Other financial business	Korea	December 31, 2021	15,750,000	50.00	14,680
NH-NAU Agro Food 2nd Private Equity Fund	Other financial business	Korea	December 31, 2021	6,500,000	33.33	5,932
2012 sunlight, Co., Ltd. (*4)	Meat processing and storage business	Korea	-	9.8	46.57	-
Yujinplus Co., Ltd. (*4)	Mold manufacturing	Korea	-	33	23.02	-
Seasons Shipping Co., Ltd. (*4)	Cargo transportation	Korea	-	16	20.27	-
Inkordan Trading Co., Ltd. (*4)	Clothing manufacturing	Korea	-	15	42.30	-
GNO Co., Ltd. (*4)	Basic organic chemistry manufacturing	Korea	-	973	23.43	-
GARAK SUSAN Co., Ltd. (*4)	Seafood wholesale business	Korea	-	10	28.54	-
PROTEK KOREA Co., Ltd. (*4)	Metal cutting machine manufacturing	Korea	-	5	35.69	-
PARADISE Co., Ltd. (*4)	Seafood wholesale business	Korea	-	5	21.61	-
Cardo Inc. (*1)	Financial support service business	Korea	December 31, 2021	2,990	14.95	183
						₩ <u>82,331</u>

(*1) Although the Group has less than 20% ownership, it has significant influence over the investee through its ability to designate members of the board of directors.

(*2) For the year ended December 31, 2021, the entire issued capital of the entity was refunded and the number of shares is nil. However, the Group's right to the distribution of residual property is still effective and the entity is recognized as an associate.

(*3) The distribution rate of earnings is 44.90%, and the contribution rate of investments is 49.89%.

(*4) The shares were acquired pursuant to the debt-to-equity swaps. The investees are reclassified as investments in associates because their workout process was completed and the Group restored its voting rights over them.

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11. Investments in associates (cont'd)

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

	For the year end December 31, 2022						
	January 1, 2022	Acquisition	Disposal, etc.	Dividend	Gain (loss) on valuation of equity method investments	Share of other comprehensive gain (loss) of associates	December 31, 2022
Korea Credit Bureaus Co., Ltd.	₩ 10,161	₩ -	₩ -	₩ -	₩ (3,373)	₩ -	₩ 6,788
NH-QCP Global Partnership PEF	24	-	-	(16)	(8)	-	-
IBK-NH Smallgiant PEF	14,421	-	(1,164)	(10,768)	328	-	2,817
NH-AJUUB Growth 2013 PEF	5,714	-	-	-	(2,507)	-	3,207
Kyunggi-DSC Superman Investment Fund No. 1	8,665	-	(100)	(1,380)	(2,484)	-	4,701
NH Agri-Biz Value Creative 1st PEF	4,800	-	(1,680)	-	568	-	3,688
NH-AJU Digital Fund	7,651	-	(1,120)	-	5,423	-	11,954
NH Venture-AJU IB New Growth Fund	10,100	5,000	(868)	-	(979)	-	13,253
NH-NAU Agro Food 1st Private Equity Fund	14,680	3,100	(850)	-	1,712	-	18,642
NH-NAU Agro Food 2nd Private Equity Fund	5,932	7,033	-	-	923	-	13,888
Cardo Inc.	183	-	-	-	(127)	-	56
NH-DX Open Innovation Fund	-	3,200	-	-	(171)	-	3,029
NH Digital Alliance Fund	-	4,065	-	-	(253)	-	3,812
NH-NAU Agro Food 1st Private Equity Fund	-	5,000	-	-	(28)	-	4,972
NH Agtech Innovation Private Equity Fund	-	934	-	-	(185)	-	749
	₩ 82,331	₩ 28,332	₩ (5,782)	₩ (12,164)	₩ (1,161)	₩ -	₩ 91,556

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11. Investments in associates (cont'd)

	For the year end December 31, 2021						
	January 1, 2021	Acquisition	Disposal, etc.	Dividend	Gain (loss) on valuation of equity method investments	Share of other comprehensive gain (loss) of associates	December 31, 2021
Korea Credit Bureaus Co., Ltd.	₩ 8,982	₩ -	₩ -	₩ (90)	₩ 1,269	₩ -	₩ 10,161
NH-QCP Global Partnership PEF	4,305	-	-	(4,244)	(37)	-	24
IBK-NH Smallgiant PEF	30,452	-	(23,498)	-	7,467	-	14,421
NH-AJUIB Growth 2013 PEF	18,116	-	(7,732)	(2,037)	(2,633)	-	5,714
Kyunggi-DSC Superman Investment Fund No. 1	17,489	-	(1,200)	(630)	(6,994)	-	8,665
NH Agri-Biz Value Creative 1st PEF	7,454	-	(3,408)	-	754	-	4,800
NH-AJU Digital Fund	6,732	880	-	-	39	-	7,651
NH Venture-AJU IB New Growth Fund	1,996	8,500	-	-	(396)	-	10,100
NH-NAU Agro Food 1st Private Equity Fund	12,651	2,500	-	-	(471)	-	14,680
NH-NAU Agro Food 2nd Private Equity Fund	-	6,500	-	-	(568)	-	5,932
Cardo Inc.	-	299	-	-	(116)	-	183
	<u>₩ 108,177</u>	<u>₩ 18,679</u>	<u>₩ (35,838)</u>	<u>₩ (7,001)</u>	<u>₩ (1,686)</u>	<u>₩ -</u>	<u>₩ 82,331</u>

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11. Investments in associates (cont'd)

A summary of financial information of associates as of December 31, 2022 and 2021, is as follows (Korean won in millions):

	December 31, 2022					
	Assets	Liabilities	Equity	Operating revenue	Net income (loss)	Total comprehensive income (loss)
Korea Credit Bureaus Co., Ltd.	₩ 155,165	₩ 100,065	₩ 55,100	₩ 144,907	₩ (37,475)	₩ (37,475)
IBK-NH Smallgiant PEF	7,194	122	7,072	12,183	730	730
NH-AJUIB Growth 2013 PEF	10,708	-	10,708	1	(8,369)	(8,369)
Kyunggi-DSC Superman Investment Fund No. 1	18,951	148	18,803	7,340	(9,938)	(9,938)
NH Agri-Biz Value Creative 1st PEF	8,389	719	7,670	1,478	1,181	1,181
NH-AJU Digital Fund	30,009	124	29,885	17,182	13,556	13,556
NH Venture-AJU IB New Growth Fund	53,413	400	53,013	2,011	(3,915)	(3,915)
NH-NAU Agro Food 1st Private Equity Fund	37,566	282	37,284	16,082	3,424	3,424
NH-NAU Agro Food 2nd Private Equity Fund	42,012	348	41,664	8,673	2,769	2,769
Cardo Inc.	473	98	375	145	(847)	(847)
NH-DX Open Innovation Fund	8,713	4	8,709	9	(491)	(491)
NH Digital Alliance Fund	8,002	378	7,624	-	(506)	(506)
NH-NAU Agro Food 1st Private Equity Fund	10,001	58	9,943	1	(57)	(57)
NH Agtech Innovation Private Equity Fund	3,260	615	2,645	-	(655)	(655)
	December 31, 2021					
	Assets	Liabilities	Equity	Operating revenue	Net income (loss)	Total comprehensive income (loss)
Korea Credit Bureaus Co., Ltd.	₩ 113,859	₩ 21,284	₩ 92,575	₩ 121,270	₩ 14,005	₩ 14,005
NH-QCP Global Partnership PEF	97	-	97	4	(147)	(147)
IBK-NH Smallgiant PEF	32,297	438	31,859	17,522	16,629	16,629
NH-AJUIB Growth 2013 PEF	19,099	21	19,078	3,682	(8,789)	(8,789)
Kyunggi-DSC Superman Investment Fund No. 1	34,782	121	34,661	3,975	(27,976)	(27,976)
NH Agri-Biz Value Creative 1st PEF	10,735	746	9,989	2,233	1,569	1,569
NH-AJU Digital Fund	19,255	127	19,128	15,179	98	98
NH Venture-AJU IB New Growth Fund	40,800	400	40,400	499	(1,583)	(1,583)
NH-NAU Agro Food 1st Private Equity Fund	29,593	233	29,360	1,412	(942)	(942)
NH-NAU Agro Food 2nd Private Equity Fund	17,969	174	17,795	1,400	(1,705)	(1,705)
Cardo Inc.	1,293	71	1,222	-	(777)	(777)

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11. Investments in associates (cont'd)

A reconciliation of the financial information presented in the carrying amount of its interest in the associates as of December 31, 2022 and 2021, is as follows (Korean won in millions):

	December 31, 2022				
	Equity	Percentage of ownership (%)	Interest in associates	Others (*1)	Book value
Korea Credit Bureaus Co., Ltd.	₩ 55,100	9.00	4,959	1,829	₩ 6,788
IBK-NH Smallgiant PEF	7,072	44.90	3,177	(360)	2,817
NH-AJUIB Growth 2013 PEF	10,708	29.95	3,207	-	3,207
Kyunggi-DSC Superman Investment Fund No. 1	18,803	25.00	4,701	-	4,701
NH Agri-Biz Value Creative 1st PEF	7,670	48.08	3,688	-	3,688
NH-AJU Digital Fund	29,885	40.00	11,954	-	11,954
NH Venture-AJU IB New Growth Fund	53,013	25.00	13,253	-	13,253
NH-NAU Agro Food 1st Private Equity Fund	37,284	50.00	18,642	-	18,642
NH-NAU Agro Food 2nd Private Equity Fund	41,664	33.33	13,888	-	13,888
Cardo Inc.	375	14.95	56	-	56
NH-DX Open Innovation Fund	8,709	34.78	3,029	-	3,029
NH Digital Alliance Fund	7,624	50.00	3,812	-	3,812
NH-NAU Agro Food 1st Private Equity Fund	9,943	50.00	4,972	-	4,972
NH Agtech Innovation Private Equity Fund	2,645	28.30	749	-	749

(*1) Others represent the fair value adjustments arising from acquisition of equity interest and so on.

	December 31, 2021				
	Equity	Percentage of ownership (%)	Interest in associates	Others (*1)	Book value
Korea Credit Bureaus Co., Ltd.	₩ 92,575	9.00	₩ 8,332	₩ 1,829	₩ 10,161
NH-QCP Global Partnership PEF	97	24.95	24	-	24
IBK-NH Smallgiant PEF	31,859	44.90	14,305	116	14,421
NH-AJUIB Growth 2013 PEF	19,078	29.95	5,714	-	5,714
Kyunggi-DSC Superman Investment Fund No. 1	34,661	25.00	8,665	-	8,665
NH Agri-Biz Value Creative 1st PEF	9,989	48.05	4,800	-	4,800
NH-AJU Digital Fund	19,128	40.00	7,651	-	7,651
NH Venture-AJU IB New Growth Fund	40,400	25.00	10,100	-	10,100
NH-NAU Agro Food 1st Private Equity Fund	29,360	50.00	14,680	-	14,680
NH-NAU Agro Food 2nd Private Equity Fund	17,795	33.33	5,932	-	5,932
Cardo Inc.	1,222	14.95	183	-	183

(*1) Others represent the fair value adjustments arising from acquisition of equity interest and so on.

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12. TANGIBLE ASSETS:

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

Classification	December 31, 2022			
	Acquisition cost	Accumulated depreciation	Subsidy	Book value
Land	₩ 1,442,267	₩ -	₩ -	₩ 1,442,267
Buildings	1,274,992	(334,176)	(400)	940,416
Leasehold improvements	332,565	(261,561)	-	71,004
Movable properties	1,059,497	(829,103)	(8)	230,386
Construction in progress	20,711	-	-	20,711
Right-of-use assets	528,452	(312,468)	-	215,984
	<u>₩ 4,658,484</u>	<u>₩ (1,737,308)</u>	<u>₩ (408)</u>	<u>₩ 2,920,768</u>

Classification	December 31, 2021			
	Acquisition cost	Accumulated depreciation	Subsidy	Book value
Land	₩ 1,402,237	₩ -	₩ -	₩ 1,402,237
Buildings	1,256,919	(299,313)	(411)	957,195
Leasehold improvements	301,797	(242,315)	-	59,482
Movable properties	1,040,240	(813,083)	(8)	227,149
Construction in progress	5,237	-	-	5,237
Right-of-use assets	440,178	(235,269)	-	204,909
	<u>₩ 4,446,608</u>	<u>₩ (1,589,980)</u>	<u>₩ (419)</u>	<u>₩ 2,856,209</u>

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12. Tangible assets (cont'd)

Changes in acquisition cost of tangible assets for years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022						December 31, 2022
	January 1, 2022	Acquisition	Disposal	Depreciation	Transfer (*1)	Others	
Land	₩ 1,402,237	₩ 13,383	₩ (6,526)	₩ -	₩ 33,196	₩ (23)	₩ 1,442,267
Buildings	957,606	30,376	(3,845)	(39,008)	(4,381)	68	940,816
Leasehold improvements	59,482	43,962	-	(29,470)	-	(2,970)	71,004
Movable properties	227,157	108,357	(42)	(103,557)	-	(1,521)	230,394
Construction in progress	5,237	17,998	(11)	-	(2,513)	-	20,711
Subsidy Right-of-use assets	(419)	-	-	11	-	-	(408)
	204,909	110,543	(4,544)	(94,944)	-	20	215,984
	<u>₩ 2,856,209</u>	<u>₩ 324,619</u>	<u>₩ (14,968)</u>	<u>₩ (266,968)</u>	<u>₩ 26,302</u>	<u>₩ (4,426)</u>	<u>₩ 2,920,768</u>

(*1) Investment properties of ₩26,302 million were transferred from/to properties due to changes in the ratio of leased area of land and buildings. Construction in progress amounting to ₩2,513 million were transferred to buildings.

Classification	For the year ended December 31, 2021						December 31, 2021
	January 1, 2021	Acquisition	Disposal	Depreciation	Transfer (*1)	Others	
Land	₩ 1,416,839	₩ -	₩ (1,896)	₩ -	₩ (12,706)	₩ -	₩ 1,402,237
Buildings	979,449	20,594	(1,950)	(38,548)	(1,930)	(9)	957,606
Leasehold improvements	47,474	35,011	-	(23,017)	-	14	59,482
Movable properties	231,748	95,803	(10)	(99,241)	45	(1,188)	227,157
Construction in progress	7,730	8,448	-	-	(10,875)	(66)	5,237
Subsidy Right-of-use assets	(540)	-	-	121	-	-	(419)
	186,515	111,443	(2,997)	(90,104)	-	52	204,909
	<u>₩ 2,869,215</u>	<u>₩ 271,299</u>	<u>₩ (6,853)</u>	<u>₩ (250,789)</u>	<u>₩ (25,466)</u>	<u>₩ (1,197)</u>	<u>₩ 2,856,209</u>

(*1) Investment properties of ₩25,466 million were transferred from/to properties due to changes in the ratio of leased area of land and buildings. Construction in progress amounting to ₩10,830 million and ₩45 million were transferred to buildings and movable properties, respectively.

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13. INVESTMENT PROPERTIES AND NON-CURRENT ASSETS CLASSIFIED AS HELD FOR SALE:

Fair values of investment properties amount to ₩1,046,699 million and ₩1,069,567 million as of December 31, 2022 and 2021, respectively. Fair values are measured based on valuation results performed by independent professionals. Rental income from investment properties for the years ended December 31, 2022 and 2021, amounts to ₩18,250 million and ₩17,835 million, respectively. The fair value of investment properties is classified as Level 3 based on the input variables used in the valuation method. Valuation methods for investment properties and input variables, which are significant but unobservable in measurement of fair value, are as follows:

Classification	Valuation methods	Input variables, which are significant but unobservable in measurement of fair value
Investment property	Calculated upon consideration of the yearly fluctuation of declared land value of standard sites, fluctuation of land prices for the region under subject, and escalation rate of the construction cost index.	Yearly fluctuation of declared land value of standard sites, fluctuation of land prices for the region under subject, and escalation rate of the construction cost index.

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

Classification	December 31, 2022		
	Acquisition cost	Accumulated depreciation	Book value
Land	₩ 424,351	₩ -	₩ 424,351
Buildings	200,510	(49,425)	151,085
	₩ 624,861	₩ (49,425)	₩ 575,436

Classification	December 31, 2021		
	Acquisition cost	Accumulated depreciation	Book value
Land	₩ 457,549	₩ -	₩ 457,549
Buildings	186,833	(42,102)	144,731
	₩ 644,382	₩ (42,102)	₩ 602,280

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

Classification	For the year ended December 31, 2022						December 31, 2022
	January 1, 2022	Acquisition	Disposal	Depreciation	Transfer (*1)	Other	
Land	₩ 457,549	₩ -	₩ (1)	₩ -	₩ (33,197)	₩ -	₩ 424,351
Buildings	144,731	5,144	-	(5,685)	6,895	-	151,085
	₩ 602,280	₩ 5,144	₩ (1)	₩ (5,685)	₩ (26,302)	₩ -	₩ 575,436

(*1) Certain investment properties amounting to ₩26,302 million were transferred from/to properties due to changes in the ratio of the leased area of land and buildings.

Classification	For the year ended December 31, 2021						December 31, 2021
	January 1, 2021	Acquisition	Disposal	Depreciation	Transfer (*1)	Other	
Land	₩ 446,205	₩ -	₩ (1,362)	₩ -	₩ 12,706	₩ -	₩ 457,549
Buildings	133,864	3,970	(141)	(5,722)	12,760	-	144,731
	₩ 580,069	₩ 3,970	₩ (1,503)	₩ (5,722)	₩ 25,466	₩ -	₩ 602,280

(*1) Certain investment properties amounting to ₩25,466 million were transferred from/to properties due to changes in the ratio of the leased area of land and buildings.

At the end of the reporting period, the book value of assets held for sale is ₩15 million. The asset is an asset acquired through the execution of collateral in connection with loan receivables and there have been no changes for the years ended December 31, 2022 and 2021.

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14. INTANGIBLE ASSETS:

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

Classification	December 31, 2022			
	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Book value
Goodwill	₩ 4,875	₩ -	₩ -	₩ 4,875
Development cost	885,130	(648,920)	-	236,210
Other intangible assets	1,278,107	(998,122)	-	279,985
	<u>₩ 2,168,112</u>	<u>₩ (1,647,042)</u>	<u>₩ -</u>	<u>₩ 521,070</u>

Classification	December 31, 2021			
	Acquisition cost	Accumulated depreciation	Accumulated impairment loss	Book value
Goodwill	₩ 4,561	₩ -	₩ -	₩ 4,561
Development cost	801,888	(577,134)	-	224,754
Other intangible assets	1,159,720	(889,535)	-	270,185
	<u>₩ 1,966,169</u>	<u>₩ (1,466,669)</u>	<u>₩ -</u>	<u>₩ 499,500</u>

Changes in the book value of intangible assets for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022						December 31, 2022
	January 1, 2022	Acquisition	Disposal	Amortization	Impairment	Others	
Goodwill	₩ 4,561	₩ -	₩ -	₩ -	₩ -	₩ 314	₩ 4,875
Development cost	224,754	83,469	(71,788)	-	-	(225)	236,210
Other intangible assets	270,185	122,739	(111,035)	-	-	(1,904)	279,985
	<u>₩ 499,500</u>	<u>₩ 206,208</u>	<u>₩ (182,823)</u>	<u>₩ -</u>	<u>₩ -</u>	<u>₩ (1,815)</u>	<u>₩ 521,070</u>

Classification	For the year ended December 31, 2021						December 31, 2021
	January 1, 2021	Acquisition	Disposal	Amortization	Impairment	Others	
Goodwill	₩ 4,186	₩ -	₩ -	₩ -	₩ -	₩ 375	₩ 4,561
Development cost	204,144	91,604	-	(70,961)	-	(33)	224,754
Other intangible assets	205,702	175,033	(82)	(109,754)	-	(714)	270,185
	<u>₩ 414,032</u>	<u>₩ 266,637</u>	<u>₩ (82)</u>	<u>₩ (180,715)</u>	<u>₩ -</u>	<u>₩ (372)</u>	<u>₩ 499,500</u>

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14. Intangible assets (cont'd)

The Group tests goodwill annually for impairment. The recoverable amount of the CGU is determined based on a value in use calculation. The value in use is the present value calculated using cash flow projections based on financial budgets approved by the management covering a five-year period.

The cash flows beyond that five-year period have been extrapolated using a steady 2% per annum growth rate and a discount rate is used considering risk-free rate, market risk premium and systematic risk of the CGU, etc.

Carrying amount and recoverable amount of the CGU recognizing goodwill at valuation date as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	
	Carrying amount	Excess of recoverable amount over carrying amount
Nonghyup Finance Cambodia Co., Ltd.	₩ 4,876	₩ 24,485

Classification	December 31, 2021	
	Carrying amount	Excess of recoverable amount over carrying amount
Nonghyup Finance Cambodia Co., Ltd.	₩ 4,561	₩ 38,169

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15. RIGHT-OF-USE ASSETS:

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

Classification	December 31, 2022		
	Acquisition cost	Accumulated depreciation	Book value
Properties	₩ 488,243	₩ (289,337)	₩ 198,906
Delivery equipment	36,639	(21,145)	15,494
Others	3,570	(1,986)	1,584
	₩ 528,452	₩ (312,468)	₩ 215,984

Classification	December 31, 2021		
	Acquisition cost	Accumulated depreciation	Book value
Properties	₩ 403,651	₩ (216,018)	₩ 187,633
Delivery equipment	32,995	(18,230)	14,765
Others	3,532	(1,021)	2,511
	₩ 440,178	₩ (235,269)	₩ 204,909

Changes in the book value of right-of-use assets for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022					December 31, 2022
	January 1, 2022	Acquisition	Depreciation	Cancellation	Others	
Properties	₩ 187,633	₩ 100,839	₩ (85,301)	₩ (4,287)	₩ 20	₩ 198,906
Delivery equipment	14,765	9,665	(8,679)	(257)	-	15,494
Others	2,511	39	(964)	-	-	1,584
	₩ 204,909	₩ 110,543	₩ (94,944)	₩ (4,544)	₩ 20	₩ 215,984

Classification	For the year ended December 31, 2021					December 31, 2021
	January 1, 2021	Acquisition	Depreciation	Cancellation	Others	
Properties	₩ 166,532	₩ 104,612	₩ (80,953)	₩ (2,610)	₩ 52	₩ 187,633
Delivery equipment	16,545	6,813	(8,206)	(387)	-	14,765
Others	3,438	18	(945)	-	-	2,511
	₩ 186,515	₩ 111,443	₩ (90,104)	₩ (2,997)	₩ 52	₩ 204,909

Details of amount recognized in the profit or loss and other comprehensive income regarding leases for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Interest expenses for lease liabilities	₩ 4,576	₩ 3,137
Costs associated with small asset lease	1,166	1,163
Costs associated with variable lease payments that are not included in the lease liability measurement	2,632	1,942

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16. OTHER ASSETS:

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
Prepaid expenses	₩ 119,589	₩ 117,765
Supplies	8,537	5,741
Guarantee deposits paid	1,859	2,835
Suspense payment	303	144
Guarantees	135	135
Telephone and telex rights	1,164	1,206
Others	16,543	22,626
	₩ 148,130	₩ 150,452

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17. FINANCIAL LIABILITIES:

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

Classification	December 31, 2022	
	Book value	Fair value
Financial liabilities at FVTPL:		
Trading derivative liabilities	₩ 1,194,394	₩ 1,194,394
Derivative liabilities:		
Hedging derivative liabilities	18,686	18,686
Financial liabilities measured at amortized cost:		
Deposits due to customers (*2)	307,727,928	309,238,653
Borrowings (*2)	17,213,232	17,149,936
Debentures (*2)	21,121,965	20,686,308
Others (*1 and *3)	17,761,290	16,000,757
	<u>363,824,415</u>	<u>363,075,654</u>
	<u>₩ 365,037,495</u>	<u>₩ 364,288,734</u>

(*1) Others consist of domestic exchange settlements credits, trust account liabilities, guarantee deposits received, etc.

(*2) Interest payables among financial liabilities are included in fair value.

(*3) Interest payables included in the computation for fair value of deposits due to customers, borrowings and debentures are excluded from fair value of other financial liabilities.

Classification	December 31, 2021	
	Book value	Fair value
Financial liabilities at FVTPL:		
FVTPL liabilities	₩ 19,685	₩ 19,685
Trading derivative liabilities	484,984	484,984
	<u>504,669</u>	<u>504,669</u>
Derivative liabilities:		
Hedging derivative liabilities	2,005	2,005
Financial liabilities measured at amortized cost:		
Deposits due to customers (*2)	290,595,674	291,845,210
Borrowings (*2)	15,001,425	14,952,919
Debentures (*2)	22,431,474	22,441,814
Others (*1 and *3)	14,938,963	13,985,300
	<u>342,967,536</u>	<u>343,225,243</u>
	<u>₩ 343,474,210</u>	<u>₩ 343,731,917</u>

(*1) Others consist of domestic exchange settlements credits, trust account liabilities, guarantee deposits received, etc.

(*2) Interest payables among financial liabilities are included in fair value.

(*3) Interest payables included in the computation for fair value of deposits due to customers, borrowings and debentures are excluded from fair value of other financial liabilities.

There are no financial liabilities designated as measured at FVTPL as of December 31, 2022 and 2021.

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18. DEPOSITS DUE TO CUSTOMERS:

Details of deposits due to customers as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification		December 31, 2022	December 31, 2021
Demand deposits	Korean won	₩ 51,140,458	₩ 55,147,649
	Foreign currency	5,153,875	5,477,114
		<u>56,294,333</u>	<u>60,624,763</u>
Time deposits	Savings deposits in Korean won	244,843,941	222,654,166
	Savings deposits in foreign currency	3,091,361	1,651,724
	Installment deposits	2,928,672	4,234,137
		<u>250,863,974</u>	<u>228,540,027</u>
Certificates of deposit		569,621	1,430,884
		<u>₩ 307,727,928</u>	<u>₩ 290,595,674</u>

19. BORROWINGS:

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

Classification	Provider	Interest rate (%)	December 31, 2022	December 31, 2021
Borrowings in Korean won	The Bank of Korea	0.25–1.75	₩ 2,896,502	₩ 2,462,075
	Public sector	(-)1.25–5.15	5,939,471	5,771,438
	Others	0.00–3.73	2,391,327	2,190,448
			<u>11,227,300</u>	<u>10,423,961</u>
Borrowings in foreign currency	Borrowings from banks	0.70–5.40	4,596,656	3,401,958
	Borrowings from government	-	-	8,749
			<u>4,596,656</u>	<u>3,410,707</u>
Call money		4.00–5.50	166,470	174,061
Repurchase agreements		1.54–4.95	1,218,881	989,457
Bills sold		1.50–4.50	3,925	3,239
			<u>₩ 17,213,232</u>	<u>₩ 15,001,425</u>

20. DEBENTURES:

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

Classification	Interest rate (%)	December 31, 2022	December 31, 2021
Debentures in Korean won:			
General agricultural financial bonds	1.01–4.13	₩ 14,310,000	₩ 15,750,000
Subordinated agricultural financial bonds	2.15–4.03	3,520,000	3,920,000
Present value discounts	-	(16,322)	(3,939)
		<u>17,813,678</u>	<u>19,666,061</u>
Debentures in foreign currency:			
General financial bonds	0.81–5.30	3,126,548	2,564,176
Offshore financial bonds	0.93–5.42	221,778	182,530
Accumulated loss on fair value hedges	-	(30,171)	27,079
Present value discounts	-	(9,868)	(8,372)
		<u>3,308,287</u>	<u>2,765,413</u>
		<u>₩ 21,121,965</u>	<u>₩ 22,431,474</u>

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21. PROVISIONS:

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 acceptances and guarantees	₩ 109,109	₩ 131,560
Provision for unused credit limit	164,650	123,371
Provision for mileage	11,706	11,463
Provision for restoration	36,854	31,958
Other provisions	29,443	47,644
	₩ 351,762	₩ 345,996

Acceptances and guarantees (including endorsement bills) as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Confirmed acceptances and guarantees:		
Acceptances and guarantees in Korean won	₩ 528,943	₩ 475,298
Acceptances and guarantees purchased	180,218	235,755
Acceptances and guarantees for imported goods (letter of guarantees)	20,757	19,937
Other acceptances and guarantees in foreign currencies	2,809,858	2,462,909
	3,539,776	3,193,899
Unconfirmed acceptances and guarantees:		
Issuance of local letters of credit	282,309	238,014
Issuance of import letters of credit	1,637,836	1,922,292
Others	1,171,912	780,751
	3,092,057	2,941,057
Bills endorsed	30,335	28,653
	₩ 6,662,168	₩ 6,163,609

The percentage of provision for acceptances and guarantees to the outstanding balance of acceptances and guarantees as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	Outstanding balance	Provision for acceptances and guarantees	Ratio (%)
December 31, 2022	₩ 6,662,168	₩ 109,109	1.64
December 31, 2021	₩ 6,163,609	₩ 131,560	2.13

The percentage of provision for unused credit limit to the outstanding balance of unused credit limit as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	Outstanding balance	Provision for unused credit limit	Ratio (%)
December 31, 2022	₩ 108,525,952	₩ 164,650	0.15
December 31, 2021	₩ 103,449,898	₩ 123,371	0.12

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21. Provisions (cont'd)

Changes in provisions for acceptances and guarantees for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 7,038	₩ 53,889	₩ 70,633	₩ 131,560
Transfer to 12-month ECLs	68	(68)	-	-
Transfer to financial assets with a significant increase in credit risk	(1)	1	-	-
Transfer to credit-impaired financial assets	-	-	-	-
Provision (reversal) of allowance for ECLs	(1,489)	45,631	(70,306)	(26,164)
Foreign currency translation	3,184	-	-	3,184
Others	681	-	(152)	529
Ending balance	₩ 9,481	₩ 99,453	₩ 175	₩ 109,109

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 11,029	₩ 43,497	₩ 66,724	₩ 121,250
Transfer to 12-month ECLs	337	(337)	-	-
Transfer to financial assets with a significant increase in credit risk	(1)	1	-	-
Transfer to credit-impaired financial assets	(1)	-	1	-
Provision (reversal) of allowance for ECLs	(13,100)	10,728	3,908	1,536
Foreign currency translation	8,315	-	-	8,315
Others	459	-	-	459
Ending balance	₩ 7,038	₩ 53,889	₩ 70,633	₩ 131,560

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21. Provisions (cont'd)

Changes in provision for unused credit limits for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 62,671	₩ 60,700	₩ -	₩ 123,371
Transfer to 12-month ECLs	22,017	(22,017)	-	-
Transfer to financial assets with a significant increase in credit risk	(3,774)	3,774	-	-
Transfer to credit-impaired financial assets	(185)	(537)	722	-
Provision (reversal) of allowance for ECLs	3,652	38,349	(722)	41,279
Ending balance	₩ 84,381	₩ 80,269	₩ -	₩ 164,650

	For the year ended December 31, 2021			
	12-month ECLs	Lifetime ECLs		Total
		Significant increase in credit risk	Credit-impaired financial assets	
Beginning balance	₩ 93,459	₩ 99,046	₩ -	₩ 192,505
Transfer to 12-month ECLs	32,412	(32,412)	-	-
Transfer to financial assets with a significant increase in credit risk	(5,624)	5,624	-	-
Transfer to credit-impaired financial assets	(203)	(790)	993	-
Provision (reversal) of allowance for ECLs	(57,373)	(10,768)	(993)	(69,134)
Ending balance	₩ 62,671	₩ 60,700	₩ -	₩ 123,371

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22. OTHER LIABILITIES:

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
Trust accounts payable	₩ 3,991,046	₩ 2,571,627
Domestic exchange settlement credits	5,039,554	3,209,042
Foreign exchange settlement credits	44,918	380,611
Accounts payable	1,804,955	1,214,808
Accrued expenses	2,213,531	1,352,982
Guarantee deposit received	373,778	275,855
Agency	1,595,174	1,902,620
Financial guarantee contract	37,730	45,828
Unearned revenue	63,389	46,002
Deferred mileage revenue	107,045	96,481
Suspense receipt	91,571	86,133
Lease liabilities	196,530	193,580
Other sundry liabilities	2,700,692	3,997,446
	<u>₩ 18,259,913</u>	<u>₩ 15,373,015</u>

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23. DERIVATIVES AND HEDGE ACCOUNTING:

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

Classification	December 31, 2022			
	Derivative assets		Derivative liabilities	
	Trading	Hedging	Trading	Hedging
Currency:				
Forwards	₩ 658,716	₩ -	₩ 645,884	₩ -
Swap	297,463	-	450,976	-
Options purchased	12,679	-	-	-
Options sold	-	-	12,679	-
	<u>968,858</u>	<u>-</u>	<u>1,109,539</u>	<u>-</u>
Interest rate:				
Swap	116,225	3,375	64,524	18,686
Stock:				
Options purchased	1,287	-	-	-
Options sold	-	-	20,331	-
	<u>1,287</u>	<u>-</u>	<u>20,331</u>	<u>-</u>
	<u>₩ 1,086,370</u>	<u>₩ 3,375</u>	<u>₩ 1,194,394</u>	<u>₩ 18,686</u>

Classification	December 31, 2021			
	Derivative assets		Derivative liabilities	
	Trading	Hedging	Trading	Hedging
Currency:				
Forwards	₩ 282,428	₩ -	₩ 213,058	₩ -
Swap	175,572	-	239,211	-
Options purchased	4,944	-	-	-
Options sold	-	-	4,944	-
	<u>462,944</u>	<u>-</u>	<u>457,213</u>	<u>-</u>
Interest rate:				
Swap	28,774	38,708	26,905	2,005
Stock:				
Options purchased	988	-	-	-
Options sold	-	-	866	-
	<u>988</u>	<u>-</u>	<u>866</u>	<u>-</u>
	<u>₩ 492,706</u>	<u>₩ 38,708</u>	<u>₩ 484,984</u>	<u>₩ 2,005</u>

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23. Derivatives and hedge accounting (cont'd)

The notional amounts outstanding for derivative contracts as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022		
	Trading	Hedging	Total
Currency:			
Forwards	₩ 28,875,160	₩ -	₩ 28,875,160
Swap	7,285,913	-	7,285,913
Options purchased	706,165	-	706,165
Options sold	706,165	-	706,165
	<u>37,573,403</u>	<u>-</u>	<u>37,573,403</u>
Interest rate:			
Swap	9,158,364	1,444,722	10,983,276
Stock:			
Options purchased	152,210	-	152,210
Options sold	128,854	-	128,854
	<u>281,064</u>	<u>-</u>	<u>281,064</u>
	<u>₩ 47,012,831</u>	<u>₩ 1,444,722</u>	<u>₩ 48,837,743</u>

Classification	December 31, 2021		
	Trading	Hedging	Total
Currency:			
Forwards	₩ 23,051,639	₩ -	₩ 23,051,639
Swap	10,399,856	-	10,399,856
Options purchased	764,150	-	764,150
Options sold	764,150	-	764,150
	<u>34,979,795</u>	<u>-</u>	<u>34,979,795</u>
Interest rate:			
Swap	12,308,802	1,349,099	13,657,901
Stock:			
Options purchased	54,720	-	54,720
Options sold	30,619	-	30,619
	<u>85,339</u>	<u>-</u>	<u>85,339</u>
	<u>₩ 47,373,936</u>	<u>₩ 1,349,099</u>	<u>₩ 48,723,035</u>

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23. Derivatives and hedge accounting (cont'd)

The timing of outstanding for hedging instruments contracts as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022			
	Less than 1 year	1 year–5 years	More than 5 years	Total
Interest rate:				
Swap	₩ 646,323	₩ 798,399	₩ -	₩ 1,444,722

Classification	December 31, 2021			
	Less than 1 year	1 year–5 years	More than 5 years	Total
Interest rate:				
Swap	₩ 708,929	₩ 640,170	₩ -	₩ 1,349,099

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

Classification	For the year ended December 31, 2022					
	Trading		Hedging		Total	
	Gain	Loss	Gain	Loss	Gain	Loss
Currency:						
Forwards	₩ 626,059	₩ 637,514	₩ -	₩ -	₩ 626,059	₩ 637,514
Swap	191,433	306,142	-	-	191,433	306,142
Options purchased	12,067	348	-	-	12,067	348
Options sold	428	10,801	-	-	428	10,801
	<u>829,987</u>	<u>954,805</u>	<u>-</u>	<u>-</u>	<u>829,987</u>	<u>954,805</u>
Interest rate:						
Swap	108,317	62,632	3,872	37,999	112,189	100,631
Stock:						
Options purchased	-	1,930	-	-	-	1,930
Options sold	7,408	18,366	-	-	7,408	18,366
	<u>7,408</u>	<u>20,296</u>	<u>-</u>	<u>-</u>	<u>7,408</u>	<u>20,296</u>
	<u>₩ 945,712</u>	<u>₩ 1,037,733</u>	<u>₩ 3,872</u>	<u>₩ 37,999</u>	<u>₩ 949,584</u>	<u>₩ 1,075,732</u>

Classification	For the year ended December 31, 2021					
	Trading		Hedging		Total	
	Gain	Loss	Gain	Loss	Gain	Loss
Currency:						
Forwards	₩ 311,584	₩ 209,875	₩ -	₩ -	₩ 311,584	₩ 209,875
Swap	289,254	395,332	-	-	289,254	395,332
Options purchased	5,554	157	-	-	5,554	157
Options sold	428	4,244	-	-	428	4,244
	<u>606,820</u>	<u>609,608</u>	<u>-</u>	<u>-</u>	<u>606,820</u>	<u>609,608</u>
Interest rate:						
Swap	40,685	38,737	3,519	28,153	44,204	66,890
Stock:						
Options purchased	71	936	-	-	71	936
Options sold	1,617	20	-	-	1,617	20
	<u>1,688</u>	<u>956</u>	<u>-</u>	<u>-</u>	<u>1,688</u>	<u>956</u>
	<u>₩ 649,193</u>	<u>₩ 649,301</u>	<u>₩ 3,519</u>	<u>₩ 28,153</u>	<u>₩ 652,712</u>	<u>₩ 677,454</u>

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23. Derivatives and hedge accounting (cont'd)

At the end of the reporting period, hedged items applied with fair value hedge accounting include debt securities at FVTOCI and debentures. Changes in the fair value of derivatives due to fluctuation in interest rate are recognized in profit or loss immediately. Interest rate swap is used as a hedging instrument in order to offset changes in fair values of hedged items due to fluctuation in interest rate.

Details of the Group's hedged item as of December 31, 2022 and 2021, are as follows (Korean won in millions):

December 21, 2022					
Hedged item	Hedged risk	Hedging instrument	Type of hedge accounting	Book value of hedged item	Fair value hedge accumulated adjustment
Debt securities at FVTOCI	Interest rate risk	Interest rate swap	Fair value hedge	₩ 47,467	₩ (2,934)
Debentures	Interest rate risk	Interest rate swap	Fair value hedge	1,363,859	30,171
				<u>₩ 1,411,326</u>	<u>₩ 27,237</u>
December 21, 2021					
Hedged item	Hedged risk	Hedging instrument	Type of hedge accounting	Book value of hedged item	Fair value hedge accumulated adjustment
Debt securities at FVTOCI	Interest rate risk	Interest rate swap	Fair value hedge	₩ 166,036	₩ 1,564
Debentures	Interest rate risk	Interest rate swap	Fair value hedge	1,212,579	(27,079)
				<u>₩ 1,378,615</u>	<u>₩ (25,515)</u>

Details of the Group's hedging instruments as of December 31, 2022 and 2021, are as follows (Korean won in millions):

December 31, 2022					
Classification	Notional amounts	Carrying amount		Changes in fair values	
		Assets	Liabilities		
Debt securities in foreign currency	₩ 50,692	₩ 3,375	₩ -	₩ 3,872	
Debentures	1,394,030	-	18,686	(51,660)	
	<u>₩ 1,444,722</u>	<u>₩ 3,375</u>	<u>₩ 18,686</u>	<u>₩ (47,788)</u>	
December 31, 2021					
Classification	Notional amounts	Carrying amount		Changes in fair values	
		Assets	Liabilities		
Debt securities in foreign currency	₩ 163,599	₩ -	₩ 2,005	₩ 3,519	
Debentures	1,185,500	38,708	-	(28,153)	
	<u>₩ 1,349,099</u>	<u>₩ 38,708</u>	<u>₩ 2,005</u>	<u>₩ (24,634)</u>	

Details of gain (loss) on valuation of hedged items and hedging instruments for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022		
	Gain (loss) on valuation of hedged items	Gain (loss) on valuation of hedging instrument	Ineffective amount (*1)
Debt securities at FVTOCI	₩ (3,832)	₩ 3,872	₩ 40
Debentures	51,432	(51,660)	(228)
	<u>₩ 47,600</u>	<u>₩ (47,788)</u>	<u>₩ (188)</u>

(*1) The ineffective portion of the hedge is included in other comprehensive income or other operating income or expenses in the statement of profit or loss and other comprehensive income.

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23. Derivatives and hedge accounting (cont'd)

Classification	For the year ended December 31, 2021		
	Gain (loss) on valuation of hedged items	Gain (loss) on valuation of hedging instrument	Ineffective amount (*1)
Debt securities at FVTOCI	₩ (3,739)	₩ 3,519	₩ (220)
Debentures	28,626	(28,153)	472
	₩ 24,887	₩ (24,634)	₩ 252

(*1) The ineffective portion of the hedge is included in other comprehensive income or other operating income or expenses in the statement of profit or loss and other comprehensive income.

The hedging relationships to which the Group applies fair value hedge accounting are affected by interest rate benchmark, which is related with Interest Rate Benchmark Reform. In responding to meet the reform, the Group forms the preparatory committee and pays close attention to discussions in the market and industry. The Group also signs up to the International Swaps and Derivatives Association's (ISDA) '2020 LIBOR Fallbacks Protocol.' Following the protocol, the benchmark interest rates of the derivative instruments to which the Group applies hedge accounting are expected to be changed.

The Group judges related uncertainty is expected to be no longer present when the exposed interest rates are replaced by the applicable benchmark interest rates. The amendments to K-IFRS 1109 'Financial Instruments' provide exceptions applying hedge accounting even though interest rate benchmark reform gives rise to uncertainties. When determining whether a forecast transaction is highly probable, the Group shall assume that the interest rate benchmark on which the hedged cash flows are based is not altered as a result of the reform. When performing prospective assessments, the Group shall assume that the interest rate benchmark on which the hedged item, hedged risk and/or hedging instrument are based is not altered as a result of the reform. The notional amount outstanding for hedging derivative instruments affected by Interest Rate Benchmark Reform as of December 31, 2022, is as follows (Korean won in millions):

Benchmark interest rate	Notional amount of hedging instruments (*1)
USD 6M LIBOR	₩ 633,650

(*1) The notional amount for hedging derivative instruments maturing after the first half of 2023, when LIBOR publication is ceased.

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24. NET DEFINED BENEFIT LIABILITIES:

The Group operates a defined benefit pension plan (“DB plan”) in accordance with Employee Retirement Benefits Laws, which is also classified as DB plan under K-IFRS. Under DB plan, severance pay is made on a lump-sum basis or entitled to pension when an employee retires, based on the employee’s service period and salary at retirement. The Group has purchased retirement benefits insurance, annuity, etc., and made deposits with Industrial Bank of Korea and others. The deposit for retirement insurance and assets for DB plan operation are presented as a deduction from defined benefit obligations under an account of plan assets.

If a retiree is up for quasi-retirement age limit of special retirement, the Group pays quasi-retirement age limit payments separate from general severance payments.

The Group is exposed to investment risk and interest risk.

Actuarial valuation for plan assets and defined benefit obligations related to the general severance payments and quasi-age severance payments is performed by an independent actuary, as of December 31, 2022 and 2021, respectively. Current and past service costs related to present value of defined benefit obligations are measured using the projected unit credit method.

Key assumptions for actuarial valuation as of December 31, 2022 and 2021, are as follows (%):

Classification	December 31, 2022	December 31, 2021
Discount rate	5.20	2.58
Salary increase rate:		
Base up	2.36	2.29
Empirical promotion rate	Empirical promotion rate by age	

Details of net defined benefit liabilities 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 obligations	₩ 1,785,596	₩ 2,121,692
Fair value of plan assets	(1,893,846)	(1,749,127)
Net defined benefit liabilities from DB plan	₩ (108,250)	₩ 372,565

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24. Net defined benefit liabilities (cont'd)

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

Classification	For the year ended December 31, 2022		
	Present value of defined benefit obligations	Plan assets	Total
Present value as of January 1, 2022	₩ 2,121,692	₩ (1,749,127)	₩ 372,565
Current service cost	201,458	-	201,458
Past service cost	-	-	-
Interest expense (income)	53,231	(43,619)	9,612
Remeasurement elements:			
Return on planned assets (on the net basis of net interest cost)	-	12,991	12,991
Actuarial losses incurred due to changes in financial assumptions	(484,238)	-	(484,238)
Actuarial losses incurred due to experience adjustments	90,217	-	90,217
Employer contributions	-	(284,500)	(284,500)
Payment	(197,853)	168,349	(29,504)
Transfer from related party	19,939	-	19,939
Transfer to related party	(18,786)	126	(18,660)
Other	(64)	1,934	1,870
Present value as of December 31, 2022	₩ 1,785,596	₩ (1,893,846)	₩ (108,250)

Classification	For the year ended December 31, 2021		
	Present value of defined benefit obligations	Plan assets	Total
Present value as of January 1, 2021	₩ 2,084,568	₩ (1,631,744)	₩ 452,824
Current service cost	203,313	-	203,313
Past service cost	247	-	247
Interest expense (income)	41,786	(32,458)	9,328
Remeasurement elements:			
Return on planned assets (on the net basis of net interest cost)	-	13,447	13,447
Actuarial losses incurred due to changes in financial assumptions	(99,504)	-	(99,504)
Actuarial losses incurred due to experience adjustments	71,330	-	71,330
Employer contributions	-	(257,000)	(257,000)
Payment	(180,503)	156,773	(23,730)
Transfer from related party	14,098	-	14,098
Transfer to related party	(13,592)	-	(13,592)
Other	(51)	1,855	1,804
Present value as of December 31, 2021	₩ 2,121,692	₩ (1,749,127)	₩ 372,565

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24. Net defined benefit liabilities (cont'd)

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

Classification	December 31, 2022		December 31, 2021	
Fixed deposits	₩	1,893,846	₩	1,749,127

Investment strategies and policies of plan assets aim to balance risk reduction and pursuit of profit. The objective to minimize the variability of assets in relation to debt is basically achieved through diversified investment of assets, and partial asset-liability matching strategies. In order to reduce (adjust risk) variability of assets in relation to debt and achieve the intended levels of profit, investment is distributed over a vast range of many different types of assets. The distribution of assets is such that a regular income is secured similar to bonds, and partially matches the characteristics of a long maturity period in pension obligations.

The actual return on plan assets is ₩30,628 million and ₩19,011 million for the years ended December 31, 2022 and 2021, respectively.

The effects of reasonable possible changes to significant actuarial assumptions on defined benefit obligation whilst all other assumptions occurring as of December 31, 2022 and 2021, are held constant are as follows (Korean won in millions):

Classification	December 31, 2022		December 31, 2021	
	Increase	Decrease	Increase	Decrease
100 basis point change in discount rate	₩ (137,437)	₩ 158,885	₩ (191,869)	₩ 225,352
1%p change in salary increase rate	153,502	(135,041)	213,671	(185,749)

The sensitivity analysis presented above may not present the actual change in the defined benefit obligation as it is unlikely that the change in assumptions would occur in isolation of one another, since the actuarial assumptions are correlated. Furthermore, in presenting the above sensitivity analysis, the present value of the defined benefit obligation has been calculated using the projected unit credit method at the end of the reporting period, which is the same as that applied in calculating the defined benefit obligation liabilities recognized in the consolidated statements of financial position.

The Group expects to make a contribution of ₩284,500 million to the defined benefit plans for the next fiscal year.

The weighted-average maturity of the defined benefit obligation is 8.7 years as of December 31, 2022.

The amount of retirement benefits paid for the defined contribution plan for the years ended December 31, 2022 and 2021, is ₩1,496 and ₩1,386 million, respectively.

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25. EQUITY:

Capital stock as of December 31, 2022 and 2021, are as follows (Korean won in millions, shares in units):

Classification	December 31, 2022	December 31, 2021
Shares authorized (in shares)	1,000,000,000	1,000,000,000
Par value (in Korean won)	₩ 5,000	₩ 5,000
Shares issued (in shares)	476,870,202	448,298,774
Common stock	₩ 2,384,351	₩ 2,241,494

Other paid-in capital as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Capital surplus:		
Capital in excess of par value	₩ 11,042,609	₩ 9,986,155
Other capital surplus	35,949	35,949
	11,078,558	10,022,104
Capital adjustments (*1)	(3,019)	(3,019)
Hybrid equity securities (*2)	1,228,317	798,967
	₩ 12,303,856	₩ 10,818,052

(*1) Capital adjustment arose from the acquisition of IT department of NACF.

(*2) The Group classifies the hybrid equity securities as capital as the maturity of the hybrid equity securities is more than 30 years and the Group holds the right to extend the bond maturity continuously under the same conditions and evade delivering cash or another financial asset to pay the contractual obligation.

Changes in capital stock and paid-in capital in excess of par value for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	Capital stock	Capital in excess of par value	Total
January 1, 2022	₩ 2,241,494	₩ 9,986,155	₩ 12,227,649
Issuance of capital stock (*1)	142,857	1,056,454	1,199,311
December 31, 2022	₩ 2,384,351	₩ 11,042,609	₩ 13,426,960

(*1) Based on the resolution of board of directors dated January 27, 2022, the Group issued 28,571,428 shares of common stock at an issue price of ₩42,000 per share.

Classification	Capital stock	Capital in excess of par value	Total
January 1, 2021	₩ 2,175,704	₩ 9,552,265	₩ 11,727,969
Issuance of capital stock (*1)	39,474	260,334	299,808
Issuance of capital stock (*2)	26,316	173,556	199,872
December 31, 2021	₩ 2,241,494	₩ 9,986,155	₩ 12,227,649

(*1) Based on the resolution of board of directors dated March 25, 2021, the Group issued 7,894,736 shares of common stock at an issue price of ₩38,000 per share.

(*2) Based on the resolution of board of directors dated September 28, 2021, the Group issued 5,263,157 shares of common stock at an issue price of ₩38,000 per share.

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25. Equity (cont'd)

Details of other components of equity, which are recognized as accumulated other comprehensive income, as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Remeasurements of the net defined benefit liabilities	₩ (405,874)	₩ (687,797)
Gain (loss) on valuation of debt securities at FVTOCI	(703,961)	(133,114)
Gain (loss) on equity securities at FVTOCI	44,860	52,397
Exchange differences on translating foreign operations	10,688	2,699
Gain (loss) on valuation of investments in associates	(167)	(167)
	₩ (1,054,454)	₩ (765,982)

Changes in other components of equity for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022				
	January 1, 2022	Changes for the year	Deferred income tax	Transfer to retained earnings	December 31, 2022
Remeasurements of the net defined benefit liabilities	₩ (687,797)	₩ 381,030	₩ (99,107)	₩ -	₩ (405,874)
Gain (loss) on valuation and foreign currency translation of financial assets at FVTOCI	(80,717)	(789,074)	208,483	2,207	(659,101)
Exchange differences on translating foreign operations	2,699	7,989	-	-	10,688
Loss on valuation of investments in associates	(167)	-	-	-	(167)
	₩ (765,982)	₩ (400,055)	₩ 109,376	₩ 2,207	₩ (1,054,454)

Classification	For the year ended December 31, 2021				
	January 1, 2021	Changes for the year	Deferred income tax	Transfer to retained earnings	December 31, 2021
Remeasurements of the net defined benefit liabilities	₩ (698,474)	₩ 14,726	₩ (4,049)	₩ -	₩ (687,797)
Gain (loss) on valuation and foreign currency translation of financial assets at FVTOCI	65,027	(290,316)	79,830	64,742	(80,717)
Exchange differences on translating foreign operations	(6,346)	9,045	-	-	2,699
Loss on valuation of investments in associates	(167)	-	-	-	(167)
	₩ (639,960)	₩ (266,545)	₩ 75,781	₩ 64,742	₩ (765,982)

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25. Equity (cont'd)

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
Regulatory reserve for bad debts (*1)	₩ 2,173,304	₩ 2,045,017
Legal reserve (*2)	721,126	565,295
Voluntary reserve for recapitalization (*3)	1,000,000	1,000,000
Voluntary reserve	14	14
Other reserve (*4)	741	106
Unappropriated retained earnings	4,024,042	3,330,404
	₩ 7,919,227	₩ 6,940,836

(*1) The Group has provided for loss allowances 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.

(*2) With respect to the allocation of net profit earned in a fiscal term, the Group must set aside in its legal reserve an amount equal to at least 10% of its net income after tax as reported in the statement of profit or loss and other comprehensive income each time it pays dividends on its net profits earned until its legal reserve reaches at least the aggregate amount of its paid-in capital in accordance with Article 40 of the Banking Act. This reserve is not available for the payment of cash dividends, but may be transferred to share capital, or used to reduce accumulated deficit.

(*3) The Group provides for the voluntary reserve for the enhancement of capital and sound management without specific purpose.

(*4) With reserves accumulated by local laws and regulations by overseas subsidiaries, it can only be used to compensate for deficits of subsidiaries currently located.

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

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Beginning balance	₩ 6,940,836	₩ 6,149,505
Net income	1,718,234	1,555,563
Changes in consolidated taxation payment	39,663	44,435
Loss on equity securities at FVTOCI	(2,207)	(64,742)
Dividends on hybrid equity securities	(37,299)	(23,925)
Cash dividends	(740,000)	(720,000)
Ending balance	₩ 7,919,227	₩ 6,940,836

Reserve for bad debts as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Beginning balance	₩ 2,173,304	₩ 2,045,017
Planned reserve for bad debts	54,426	128,287
Expected balance	₩ 2,227,730	₩ 2,173,304

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25. Equity (cont'd)

Provision of reserve for bad debts and adjusted net income after reflecting reserve for bad debts for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022		For the year ended December 31, 2021	
Net income	₩	1,718,234	₩	1,555,563
Provision of reserve for bad debts		(54,426)		(128,287)
Adjusted net income after reserve for bad debts		1,663,808		1,427,276
Adjusted basic and diluted EPS after reserve for bad debts (in Korean won) (*1)		3,434		3,175

(*1) Hybrid equity securities dividends of ₩37,299 million and ₩23,925 million for the years ended December 31, 2022 and 2021, respectively, are deducted from adjusted net income after reserve for bad debts when calculating adjusted basic EPS. Adjusted diluted EPS are identical to basic EPS, as the Group does not retain dilutive common shares.

Dividends for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Type of stock	For the year ended December 31, 2022		
	Shares of stock	Dividends per share (in Korean won)	Total dividends
Common stock	448,298,774	₩ 1,651	₩ 740,000

Type of stock	For the year ended December 31, 2021		
	Shares of stock	Dividends per share (in Korean won)	Total dividends
Common stock	435,140,881	₩ 1,655	₩ 720,000

26. CAPITAL MANAGEMENT

26.1 Current state of regulatory capital

The Group reports to the Financial Supervisory Service on a monthly or quarterly basis about Bank for International Settlement (BIS) capital adequacy ratio, common equity ratio based on market risk, basic common equity ratio and their computation evidence. In addition, the Group reviews the soundness of its capital using the capital adequacy ratio representing capital over the risk-weighted asset (BIS capital adequacy ratio).

The Group's regulatory capitals consist of the following two categories:

- Tier 1 capital (basic capital): Basic capital is composed of common equity tier 1 and additional tier 1 capital. Common equity tier 1 is composed of capital stock; additional paid-in capital; retained earnings; non-controlling interests of Group, which is the consolidated subsidiary; and accumulated other comprehensive income. Additional tier 1 capital is composed of capital securities (including hybrid equity securities) and non-controlling interests of consolidated subsidiaries.
- Tier 2 capital (supplementary capital): Supplementary capital is composed of allowance for losses on credit for assets classified as normal or precautionary according to the forward-looking criteria, capital securities (such as subordinated bonds) and non-controlling interests of consolidated subsidiaries.

The basic and supplementary capitals listed above have many restrictions to be recognized as capital and regulatory capital is computed reflecting items deducted from capital.

Besides the BIS ratios reported to the Financial Supervisory Service, the Group sets up internal policies on capital management for the criteria of capital adequacy and soundness of finance. In addition, the Group monitors the soundness of finance by allocating the risk appetite of the available capital to the limit of internal capital (the amount of capital that ensures that the Group will be able to continue on its operation, while bearing many risks and the necessary capital amount that covers the unexpected losses (ULs) under specified probability). Internal capital, subject to the management, is to consider interest rate risk and credit-concentrated risk in addition to the credit, market and operating risk managed by regulatory capital. The Group computes on appropriateness of internal capital under regular inspection.

Following the implementation of BASEL III, the Group has calculated the risk-weighted assets on market risk, operating risk via the Standard Approach, and risk-weighted assets on credit risk via the Basic Internal Ratings-Based Approach, and are managing the ratios accordingly, as of December 1, 2013. Details of the Group's BIS capital adequacy ratio as of December 31, 2022 and 2021, are as follows (Korean won in millions, %):

Classification	December 31, 2022	December 31, 2021
Basic capital (A)	₩ 19,817,263	₩ 17,677,343
Supplementary capital (B)	2,633,478	2,859,837
Equity capital (C)	22,450,741	20,537,180
Risk-weighted assets (D)	119,590,150	112,382,910
Equity capital ratio (C/D*100)	18.77	18.27
Basic capital ratio (A/D*100)	16.57	15.73

26.2 Allocation of shareholder's equity

Allocation of shareholder's equity is determined by approval of the risk management committee within the available capital after the establishment of risk capital management plan reflecting business plan, strategies and analysis of risk situations. Allocated capitals by risk upon the risk capital management plan are divided by tolerance limits of department and business sector, and managed from risk management council.

The risk management committee and council of the Group review the internal capital policies on a regular basis, and have a duty to maintain the stable capital adequacy and the soundness of finance by preliminary authorization process on excess of the limitation of internal capital forecasted due to new or extension of business or exceptionally by an ex-post facto approval.

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27. INCOME TAX EXPENSES:

The components of income tax expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Income tax currently payable	₩ 475,191	₩ 404,924
Adjustments recognized for the current period in relation to the current tax of prior periods	2,001	(1,183)
Change in deferred income tax due to temporary differences (*1)	91,236	108,560
Total income tax effect	568,428	512,301
Deferred income taxes directly applied to shareholder's equity	109,376	75,781
Income tax expenses	<u>₩ 677,804</u>	<u>588,082</u>
(*1) Net deferred tax assets due to temporary differences as of December 31, 2022 and 2021	₩ 268,649	₩ 359,885
Net deferred tax assets due to temporary differences as of January 1, 2022 and 2021	359,885	468,445
Change in deferred income tax due to temporary differences	<u>₩ (91,236)</u>	<u>₩ (108,560)</u>

A reconciliation of income before income tax and income tax expenses for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Net income before income tax	₩ 2,396,038	₩ 2,143,645
Income tax expenses before adjustments (A) (*1)	648,549	579,140
Adjustments (B):		
Non-taxable income	(12,495)	(8,857)
Non-deductible expenses	7,605	8,200
Unrecognized deferred income tax effects	2,137	2,214
Others	32,008	7,385
	<u>29,255</u>	<u>8,942</u>
Income tax expenses (A+B)	<u>₩ 677,804</u>	<u>₩ 588,082</u>
Effective tax rate	28.29%	27.43%

(*1) Tax at the statutory income tax rate is calculated with the income tax rate of 11% on taxable income below ₩200 million, 22% on taxable income exceeding ₩200 million and below ₩20 billion, 24.2% on taxable income exceeding ₩20 billion and below ₩300 billion, 27.5% on taxable income exceeding ₩300 billion for the years ended December 31, 2022 and 2021.

The deferred income tax recognized as other comprehensive income for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Gain (loss) on securities measured at FVTOCI	₩ 208,483	₩ 79,830
Remeasurements of the net defined benefit liabilities	(99,107)	(4,049)
	<u>₩ 109,376</u>	<u>₩ 75,781</u>

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27. Income tax expenses (cont'd)

The deferred income tax assets (liabilities) of the Group as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022			
	Beginning	Increase	Decrease	Ending
(Temporary differences):				
Gain (loss) on valuation of securities	₩ 32,826	₩ 659,633	₩ 10,886	₩ 681,573
Investments in associates (*2)	(28,597)	14,442	74,207	(88,362)
Gain (loss) on valuation of derivatives	(43,283)	120,456	(43,284)	120,457
Accrued income	(283,262)	(342,354)	(283,262)	(342,354)
Deferred LOF/LOC	(345,495)	(297,408)	(354,172)	(288,731)
Defined benefit obligations	2,039,089	-	168,349	1,870,740
Accrued expenses	103,874	65,946	84,909	84,911
Provision for acceptances and guarantee	131,560	109,109	131,560	109,109
Other provisions	187,204	288,510	185,195	290,519
Special deposits	(102,896)	(3,847)	(80,676)	(26,067)
Retirement insurance and assets for DB plan operation	(1,581,057)	(363,675)	(168,349)	(1,776,383)
Others	₩ 1,198,706	₩ 129,157	₩ 949,505	₩ 378,358
	<u>1,308,669</u>	<u>379,969</u>	<u>674,868</u>	<u>1,013,770</u>
Unrealizable temporary differences	-	-	-	-
Realizable temporary differences	1,308,669	379,969	674,868	1,013,770
Tax rate (*1)	27.50%			26.50%
Net deferred income tax asset	359,885			268,649

(*1) During the fiscal year, due to revisions to the corporate tax law, the tax rate for each taxable standard section was reduced by 1 percentage point. The forward-looking tax rates applicable to the calculation of deferred income taxes have changed to reflect these changes to the corporate tax law.

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27. Income tax expenses (cont'd)

Classification	For the year ended December 31, 2021			
	Beginning	Increase	Decrease	Ending
(Temporary differences):				
Gain (loss) on valuation of securities	₩ (87,328)	₩ 33,509	₩ (86,645)	₩ 32,826
Investments in associates (*2)	(36,847)	8,250	-	(28,597)
Loss on valuation of derivatives	(87,534)	(43,368)	(87,619)	(43,283)
Accrued income	(259,349)	(283,262)	(259,349)	(283,262)
Deferred LOF/LOC	(290,839)	(419,598)	(364,942)	(345,495)
Defined benefit obligations	1,987,300	208,562	156,773	2,039,089
Accrued expenses	82,481	126,057	104,664	103,874
Provision for acceptances and guarantee	121,250	131,560	121,250	131,560
Other provisions	166,851	185,195	164,842	187,204
Special deposits	(99,164)	(3,916)	(184)	(102,896)
Retirement insurance and assets for DB plan operation	(1,080,912)	(656,918)	(156,773)	(1,581,057)
Others	₩ 1,287,530	₩ 114,746	₩ 203,570	₩ 1,198,706
	1,703,439	(599,183)	(204,413)	1,308,669
Unrealizable temporary differences	-	-	-	-
Realizable temporary differences	1,703,439	(599,183)	(204,413)	1,308,669
Tax rate (*1)	27.50%			27.50%
Net deferred income tax asset	468,445			359,885

(*1) Tax at the statutory income tax rate is calculated with the income tax rate of 11% on taxable income below ₩200 million, 22% on taxable income exceeding ₩200 million and below ₩20 billion, 24.2% on taxable income exceeding ₩20 billion and below ₩300 billion, 27.5% on taxable income exceeding ₩300 billion for the year ended December 31, 2021.

(*2) The income tax effect of equity method is reasonably estimated by considering the applicability and realizability of deferred income tax by each investee.

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28. INCOME AND EXPENSES BY CATEGORIES OF FINANCIAL INSTRUMENTS:

Interest income and expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Interest income:		
Deposits	₩ 69,946	₩ 11,383
Financial assets at FVTPL	119,526	93,158
Financial assets at FVTOCI	591,493	356,738
Securities at amortized cost	378,568	271,079
Loans and other receivables at amortized cost	10,191,414	7,354,732
Others	17,485	11,049
	<u>11,368,432</u>	<u>8,098,139</u>
Interest expenses:		
Deposits due to customers	3,646,854	1,758,441
Debentures	491,606	344,406
Borrowings	175,728	73,985
Others	115,973	30,491
	<u>4,430,161</u>	<u>2,207,323</u>
Interest income, net	<u>₩ 6,938,271</u>	<u>₩ 5,890,816</u>

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28. Income and expenses by categories of financial instruments (cont'd)

Net gain or loss on financial assets at FVTPL for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Financial assets at FVTPL:		
Gain (loss) on valuation:		
Gain	₩ 141,012	₩ 137,190
Loss	(297,760)	(121,588)
	<u>(156,748)</u>	<u>15,602</u>
Gain (loss) on disposal:		
Gain	128,545	71,740
Loss	(130,472)	(41,972)
	<u>(1,927)</u>	<u>29,768</u>
Gain (loss) on redemption:		
Gain	19,176	6,029
Loss	(28,575)	(24,653)
	<u>(9,399)</u>	<u>(18,624)</u>
Dividend income	3,828	4,587
Other income	156,121	172,432
	<u>(8,125)</u>	<u>203,765</u>
Trading derivatives:		
Gain (loss) on valuation:		
Gain	945,712	649,193
Loss	(1,037,733)	(649,301)
	<u>(92,021)</u>	<u>(108)</u>
Gain (loss) on disposal:		
Gain	2,248,728	1,063,616
Loss	(2,128,496)	(1,032,570)
	<u>120,232</u>	<u>31,046</u>
	<u>28,211</u>	<u>30,938</u>
	<u>₩ 20,086</u>	<u>₩ 234,703</u>

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28. Income and expenses by categories of financial instruments (cont'd)

Net gain or loss on financial assets at FVTOCI for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Gain (loss) on disposal:		
Gain	₩ 2,799	₩ 65,901
Loss	(46,786)	(62,252)
	<u>(43,987)</u>	<u>3,649</u>
Gain (loss) on redemption:		
Gain	1	226
Loss	(3,134)	(260)
	<u>(3,133)</u>	<u>(34)</u>
Dividend income (*1)	5,543	4,942
	<u>₩ (41,577)</u>	<u>₩ 8,557</u>

(*1) Dividend income arising from disposal of financial assets at FVTOCI for the years ended December 31, 2022 and 2021, amounted to ₩1,262 million and ₩21 million, respectively.

The amount reclassified from accumulated other comprehensive income to gain (loss) at the time of removal by financial assets at FVTOCI for the year ended December 31, 2022, is ₩32,330 million.

Net gain or loss on financial assets at amortized cost for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Gain (loss) on disposal: (*1)		
Gain	₩ 8,038	₩ 13,228
Loss	(5,982)	(14,030)
	<u>₩ 2,056</u>	<u>₩ (802)</u>

(*1) For the purpose of credit risk management, certain loans at amortized cost were disposed of.

Provision of allowance for ECLs-related gain (loss) on financial assets at FVTOCI and financial assets at amortized cost for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Financial assets at FVTOCI	₩ (2,670)	₩ (846)
Securities at amortized cost	(1,589)	(386)
Due from banks at amortized cost	(698)	12
Loans and receivables at amortized cost	(650,488)	(367,829)
	<u>₩ (655,445)</u>	<u>₩ (369,049)</u>

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29. COMMISSION INCOME AND EXPENSES:

Commission income and expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Commission income:		
Deposits	₩ 1,076	₩ 1,265
Loans and credits	89,723	88,694
Foreign exchange	33,306	33,235
Credit card	347,683	316,109
Asset management	66,904	67,088
Agency business	167,299	172,613
Guarantee service	41,077	33,848
Trust service	157,491	192,184
Electronic finance	241,168	247,103
Others	16,280	14,819
	<u>1,162,007</u>	<u>1,166,958</u>
Commission expenses:		
Loans and credits	44,302	39,655
Foreign exchange	6,498	5,192
Credit card	326,905	312,596
Agency business	17,458	22,219
Others	58,514	55,570
	<u>453,677</u>	<u>435,232</u>
Commission income, net	<u>₩ 708,330</u>	<u>₩ 731,726</u>

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30. OTHER OPERATING INCOME AND EXPENSES:

Other operating income and expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Other operating income:		
Gain on valuation of hedging instrument	₩ 4,540	₩ 4,542
Gain on valuation of hedged items	57,250	33,011
Gain from changes in foreign exchange rate	1,524,095	1,301,105
Transfer from other provisions	25,234	17,406
Others	165,785	146,519
	<u>1,776,904</u>	<u>1,502,583</u>
Other operating expenses:		
Loss on valuation of hedging instrument	57,290	32,660
Loss on valuation of hedged items	4,498	4,575
Loss from changes in foreign exchange rate	1,453,912	1,261,479
Fund contribution	778,252	732,240
Transfer to other provisions	21,793	55,959
Others	260,041	250,455
	<u>2,575,786</u>	<u>2,337,368</u>
	<u>₩ (798,882)</u>	<u>₩ (834,785)</u>

31. EMPLOYEE BENEFITS:

Details of employee benefits for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Benefits:		
Employee benefits	₩ 1,503,742	₩ 1,408,340
Fringe benefits	507,770	511,768
	<u>2,011,512</u>	<u>1,920,108</u>
Retirement expenses	212,792	214,396
Termination benefits	78,883	43,182
	<u>₩ 2,303,187</u>	<u>₩ 2,177,686</u>

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32. OTHER GENERAL AND ADMINISTRATIVE EXPENSES:

Other general and administrative expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Tax and dues	₩ 141,685	₩ 119,860
Telecommunications and transportation	35,737	34,389
Supplies	22,719	24,149
Advertising	126,174	118,797
Utilities	25,803	23,087
Rental	39,145	36,016
Service contract	170,843	160,530
Others	124,043	112,103
	₩ 686,149	₩ 628,931

33. OTHER INCOME AND EXPENSES:

Other income and expenses for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Other income:		
Gain on disposal of assets	₩ 6,080	₩ 1,201
Rent income	18,250	17,835
Miscellaneous income	22,227	21,493
Others	7,511	1,404
	54,068	41,933
Other expenses:		
Loss on disposal of assets	2,691	2,406
Expenses related to collecting receivables	5,317	6,140
Depreciation	5,685	5,722
Agricultural support project expenses (*1)	324,670	315,604
Expenses on restoration	869	2,127
Miscellaneous expenses	34,127	50,737
Others	2,107	4,509
	375,466	387,245
	₩ (321,398)	₩ (345,312)

(*1) Agricultural support project expenses, which are annually paid to the NACF in accordance with the *Agricultural Cooperative Act*, is computed by multiplying the imposed ratio to the average of operating revenue for the recent three years.

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34. EPS:

(1) Net income and weighted-average number of common shares used for computation are as follows (Korean won in millions, except per-share amounts):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Net income	₩ 1,718,234	₩ 1,555,563
Dividends on hybrid equity securities	(37,299)	(23,925)
Income attributable to common shares	1,680,935	1,531,638
Weighted-average number of common shares (in shares)	473,660,809	441,939,727
Basic and diluted EPS (in Korean won)	₩ 3,549	₩ 3,466

Diluted EPS equals to basic EPS as there is no dilution effect for the years ended December 31, 2022 and 2021.

(2) The weighted-average number of common shares outstanding is as follows:

For the year ended December 31, 2022				
	Period	Number of shares	Dates	Accumulated number of shares outstanding during the period
Common shares issued at the beginning of the period	2022-01-01–2022-02-10	448,298,774	41	50,356,849
Capital increase with consideration	2022-02-11–2022-12-31	476,870,202	324	423,303,960
Weighted-average number of common shares outstanding			365	473,660,809
For the year ended December 31, 2021				
	Period	Number of shares	Dates	Accumulated number of shares outstanding during the period
Common shares issued at the beginning of the period	2021-01-01–2021-04-14	435,140,881	104	123,985,347
Capital increase with consideration	2021-04-15–2021-10-12	443,035,617	181	219,697,114
Capital increase with consideration	2021-10-13–2021-12-31	448,298,774	80	98,257,266
Weighted-average number of common shares outstanding			365	441,939,727

35. RISK DISCLOSURE OF FINANCIAL INSTRUMENTS:

The Group is exposed to various financial risks, such as credit, market and liquidity, associated with financial instruments.

For risk management, the Group has the risk management committee; the top legislative organization; the risk management council; the operational legislative organization; and other executive departments, such as risk management task force department, individual risk management department and independent monitoring department.

The risk management committee consists of 10 directors and deliberates and determines major issues, such as establishment of risk management policies and strategies and determination of risk tolerance limit. Some ordinary and continual issues can be deliberated and determined by the risk management council.

The Group retains various risk management policies and systems, such as establishment of risk tolerance limit, constant monitoring to maintain optimum level of risk and performance evaluation and capital distribution considering the risk. The conditions and results of risk management, including risk management and analysis, are periodically reported to risk management committee and council.

The risk management task force team establishes and manages the risk tolerance limit by business sector and accounting, and those risk measurement and analysis are monthly reported to the risk management council. Also, the Group regularly calculates and monitors the integrated risk to merge exposed risks into a single indicator and manage it comprehensively to be within the reasonable level of risk compared to our capital.

35.1 Credit risk

Credit risk refers to the risk that counterparty will default on its contractual obligations resulting in non-payment of the principal and interest to the payables and potential financial loss to the Group. Credit risk arises from deposits, securities, loans, off-balance accounts, etc. The purpose of credit risk management is to improve asset soundness and to secure the stable revenue by minimizing the probability of credit risk through the establishment and management of credit risk tolerance limit and the proper management of portfolios.

For credit risk management of loan process, the Group separated operation and underwriting process in the business process and monitored such various segments of its credit risk portfolio. The Group also established and operated a total exposure to credit risk limit management system to reduce concentration of credit risk by specific type of loans or borrowers to acceptable level and to diversify risk in the loan portfolio and manage risks in the individual exposure limit system. Furthermore, a credit risk is managed through an early alert system in the event of non-performance by counterparties and underwriting risk is managed by loan underwriting specialists to maintain the tight underwriting standards.

The Group separately measures expected losses ("ELs") and ULs. ELs are expected credit risks based on past experience and computed by multiplying exposure at default by PD and LGD. ULs mean maximum credit losses under certain probability deducting EL.

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35. Risk disclosure of financial instruments (cont'd)

35.1.1 The Group's maximum level of exposures to credit risk

The Group's maximum level of exposures to credit risk as of December 31, 2022 and 2021, is summarized as follows (Korean won in millions):

Classification	December 31, 2022 (*2)	December 31, 2021 (*2)
Deposits	₩ 12,724,145	₩ 5,444,515
Loans (*1)	303,106,919	289,884,284
Receivables	5,543,033	6,577,412
Debt securities	49,002,879	46,871,960
Derivative assets	1,089,745	531,414
Loans and credit commitments	104,866,538	99,261,186
Guarantees and endorsed bills	6,338,061	5,861,312
Financial guarantee contracts	3,983,521	4,491,010
	₩ 486,654,841	₩ 458,923,093

(*1) The loans above include the loans measured at FVTPL.

(*2) Puttable financial instruments are excluded.

35.1.2 Classification of financial instruments based on credit risk

Measurement of credit risk exposures of loans and receivables at amortized cost based on internal risk level as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Credit risk levels (internal level)	December 31, 2022					
	Household (*1)			Corporate (*1)		
	12 months	Significant increases	Impairment	12 months	Significant increases	Impairment
Rating 1-6	₩ 166,416,862	₩ 14,635,136	₩ -	₩ 74,568,616	₩ 5,567,895	₩ -
Rating 7	606,698	891,316	-	-	1,152,978	-
Rating 8	7,742	203,862	-	-	152,277	-
Rating 9-10	-	-	503,303	-	-	425,205
	₩ 167,031,302	₩ 15,730,314	₩ 503,303	₩ 74,568,616	₩ 6,873,150	₩ 425,205

(*1) The above amounts of loans and receivables do not include the deferred LOF/LOC and present value discounts.

Credit risk levels (Internal level)	December 31, 2022			
	Others (*1 and *2)			
	12 months	Significant increases	Impairment	Allowance
Rating 1-6	₩ 38,163,689	₩ 1,409,663	₩ -	₩ (1,318,177)
Rating 7	-	53,570	-	(210,364)
Rating 8	-	-	-	(83,749)
Rating 9-10	-	-	132	(353,778)
	₩ 38,163,689	₩ 1,463,233	₩ 132	₩ (1,966,068)

(*1) The above amounts of loans and receivables do not include the deferred LOF/LOC and present value discounts.

(*2) Receivables are not included in others.

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.2 Classification of financial instruments based on credit risk (cont'd)

Credit risk levels (internal level)	December 31, 2021					
	Household (*1)			Corporate (*1)		
	12 months	Significant increases	Impairment	12 months	Significant increases	Impairment
Rating 1-6	₩ 167,797,919	₩ 11,230,476	₩ -	₩ 70,491,046	₩ 4,658,229	₩ -
Rating 7	243,396	535,098	-	-	1,118,796	-
Rating 8	4,209	104,809	-	-	120,872	-
Rating 9-10	-	-	387,532	-	-	460,519
	₩ 168,045,524	₩ 11,870,383	₩ 387,532	₩ 70,491,046	₩ 5,897,897	₩ 460,519

(*1) The above amounts of loans and receivables do not include the deferred LOF/LOC and present value discounts.

Credit risk levels (internal level)	December 31, 2021			
	Others (*1 and *2)			
	12 months	Significant increases	Impairment	Allowance
Rating 1-6	₩ 32,680,686	₩ 1,160,658	₩ -	₩ (997,329)
Rating 7	-	43,481	-	(139,218)
Rating 8	-	-	-	(50,941)
Rating 9-10	-	-	-	(354,563)
	₩ 32,680,686	₩ 1,204,139	₩ -	₩ (1,542,051)

(*1) The above amounts of loans and receivables do not include the deferred LOF/LOC and present value discounts.

(*2) Receivables are not included in others.

The level of exposures to credit risk of loan commitment and financial guarantee contract based on internal risk level as of December 31, 2022 and 2021, is summarized as follows (Korean won in millions):

Credit risk levels (internal level)	December 31, 2022					
	Loan commitment			Financial guarantee contract		
	12 months	Significant increases	Impairment	12 months	Significant increases	Impairment
Rating 1-6	₩ 99,564,985	₩ 5,046,596	₩ -	₩ 3,902,451	₩ 81,070	₩ -
Rating 7	20,786	176,269	-	-	-	-
Rating 8	397	7,558	-	-	-	-
Rating 9-10	-	-	49,947	-	-	-
	₩ 99,586,168	₩ 5,230,423	₩ 49,947	₩ 3,902,451	₩ 81,070	₩ -

Credit risk levels (internal level)	December 31, 2021					
	Loan commitment			Financial guarantee contract		
	12 months	Significant increases	Impairment	12 months	Significant increases	Impairment
Rating 1-6	₩ 94,863,650	₩ 3,994,492	₩ -	₩ 4,336,877	₩ 154,133	₩ -
Rating 7	17,947	183,474	-	-	-	-
Rating 8	381	4,448	-	-	-	-
Rating 9-10	-	-	196,794	-	-	-
	₩ 94,881,978	₩ 4,182,414	₩ 196,794	₩ 4,336,877	₩ 154,133	₩ -

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.2 Classification of financial instruments based on credit risk (cont'd)

The Group's maximum level of exposures to credit risk of debt securities as of December 31, 2022 and 2021, is summarized as follows (Korean won in millions):

Credit risk levels (external level)	December 31, 2022				
	Financial assets at FVTPL	Financial assets at FVTOCI		Securities at amortized cost	
		12-month (*1)	Allowance (*2)	12-month (*1)	Allowance
AAA	₩ 1,984,322	₩ 24,859,941	₩ (2,356)	₩ 15,493,446	₩ (3,342)
AA+–AA-	2,428,485	3,564,028	(2,382)	-	-
A–BBB	97,471	503,716	(836)	-	-
BBB- or below	1	74,810	(220)	-	-
	₩ 4,510,279	₩ 29,002,495	₩ (5,794)	₩ 15,493,446	₩ (3,342)

(*1) There are no debt securities whose loss allowances are measured at an amount equal to the lifetime ECLs.

(*2) The effect from the loss allowance for financial assets at FVTOCI is recognized in accumulated other comprehensive income. So, the book values of those are unaffected by the effect.

Credit risk levels (external level)	December 31, 2021				
	Financial assets at FVTPL	Financial assets at FVTOCI		Securities at amortized cost	
		12-month (*1)	Allowance (*2)	12-month (*1)	Allowance
AAA	₩ 2,673,797	₩ 21,952,147	₩ (1,410)	₩ 15,285,717	₩ (1,893)
AA+–AA-	2,813,898	3,471,446	(1,636)	-	-
A–BBB	149,013	395,186	(277)	-	-
BBB- or below	59,288	73,361	(161)	-	-
	₩ 5,695,996	₩ 25,892,140	₩ (3,484)	₩ 15,285,717	₩ (1,893)

(*1) There are no debt securities whose loss allowances are measured at an amount equal to the lifetime ECLs.

(*2) The effect from the loss allowance for financial assets at FVTOCI is recognized in accumulated other comprehensive income. So, the book values of those are unaffected by the effect.

Exposures by industry related to COVID-19 as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Industry	December 31, 2022			
	Financial assets at FVTOCI		Financial assets at amortized cost	
	Gross carrying amount	Allowance	Gross carrying amount	Allowance
Retail	₩ 111,848	₩ 76	₩ 10,388,190	₩ 40,523
Accommodation	58,334	38	1,609,445	15,548
Entertainment service	-	-	1,045,857	44,832
Travel	-	-	154,170	1,032
Air transport	-	-	272,676	5,366
Automotive components	112,580	76	1,846,047	15,277
Oil refining	485,915	515	1,357,988	1,373
Steel	143,629	96	2,307,162	13,228
	₩ 912,306	₩ 801	₩ 18,981,535	₩ 137,179

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.2 Classification of financial instruments based on credit risk (cont'd)

Industry	December 31, 2021			
	Financial assets at FVTOCI		Financial assets at amortized cost	
	Gross carrying amount	Allowance	Gross carrying amount	Allowance
Retail	₩ 148,097	₩ 60	₩ 9,484,359	₩ 18,142
Accommodation	79,172	42	1,492,988	13,167
Entertainment service	-	-	1,059,032	40,918
Travel	-	-	142,207	672
Air transport	-	-	296,055	4,469
Automotive components	96,768	52	1,572,638	15,669
Oil refining	607,325	413	1,066,389	967
Steel	202,064	93	2,148,688	13,874
	₩ 1,133,426	₩ 660	₩ 17,262,356	₩ 107,878

35.1.3 Percentage of allowance for ECLs of financial instruments

As of December 31, 2022 and 2021, the percentage of allowance for ECLs is as follows (Korean won in millions):

Classification	December 31, 2022			
	Financial assets at FVTOCI	Due from banks	Securities	Loans (*1)
Total amount	₩ 29,002,496	₩ 12,728,801	₩ 15,493,446	₩ 304,758,944
Allowance for ECLs	5,794	4,656	3,342	1,966,068
Ratio (%)	0.02	0.04	0.02	0.65

(*1) Receivables and deferred LOF/LOC are not included in the above total amounts of loans.

Classification	December 31, 2021			
	Financial assets at FVTOCI	Due from banks	Securities	Loans (*1)
Total amount	₩ 25,892,140	₩ 5,447,501	₩ 15,285,717	₩ 291,037,726
Allowance for ECLs	3,484	2,986	1,893	1,542,051
Ratio (%)	0.01	0.05	0.01	0.53

(*1) Receivables and deferred LOF/LOC are not included in the above total amounts of loans.

35.1.4 Classification of financial instruments by industry, country and customer

Loans classified by industry as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Industry	December 31, 2022				
	Loans in Korean won (*1)	Loans in foreign currency (*1)	Others (*1 and *2)	Total	Allowance (*1)
Manufacturing	₩ 25,519,053	₩ 1,678,558	₩ 5,181,146	₩ 32,378,757	₩ (408,579)
Construction	5,004,854	48,658	126,514	5,180,026	(296,560)
Retail and wholesale	20,907,900	67,277	681,053	21,656,230	(181,384)
Finance and insurance	5,976,093	229,983	2,687,556	8,893,632	(17,566)
Member cooperatives	19,988,031	-	1,941,815	21,929,846	(60,679)
Others	192,262,443	1,855,434	20,602,576	214,720,453	(1,001,300)
	₩ 269,658,374	₩ 3,879,910	₩ 31,220,660	₩ 304,758,944	₩ (1,966,068)

(*1) Deferred LOF/LOC is not included.

(*2) Receivables are not included.

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.4 Classification of financial instruments by industry, country and customer (cont'd)

Industry	December 31, 2021				
	Loans in Korean won (*1)	Loans in foreign currency (*1)	Others (*1 and *2)	Total	Allowance (*1)
Manufacturing	₩ 22,823,705	₩ 1,435,699	₩ 4,720,695	₩ 28,980,099	₩ (413,470)
Construction	4,341,680	333	111,909	4,453,922	(53,716)
Retail and wholesale	18,878,753	60,145	770,189	19,709,087	(134,053)
Finance and insurance	3,509,450	190,008	1,663,416	5,362,874	(6,767)
Member cooperatives	18,492,396	-	1,717,888	20,210,284	(36,868)
Others	186,403,709	1,405,333	24,512,418	212,321,460	(897,177)
	<u>₩ 254,449,693</u>	<u>₩ 3,091,518</u>	<u>₩ 33,496,515</u>	<u>₩ 291,037,726</u>	<u>₩ (1,542,051)</u>

(*1) Deferred LOF/LOC is not included.

(*2) Receivables are not included.

Acceptances and guarantees (including endorsed bills) by industry as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022				
	Confirmed acceptances and guarantees	Unconfirmed acceptances and guarantees	Bills endorsed	Total	Ratio (%)
Manufacturing	₩ 1,956,890	₩ 2,151,583	₩ 27,677	₩ 4,136,150	62.08
Construction	43,861	23,970	-	67,831	1.02
Retail and wholesale	428,988	407,462	2,658	839,108	12.60
Finance and insurance	602,789	19,736	-	622,525	9.34
Others	507,248	489,306	-	996,554	14.96
	<u>₩ 3,539,776</u>	<u>₩ 3,092,057</u>	<u>₩ 30,335</u>	<u>₩ 6,662,168</u>	<u>100.00</u>

Classification	December 31, 2021				
	Confirmed acceptances and guarantees	Unconfirmed acceptances and guarantees	Bills endorsed	Total	Ratio (%)
Manufacturing	₩ 2,074,046	₩ 2,091,658	₩ 14,267	₩ 4,179,971	67.82
Construction	32,452	1,437	-	33,889	0.55
Retail and wholesale	309,563	437,851	14,386	761,800	12.36
Finance and insurance	562,835	5,459	-	568,294	9.22
Others	215,003	404,652	-	619,655	10.05
	<u>₩ 3,193,899</u>	<u>₩ 2,941,057</u>	<u>₩ 28,653</u>	<u>₩ 6,163,609</u>	<u>100.00</u>

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.4 Classification of financial instruments by industry, country and customer (cont'd)

Portfolio of financial assets at FVTPL and FVTOCI and securities at amortized cost by industry as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022					
	Financial assets at FVTPL		Financial assets at FVTOCI		Securities at amortized cost	
	Book value	Ratio (%)	Book value	Ratio (%)	Book value	Ratio (%)
Government and government-sponsored institutions	₩ 1,156,848	8.52	₩ 13,554,333	46.20	₩ 7,515,620	48.52
Finance and insurance	11,377,779	83.84	13,316,740	45.39	7,974,484	51.48
Manufacturing	131,839	0.97	663,189	2.26	-	-
Others	905,078	6.67	1,802,402	6.15	-	-
	<u>₩ 13,571,544</u>	<u>100.00</u>	<u>₩ 29,336,664</u>	<u>100.00</u>	<u>₩ 15,490,104</u>	<u>100.00</u>

Classification	December 31, 2021					
	Financial assets at FVTPL		Financial assets at FVTOCI		Securities at amortized cost	
	Book value	Ratio (%)	Book value	Ratio (%)	Book value	Ratio (%)
Government and government-sponsored institutions	₩ 1,992,189	14.72	₩ 9,042,092	34.40	₩ 7,128,768	46.64
Finance and insurance	10,342,903	76.45	14,521,946	55.24	8,155,056	53.36
Manufacturing	193,156	1.43	943,290	3.59	-	-
Others	1,001,413	7.40	1,779,234	6.77	-	-
	<u>₩ 13,529,661</u>	<u>100.00</u>	<u>₩ 26,286,562</u>	<u>100.00</u>	<u>₩ 15,283,824</u>	<u>100.00</u>

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.4 Classification of financial instruments by industry, country and customer (cont'd)

Loans classified by country as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Country	December 31, 2022				
	Loans in Korean won (*1)	Loans in foreign currency (*1)	Others (*1 and *2)	Total	Allowance (*1)
Korea	₩ 269,658,374	₩ 1,792,381	₩ 25,326,215	₩ 296,776,970	₩ (1,896,869)
China	-	40,554	1,275,407	1,315,961	(7,229)
Japan	-	52,212	272,236	324,448	(3,070)
USA	-	287,878	1,097,111	1,384,989	(10,054)
Indonesia	-	14,580	128,575	143,155	(1,309)
Hong Kong	-	183,464	11,501	194,965	(6,233)
Panama	-	73,025	51,491	124,516	(381)
Singapore	-	-	49,238	49,238	(362)
Others	-	1,435,816	3,008,886	4,444,702	(40,561)
	<u>₩ 269,658,374</u>	<u>₩ 3,879,910</u>	<u>₩ 31,220,660</u>	<u>₩ 304,758,944</u>	<u>₩ (1,966,068)</u>

(*1) Deferred LOF/LOC is not included.

(*2) Receivables are not included.

Country	December 31, 2021				
	Loans in Korean won (*1)	Loans in foreign currency (*1)	Others (*1 and *2)	Total	Allowance (*1)
Korea	₩ 254,449,693	₩ 1,056,725	₩ 27,943,206	₩ 283,449,624	₩ (1,472,810)
China	-	37,936	814,261	852,197	(9,885)
Japan	-	61,481	147,606	209,087	(2,214)
USA	-	342,738	1,091,374	1,434,112	(23,407)
Indonesia	-	18,280	81,063	99,343	(1,861)
Hong Kong	-	171,622	501,599	673,221	(4,332)
Panama	-	95,151	248	95,399	(281)
Singapore	-	-	18,102	18,102	(173)
Others	-	1,307,585	2,899,056	4,206,641	(27,088)
	<u>₩ 254,449,693</u>	<u>₩ 3,091,518</u>	<u>₩ 33,496,515</u>	<u>₩ 291,037,726</u>	<u>₩ (1,542,051)</u>

(*1) Deferred LOF/LOC is not included.

(*2) Receivables are not included.

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.4 Classification of financial instruments by industry, country and customer (cont'd)

Acceptances and guarantees (including endorsed bills) by country as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022				
	Confirmed acceptances and guarantees	Unconfirmed acceptances and guarantees	Bills endorsed	Total	Ratio (%)
Korea	₩ 1,287,700	₩ 755,316	₩ -	₩ 2,043,016	30.67
China	67,769	251,733	4,141	323,643	4.86
Japan	49,609	82,165	-	131,774	1.98
USA	203,357	339,253	-	542,610	8.14
Indonesia	154	69,654	-	69,808	1.05
Hong Kong	25,050	609	-	25,659	0.39
Panama	109,102	96,712	-	205,814	3.09
Singapore	166,942	162,024	-	328,966	4.94
Others	1,630,093	1,334,591	26,194	2,990,878	44.88
	<u>₩ 3,539,776</u>	<u>₩ 3,092,057</u>	<u>₩ 30,335</u>	<u>₩ 6,662,168</u>	<u>100.00</u>

Classification	December 31, 2021				
	Confirmed acceptances and guarantees	Unconfirmed acceptances and guarantees	Bills endorsed	Total	Ratio (%)
Korea	₩ 1,165,448	₩ 591,923	₩ -	₩ 1,757,371	28.51
China	55,666	235,122	6,493	297,281	4.82
Japan	81,237	119,662	-	200,899	3.26
USA	119,637	324,253	-	443,890	7.20
Indonesia	19,115	81,066	8,700	108,881	1.77
Hong Kong	9,342	4,379	61	13,782	0.22
Singapore	367,231	104,423	-	471,654	7.65
Others	1,376,223	1,480,229	13,399	2,869,851	46.57
	<u>₩ 3,193,899</u>	<u>₩ 2,941,057</u>	<u>₩ 28,653</u>	<u>₩ 6,163,609</u>	<u>100.00</u>

Portfolio of financial assets at FVTPL and FVTOCI and securities at amortized cost in each country as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022					
	Financial assets at FVTPL		Financial assets at FVTOCI		Securities at amortized cost	
	Book value	Ratio (%)	Book value	Ratio (%)	Book value	Ratio (%)
Korea	₩ 13,470,489	99.26	₩ 27,121,281	92.45	₩ 15,490,104	100.00
USA	44,153	0.33	2,167,956	7.39	-	-
Japan	-	-	10,679	0.03	-	-
Others	56,902	0.41	36,748	0.13	-	-
	<u>₩ 13,571,544</u>	<u>100.00</u>	<u>₩ 29,336,664</u>	<u>100.00</u>	<u>₩ 15,490,104</u>	<u>100.00</u>

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.4 Classification of financial instruments by industry, country and customer (cont'd)

Classification	December 31, 2021					
	Financial assets at FVTPL		Financial assets at FVTOCI		Securities at amortized cost	
	Book value	Ratio (%)	Book value	Ratio (%)	Book value	Ratio (%)
Korea	₩ 13,452,609	99.43	₩ 25,465,348	96.88	₩ 15,283,824	100.00
China	-	-	11,939	0.05	-	-
USA	14,215	0.11	716,740	2.73	-	-
Japan	-	-	28,419	0.10	-	-
Others	62,837	0.46	64,116	0.24	-	-
	₩ 13,529,661	100.00	₩ 26,286,562	100.00	₩ 15,283,824	100.00

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

Customer	December 31, 2022				
	Loans in Korean won (*1)	Loans in foreign currency (*1)	Others (*1 and *2)	Total	Allowance (*1)
Household	₩ 113,912,795	₩ 108,306	₩ 4,536,554	₩ 118,557,655	₩ (421,846)
Private business	77,793,872	46,710	1,821,851	79,662,433	(316,880)
Corporate	50,231,276	3,377,548	6,130,838	59,739,662	(1,115,989)
Member cooperatives	19,988,031	-	1,941,815	21,929,846	(60,679)
Financial institution	2,092,384	50,692	2,624,300	4,767,376	(5,465)
Government and others	5,640,016	296,654	14,165,302	20,101,972	(45,209)
	₩ 269,658,374	₩ 3,879,910	₩ 31,220,660	₩ 304,758,944	₩ (1,966,068)

(*1) Deferred LOF/LOC is not included.

(*2) Receivables are not included.

Customer	December 31, 2021				
	Loans in Korean won (*1)	Loans in foreign currency (*1)	Others (*1 and *2)	Total	Allowance (*1)
Household	₩ 115,603,456	₩ 79,525	₩ 4,024,224	₩ 119,707,205	₩ (335,389)
Private business	72,043,219	68,845	1,674,874	73,786,938	(249,637)
Corporate	42,396,545	2,813,974	5,708,243	50,918,762	(902,019)
Member cooperatives	18,492,396	-	1,717,888	20,210,284	(36,966)
Financial institution	1,798,794	47,420	1,626,846	3,473,060	(2,500)
Government and others	4,115,283	81,754	18,744,440	22,941,477	(15,540)
	₩ 254,449,693	₩ 3,091,518	₩ 33,496,515	₩ 291,037,726	₩ (1,542,051)

(*1) Deferred LOF/LOC is not included.

(*2) Receivables are not included.

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35. Risk disclosure of financial instruments (cont'd)

35.1 Credit risk (cont'd)

35.1.4 Classification of financial instruments by industry, country and customer (cont'd)

Acceptances and guarantees (including endorsed bills) by customer as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022					Ratio (%)
	Confirmed acceptances and guarantees	Unconfirmed acceptances and guarantees	Bills endorsed	Total		
Corporate	₩ 2,890,289	₩ 2,574,028	₩ 30,335	₩ 5,494,652		82.48
Private business	7,877	4,899	-	12,776		0.19
Member cooperatives	500	19,625	-	20,125		0.30
Financial institutions	266,921	17,122	-	284,043		4.26
Government and others	374,189	476,383	-	850,572		12.77
	₩ 3,539,776	₩ 3,092,057	₩ 30,335	₩ 6,662,168		100.00

Classification	December 31, 2021					Ratio (%)
	Confirmed acceptances and guarantees	Unconfirmed acceptances and guarantees	Bills endorsed	Total		
Corporate	₩ 2,910,067	₩ 2,515,854	₩ 28,653	₩ 5,454,574		88.50
Private business	6,172	7,782	-	13,954		0.23
Member cooperatives	550	21,379	-	21,929		0.36
Financial institutions	219,211	855	-	220,066		3.57
Government and others	57,899	395,187	-	453,086		7.34
	₩ 3,193,899	₩ 2,941,057	₩ 28,653	₩ 6,163,609		100.00

35.1.5 Financial impact of collateral on loans

The extent of reducing credit risk due to collateral and other credit enhancements for credit-impaired financial assets as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Loans	₩ 342,152	₩ 292,032
Commitment to loans and credit	810	606
	₩ 342,962	₩ 292,638

35.1.6 Assets acquired by exercising security rights

Details of assets acquired by exercising security rights as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Property and equipment (*1)	₩ 15	₩ 15

(*1) Property and equipment are presented as non-current assets classified as held for sale in the consolidated statements of financial position.

35. Risk disclosure of financial instruments (cont'd)

35.2 Market risk

Market risk is the risk of loss in the value of portfolio and financial instruments caused by adverse movements in market variables, such as interest rates, stock price, currency exchange rate, etc. The Group manages and divides market risk into two risks, generated through trading position or non-trading position. The trading market risk that the Group is mainly exposed to is the interest rate risk arising from the adverse change in the value of debt instruments and interest rate-embedded securities due to changes in market interest rate. The Group is additionally exposed to stock price, foreign exchange rate risk and commodity price risk arising from equity securities, debt securities and derivatives. The Group is exposed to the interest rate risk and liquidity risk.

35.2.1 Trading position

a) The trading position in accordance with 'Regulation of Trading Policy' is subject to the trading market management. The basic requirements of the trading position are as follows:

- The target position is not restricted to the sale. It is evaluated daily at fair value and should be able to be a hedge against important risks in the market.
- The trading position should be controlled by the instruction of the trading policy and managed by a separate trading department.
- The target position is operated in accordance with a documented trading strategy and the limit of trading should be controlled.
- Without the prior approval, a professional dealer or an operation division for the target position should be authorized to handle transactions within the predetermined limit.
- The target position for the risk management should be periodically reported to the management.

b) Details of risk management by risk type

① Interest rate risk

Interest rate risk from trading positions arises mainly from the trades of Korean won-denominated debt securities. As the financial instruments in the trading accounts are marked to market daily, the Group manages the interest rate risk related to its trading accounts using market-value-based tools used to measure risk, such as Value at Risk ("VaR") and sensitivity analysis.

② Equity price risk

Equity price risk arises from the Group's equity trading portfolio in Korean won since the Group has no trading position of equity securities denominated in foreign currencies. The equity trading portfolio in Korean won consists of exchange-traded stocks and nearest month or second nearest-month futures contracts under the strict restrictions considering diversification as well as stop-loss limits and position limits.

③ Foreign exchange rate risk

Foreign exchange rate risk arises when the Group has assets and liabilities that are denominated in currencies other than Korean won as well as off-balance-sheet items, such as foreign exchange forwards and currency swaps. Assets and liabilities denominated in U.S. dollars, Japanese yen and Euro are typically accounted for the majority of the Group's foreign currency assets and liabilities.

c) Measurement of market risk occurring at the trading position

① VaR measurement

VaR is a statistically estimated maximum amount of loss that could occur in a holding (or trading) period for a given confidence interval due to changes in market variables, such as interest rate, stock price, exchange rate and commodity price. The Group monitors risk arising from trading activities in business sectors and departments, and measures market risk of all the trading assets and liabilities in both Korean won and foreign currencies using VaR.

35. Risk disclosure of financial instruments (cont'd)

35.2 Market risk (cont'd)

35.2.1 Trading position (cont'd)

The Group calculates VaR using historical simulation model when the Group measures market risk arising from the trading position. Under historical simulation model, VaR is calculated as sublevel (1 - confidence level) of a normal distribution of risk resulting from revaluation of loan portfolio applying a scenario of actual profit ratio movements for the past 250 business days to currently holding loan portfolio. The Group discloses 10-day VaR measured at 99% confidence level.

VaR is a commonly used market risk measurement technique with the following limitations. VaR estimates possible loss over a certain period at a particular confidence level using past market movement data. Past market movements are, however, not necessarily a good indicator of future events, as there may be conditions and circumstances in the future that the model does not anticipate. As a result, the timing and magnitude of the actual loss can be different depending on the changes in assumptions made at the time of the calculation. In addition, the time periods used for the model, generally one day or 10 days are assumed a sufficient holding period before liquidating the relevant underlying positions. If these holding periods are not sufficient, or too long, the VaR results may understate or overstate the potential loss.

② Back testing

The Group conducts back testing of results against daily actual gain (loss) and expected gain (loss) on a daily basis. By performing back testing, the Group checks the validity of the model and any loss that might exceed a predetermined 99% confidence level.

③ Stress testing

The Group conducts stress testing to assess its market risk exposure to abnormal market fluctuations, such as changes in interest rate, equity price, exchange rate and implied volatility of derivatives, subject to the changes in the value of the portfolio. The Group uses not only hypothetical scenarios as a main scenario, but also historical scenarios as a supplementary analysis. Stress testing is conducted on a monthly basis.

The Group calculates VaR based on its consolidated financial statements and the following table shows average VaR, maximum VaR and minimum VaR at a 99% confidence level of interest rate risk, stock price risk and foreign exchange rate risk, commodity price risk and other risk for trading positions with a 10-day holding period as of December 31, 2022 and 2021 (Korean won in millions):

Classification	December 31, 2022			December 31, 2022
	Maximum	Minimum	Average	
Interest rate risk	₩ 57,042	₩ 23,727	₩ 43,201	₩ 54,933
Stock price risk	14,301	949	6,497	8,443
Foreign currency risk	4,263	467	2,175	1,781
Other risk	4,682	49	1,552	3,993
Total risk (*1)	64,140	30,701	45,881	61,319

(*1) Total VaR is computed taking into consideration the correlations of the risk factors.

Classification	December 31, 2021			December 31, 2021
	Maximum	Minimum	Average	
Interest rate risk	₩ 33,561	₩ 21,841	₩ 26,113	₩ 30,510
Stock price risk	26,073	3,666	9,298	5,379
Foreign currency risk	3,558	1,131	2,221	3,163
Other risk	662	-	45	261
Total risk (*1)	60,733	21,698	32,662	32,814

(*1) Total VaR is computed taking into consideration the correlations of the risk factors.

35. Risk disclosure of financial instruments (cont'd)

35.2 Market risk (cont'd)

35.2.2 Non-trading positions

Non-trading positions refer to all positions, excluding trading positions. The Group's principal market risk from non-trading activities is interest rate risk. Interest rate risk refers to the risk of exposure to loss from reduction of net interest income or net asset value as a result of interest rate changes due to mismatched maturities between interest-earning assets and interest-bearing liabilities or mismatched interest rate change periods.

The subject for interest rate risk measurement includes non-trading positions, such as interest-bearing assets, interest-bearing liabilities, transaction of derivatives held for hedging and others among off-balance transactions. The Group has measured and managed the interest rate risk, which affects the Group's earnings and the economic value of the Group's net assets. From the Group's earnings perspective, the Group has measured and managed interest rate risk through interest rate accumulated gap ratio, net interest income simulations, Δ NII and others, to manage changes in net interest income as a result of interest rate changes. With respect to the economic value of the Group's net assets, the Group has measured and managed interest rate risk through duration gap, Δ EVE and others, to manage changes in the value of net assets of future cash flow as a result of interest rate changes.

The objective of interest risk management is to manage changes in interest income at a sustainable level due to change in interest rates and is to manage stable net asset value through effective management of interest-earning asset and interest-bearing liabilities. The limits for interest rate accumulated gap ratio, Δ NII, Δ EVE and others are approved annually by the risk management committee for interest rate risk management.

Δ EVE for non-trading portfolios as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Δ EVE	₩ 516,002	₩ 903,382

35.3 Liquidity risk

35.3.1 General

Liquidity risk is the risk of loss that the Group is unable to meet its payment obligations arising from financial liabilities as they fall due or raise funds with high interest rates and unfavorable disposal of securities to solve the shortage of funds or facing inability to pay due to unexpected cash flows.

The cash flows disclosed in maturity analysis do not correspond to the amounts of discounted principals and interest payments at the contracts in the consolidated statements of financial position.

35.3.2 Liquidity risk management

The Group classifies and discloses contractual maturity of all financial liabilities in relation to liquidity risk into six categories, such as less than one month, one month to three months, three to six months, six months to one year, one year to five years and more than five years. The Group manages liquidity risk by analyzing cash flows of the liabilities in the groups of homogeneous accounts under the appropriate criteria (remaining contractual maturity, contract period, etc.).

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35. Risk disclosure of financial instruments (cont'd)

35.3 Liquidity risk (cont'd)

35.3.3 The term structure of financial liabilities

The term structures of liabilities as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification (*1 and *2)	December 31, 2022						Total
	Less than 1 month	1 month– 3 months	3 months– 6 months	6 months– 1 year	1 year– 5 years	More than 5 years	
Deposits due to customers	₩ 151,928,333	₩ 39,883,762	₩ 35,331,055	₩ 75,264,968	₩ 8,412,134	₩ 1,871,455	₩ 312,691,707
Trading derivative liabilities	1,194,393	-	-	-	-	-	1,194,393
Hedging derivative liabilities	-	-	-	8,124	10,563	-	18,687
Borrowings	6,378,402	895,018	1,065,617	1,371,948	5,745,041	2,213,979	17,670,005
Debentures	193,767	1,556,980	5,566,101	5,900,707	7,691,021	1,199,076	22,107,652
Other financial liabilities	17,428,259	6,416	5,985	112,498	18,063	655	17,571,876
Lease liabilities	9,603	12,492	17,513	31,600	125,737	3,203	200,148
	<u>₩ 177,132,757</u>	<u>₩ 42,354,668</u>	<u>₩ 41,986,271</u>	<u>₩ 82,689,845</u>	<u>₩ 22,002,559</u>	<u>₩ 5,288,368</u>	<u>₩ 371,454,468</u>

(*1) Cash flows of principal and interest are included.

(*2) Unmatured instruments, such as deposits that are contractually repayable on demand or on short notice, are classified under the 'Less than 1 month' category.

Classification (*1 and *2)	December 31, 2021						Total
	Less than 1 month	1 month– 3 months	3 months– 6 months	6 months– 1 year	1 year– 5 years	More than 5 years	
Deposits due to customers	₩ 152,568,276	₩ 29,731,537	₩ 37,103,580	₩ 64,729,593	₩ 6,200,678	₩ 1,985,220	₩ 292,318,884
Financial liabilities at FVTPL	9,936	-	-	9,749	-	-	19,685
Trading derivative liabilities	484,984	-	-	-	-	-	484,984
Hedging derivative liabilities	69	701	611	330	298	-	2,009
Borrowings	5,979,318	808,689	992,943	1,214,702	4,268,347	1,923,097	15,187,096
Debentures	1,018,316	991,763	2,428,817	7,457,487	10,202,733	1,228,577	23,327,693
Other financial liabilities	14,630,298	2,664	7,607	93,548	11,068	-	14,745,185
Lease liabilities	8,112	12,224	16,190	28,206	129,154	4,221	198,107
	<u>₩ 174,699,309</u>	<u>₩ 31,547,578</u>	<u>₩ 40,549,748</u>	<u>₩ 73,533,615</u>	<u>₩ 20,812,278</u>	<u>₩ 5,141,115</u>	<u>₩ 346,283,643</u>

(*1) Cash flows of principal and interest are included.

(*2) Unmatured instruments, such as deposits that are contractually repayable on demand or on short notice, are classified under the 'Less than 1 month' category.

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35. Risk disclosure of financial instruments (cont'd)

35.3 Liquidity risk (cont'd)

35.3.4 Maturity analysis of off-balance accounts

Guarantees and loan commitments, including guarantees for debenture issuance and guarantees for loans, which are financial guarantees provided by the Group, have expiration dates. However, under the term of the guarantees and loan commitments, timely payment shall be made upon demand by the counterparty. Details of off-balance accounts as of December 31, 2022 and 2021, are as follows (Korea won in millions):

Classification	December 31, 2022	December 31, 2021
Loan commitment (*1)	₩ 110,602,664	₩ 105,353,775
Guarantees and endorsed bills (*1)	6,662,168	6,163,610
	₩ 117,264,832	₩ 111,517,385

(*1) The amount of financial guarantee contracts is included. The total financial guarantee contracts amount to ₩3,983,521 million and ₩4,491,010 million as of December 31, 2022 and 2021, respectively.

35.4 Currency risk

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

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

Classification	December 31, 2022					Total
	USD	JPY	EUR	CNY	Others	
Assets:						
Cash and due from banks	₩ 2,819,599	₩ 166,450	₩ 204,416	₩ 47,621	₩ 201,840	₩ 3,439,926
Financial assets at FVTPL	1,002,832	-	18,396	-	-	1,021,228
Derivative assets	110,801	-	-	-	-	110,801
Financial assets at FVTOCI	2,815,338	-	238	-	11,763	2,827,339
Financial assets at amortized cost	9,810,200	220,536	513,939	25,096	234,516	10,804,287
Other financial assets	858	-	-	804	1,795	3,457
	₩ 16,559,628	₩ 386,986	₩ 736,989	₩ 73,521	₩ 449,914	₩ 18,207,038
Liabilities:						
Deposits	₩ 7,806,731	₩ 291,754	₩ 355,139	₩ 37,652	₩ 88,526	₩ 8,579,802
Derivative liabilities	35,849	-	-	-	-	35,849
Borrowings	4,972,665	44,734	309,628	9,166	141,313	5,477,506
Debentures	3,273,951	-	-	-	34,336	3,308,287
Other financial liabilities	1,132,747	18,064	59,640	4,069	25,401	1,239,921
	₩ 17,221,943	₩ 354,552	₩ 724,407	₩ 50,887	₩ 289,576	₩ 18,641,365

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35. Risk disclosure of financial instruments (cont'd)

35.4 Currency risk (cont'd)

Classification	December 31, 2021					
	USD	JPY	EUR	CNY	Others	Total
Assets:						
Cash and due from banks	₩ 2,371,959	₩ 109,410	₩ 97,049	₩ 154,203	₩ 297,575	₩ 3,030,196
Financial assets at FVTPL	763,165	-	17,302	-	-	780,467
Derivative assets	54,542	-	-	-	-	54,542
Financial assets at FVTOCI	1,461,909	-	238	-	12,134	1,474,281
Financial assets at amortized cost	8,604,928	173,997	445,525	4,533	219,286	9,448,269
Other financial assets	524	-	-	-	725	1,249
	<u>₩ 13,257,027</u>	<u>₩ 283,407</u>	<u>₩ 560,114</u>	<u>₩ 158,736</u>	<u>₩ 529,720</u>	<u>₩ 14,789,004</u>
Liabilities:						
Deposits	₩ 6,849,836	₩ 119,729	₩ 324,550	₩ 21,055	₩ 110,044	₩ 7,425,214
Derivative liabilities	11,025	-	-	-	-	11,025
Borrowings	3,330,311	39,182	212,032	4,533	146,367	3,732,425
Debentures	2,650,462	-	80,596	-	34,355	2,765,413
Other financial liabilities	1,091,279	8,074	41,289	446	45,345	1,186,433
	<u>₩ 13,932,913</u>	<u>₩ 166,985</u>	<u>₩ 658,467</u>	<u>₩ 26,034</u>	<u>₩ 336,111</u>	<u>₩ 15,120,510</u>

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35. Risk disclosure of financial instruments (cont'd)

35.5 Offsetting financial assets and liabilities

Details of financial assets that are set off and subject to an enforceable master netting arrangement or similar agreement as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022					
	Gross amounts of recognized financial assets	Gross amounts of recognized financial liabilities to be set off	Net amounts of financial assets presented in the consolidated statement of financial position	Non-offsetting amount		Net amounts
				Financial instruments	Cash collateral received	
Derivative assets	₩ 1,089,745	₩ -	₩ 1,089,745	₩ 874,145	₩ 96,132	₩ 119,468
Loans - bonds purchased under resale agreements	13,792,055	-	13,792,055	13,789,342	-	2,713
Receivables - receivable spot exchange	766,515	-	766,515	766,120	-	395
Receivables - receivable spot exchange in foreign currency	511,395	-	511,395	444,219	-	67,176
Receivables - domestic exchange settlement debits	13,372,640	11,658,474	1,714,166	-	-	1,714,166
Receivables - intercompany receivables	15,809	-	15,809	-	-	15,809
	<u>₩ 29,548,159</u>	<u>₩ 11,658,474</u>	<u>₩ 17,889,685</u>	<u>₩ 15,873,826</u>	<u>₩ 96,132</u>	<u>₩ 1,919,727</u>
Classification	December 31, 2021					
	Gross amounts of recognized financial assets	Gross amounts of recognized financial liabilities to be set off	Net amounts of financial assets presented in the consolidated statement of financial position	Non-offsetting amount		Net amounts
				Financial instruments	Cash collateral received	
Derivative assets	₩ 531,414	₩ -	₩ 531,414	₩ 320,887	₩ 61,685	₩ 148,842
Loaned securities	58,791	-	58,791	58,791	-	-
Loans - bonds purchased under resale agreements	17,770,500	-	17,770,500	17,770,366	-	134
Receivables - receivable spot exchange	484,909	-	484,909	483,674	-	1,235
Receivables - receivable spot exchange in foreign currency	269,902	-	269,902	216,144	-	53,758
Receivables - domestic exchange settlement debits	10,083,135	9,724,458	358,677	-	-	358,677
Receivables - intercompany receivables	1,570,939	-	1,570,939	-	-	1,570,939
	<u>₩ 30,769,591</u>	<u>₩ 9,724,458</u>	<u>₩ 21,045,133</u>	<u>₩ 18,849,863</u>	<u>₩ 61,685</u>	<u>₩ 2,133,585</u>

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35. Risk disclosure of financial instruments (cont'd)

35.5 Offsetting financial assets and liabilities (cont'd)

Details of financial liabilities that are set off and subject to an enforceable master netting arrangement or similar agreement as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022					
	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets to be set off	Net amounts of financial liabilities presented in the consolidated statement of financial position	Non-offsetting amount		Net amounts
				Financial instruments	Cash collateral provided	
Derivative liabilities	₩ 1,213,080	₩ -	₩ 1,213,080	₩ 810,214	₩ 44,406	₩ 358,460
Borrowings - bonds sold under repurchase agreements	1,218,881	-	1,218,881	1,218,881	-	-
Other financial liabilities - payable spot exchange	444,276	-	444,276	444,219	-	57
Other financial liabilities - payable spot exchange in foreign currency	833,284	-	833,284	766,120	-	67,164
Other financial liabilities - domestic exchange settlement credits	16,698,028	11,658,474	5,039,554	-	-	5,039,554
Other financial liabilities - intercompany payables	437	-	437	-	-	437
	<u>₩ 20,407,986</u>	<u>₩ 11,658,474</u>	<u>₩ 8,749,512</u>	<u>₩ 3,239,434</u>	<u>₩ 44,406</u>	<u>₩ 5,465,672</u>

Classification	December 31, 2021					
	Gross amounts of recognized financial liabilities	Gross amounts of recognized financial assets to be set off	Net amounts of financial liabilities presented in the consolidated statement of financial position	Non-offsetting amount		Net amounts
				Financial instruments	Cash collateral provided	
Financial liabilities at FVTPL	₩ 19,685	₩ -	₩ 19,685	₩ 19,685	₩ -	₩ -
Derivative liabilities	486,989	-	486,989	402,790	7,087	77,112
Borrowings - bonds sold under repurchase agreements	989,457	-	989,457	989,457	-	-
Other financial liabilities - payable spot exchange	216,194	-	216,194	216,144	-	50
Other financial liabilities - payable spot exchange in foreign currency	537,377	-	537,377	483,674	-	53,703
Other financial liabilities - domestic exchange settlement credits	12,933,500	9,724,458	3,209,042	-	-	3,209,042
Other financial liabilities - intercompany payables	536	-	536	-	-	536
	<u>₩ 15,183,738</u>	<u>₩ 9,724,458</u>	<u>₩ 5,459,280</u>	<u>₩ 2,111,750</u>	<u>₩ 7,087</u>	<u>₩ 3,340,443</u>

35. Risk disclosure of financial instruments (cont'd)

35.6 Interest rate benchmark reform

35.6.1 Risks arising from interest rate benchmark reform

The key risks that are exposed to the Group arising from interest rate benchmark reform are interest rate risk, operational risk, contract risk and others. The key risks for the Group arising from the reform are as follows:

- Interest rate risk: The Group's EVE could decrease due to the transition to alternative benchmark rates.
- Operational risk: The loss events could occur due to lack of internal system, error on internal employee and others.
- Contract risk: The customer complaint could increase on modifying contractual interest rates or adding other conditions on existing contracts.

35.6.2 The Group's risk management

In responding to the key risks, the Group conducts risk management activities as follows:

- Interest rate risk: The Group upgrades and monitors the related interest risk measurement system following the transition schedule of interest rate benchmark reform.
- Operational risk: The Group inspects the related IT systems and processes to prevent weaknesses in business operations.
- Contract risk: The Group takes appropriate actions, including separate negotiations with customers, adoption of prime rate, remission of fees and others, to minimize future occurrence of civil complaints and lawsuits.

35.6.3 The Group's progress

The Group is working on a transition to alternative benchmark interest rates for loans, debt securities, derivative instruments and off-balance accounts. The Group is taking steps in contract modifications for the existing commitments and is preparing the new commitments, subject to transition to alternative benchmark interest rates. For the derivative instruments, the Group determines to apply the ISDA's Fallbacks Protocol and finalizes to develop the related IT system.

35.6.4 Exposures that are yet to transition to an alternative benchmark rate

Details of financial instruments that are yet to transition to an alternative benchmark rate as of December 31, 2022, are as follows, and the financial instruments maturing before the transition are excluded (Korean won in millions):

Classification	USD (*1)	
Non-derivative financial assets	₩	1,781,615
Derivatives		5,454,459
Guarantees, commitments, etc.		12,835
	₩	7,248,909

(*1) Exposures maturing before June 30, 2023, of overnight, one month, three months, six months and 12 months USD LIBOR are excluded.

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36. 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):

All financial instruments at fair value are categorized into one of the following three fair value hierarchy levels:

Level 1: Quoted prices (unadjusted) in active markets for identical assets or liabilities

Level 2: Inputs other than quoted prices included in Level 1 that are observable for the asset or liability, either directly (i.e., as prices) or indirectly (i.e., derived from prices)

Level 3: Inputs for the asset or liability that are not based on the observable market data (unobservable inputs)

Classification	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at FVTPL	₩ 357,537	₩ 10,474,800	₩ 2,739,207	₩ 13,571,544
Derivative assets	-	1,089,744	1	1,089,745
Financial assets at FVTOCI	10,589,193	18,464,289	283,182	29,336,664
	<u>₩ 10,946,730</u>	<u>₩ 30,028,833</u>	<u>₩ 3,022,390</u>	<u>₩ 43,997,953</u>
Financial liabilities:				
Derivative liabilities	₩	₩ 1,194,034	₩ 19,046	₩ 1,213,080
Classification	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Financial assets:				
Financial assets at FVTPL	₩ 993,015	₩ 10,077,925	₩ 2,458,721	₩ 13,529,661
Derivative assets	-	529,992	1,422	531,414
Financial assets at FVTOCI	8,726,233	17,295,106	265,223	26,286,562
	<u>₩ 9,719,248</u>	<u>₩ 27,903,023</u>	<u>₩ 2,725,366</u>	<u>₩ 40,347,637</u>
Financial liabilities:				
Financial liabilities at FVTPL	₩ -	₩ 19,685	₩ -	₩ 19,685
Derivative liabilities	-	485,692	1,297	486,989
	<u>₩ -</u>	<u>₩ 505,377</u>	<u>₩ 1,297</u>	<u>₩ 506,674</u>

Financial assets and liabilities at FVTPL, financial assets at FVTOCI and derivative assets and liabilities are recognized at fair value. 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.

Fair value of financial instruments traded in an active market is determined by using the published price quotations based on market prices. However, if the market for a financial instrument is not active, fair value is determined by using a valuation method.

The fair value of debt securities is calculated by the average of the appraised values of KIS Pricing, Korea Asset Pricing, NICE P&I and FN Pricing.

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36. Fair value hierarchy of financial instruments (cont'd)

The following table gives information about how the fair values of these financial assets and financial liabilities included in Level 2 and Level 3 are determined (in particular, the valuation method, significant unobservable inputs and relationship of unobservable inputs to fair value).

a) Financial instruments that are measured at fair value

① Valuation methods and input variables for each type of financial instrument classified into Level 2 as of December 31, 2022 and 2021, are as follows:

Classification	Valuation methods	Input variables
Financial assets at FVTPL	Net asset value method	Values of underlying assets, such as equity securities, debt securities, etc.
Derivative assets	Discounted cash flow Intrinsic forward rate Option-pricing model Monte Carlo simulation	Risk-free rate of return Forward rate Volatility of underlying assets Discount rate Foreign exchange rate
Financial assets at FVTOCI	Discounted cash flow	Discount rate
Derivative liabilities	Discounted cash flow Intrinsic forward rate Option-pricing model Monte Carlo simulation	Risk-free rate of return Forward rate Volatility of underlying assets Discount rate Foreign exchange rate

② Financial assets and financial liabilities that are classified as Level 3 are measured at fair value based on the valuation performed by independent professionals or the estimated amount using the valuation model of the Group. Unobservable input variables are calculated from an internal system and suitability of the unobservable input variables is reviewed at all times. The valuation council of fair value reviews the valuation model of the Group and reviews and approves the suitability of the valuation model.

Valuation methods and input variables for each type of financial instrument classified into Level 3 as of December 31, 2022 and 2021, are as follows:

Classification	Valuation methods	Input variables
Financial assets at FVTPL	Net asset value method Discounted cash flow Comparable companies valuation method Binomial model	Discount rate Values of underlying assets, such as equity securities, debt securities, etc. Growth rate Volatility of underlying assets Liquidation value
Derivative assets	Discounted cash flow Binomial model Monte Carlo simulation	Risk-free rate of return Discount rate Correlation between long-term and short-term interest rates Volatility of stock prices
Financial assets at FVTOCI	Net asset value method Discounted cash flow Comparable companies valuation method	Discount rate Growth rate Values of underlying assets, such as equity securities, debt securities, etc. Liquidation value
Derivative liabilities	Discounted cash flow Binomial model Monte Carlo simulation	Risk-free rate of return Discount rate Correlation between long-term and short-term interest rates

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Classification	Valuation methods	Input variables
		Volatility of stock prices

36. Fair value hierarchy of financial instruments (cont'd)

a) Financial instruments that are measured at fair value

- ③ Significant but unobservable inputs used in valuing financial instruments measured at fair value and classified into Level 3 as of December 31, 2022 and 2021, are as follows:

Classification	Input variables, which are significant, but unobservable, in measurement of fair value	December 31, 2022	December 31, 2021	Impact of changes in significant unobservable inputs on fair value measurement
Financial assets at FVTPL	Growth rate	0.00%	1.00%	Fair value increases as growth rate increases.
	Volatility of underlying assets	28.62%–46.53%	23.32%–25.49%	Variation of fair value increases as volatility of underlying assets increases.
	Liquidation value	0.00%	0.00%	Fair value increases as liquidation value increases.
Derivative assets	Discount rate	4.71%–18.51%	4.74%–16.69%	Fair value decreases as discount rate increases.
	Correlation between long-term and short-term interest rates	26.11%–41.72%	15.22%–88.99%	Fair value increases or decreases as correlation changes due to the influence of traded product and market conditions.
	Volatility of stock prices	46.53%	23.32%–25.05%	Variation of fair value increases as volatility of stock prices increases.
Financial assets at FVTOCI	Growth rate	0.00%	0.00%–1.00%	Fair value increases as growth rate increases.
	Discount rate	9.28%–17.98%	10.42%–17.09%	Fair value decreases as discount rate increases.
	Liquidation value	0.00%		Fair value increases as liquidation value increases.
Derivative liabilities	Correlation between long-term and short-term interest rates	26.11%–41.72%	15.22%–88.99%	Fair value increases or decreases as correlation changes due to the influence of traded product and market conditions.
	Volatility of underlying assets	46.53%	23.32%–25.05%	Variation of fair value increases as volatility of stock prices increases.

b) Financial instruments that are measured at amortized cost

- ① Valuation methods and input variables for each type of financial assets and liabilities classified into Level 2 as of December 31, 2022 and 2021, are as follows:

Classification	Valuation methods	Input variables
Securities measured at amortized cost	Discounted cash flow	Discount rate
Debentures	Discounted cash flow	Risk-free rate of return Credit spread

36. Fair value hierarchy of financial instruments (cont'd)

- ② Valuation methods and input variables for each type of financial assets and liabilities classified into Level 3 as of December 31, 2022 and 2021, are as follows:

Classification	Valuation methods	Input variables
Loans measured at amortized cost	Discounted cash flow	Market yield Credit spread Liquidity risk premium Other spread
Deposits	Discounted cash flow	Market yield Other spread
Borrowings	Discounted cash flow	Market yield Other spread
Other financial liabilities	Discounted cash flow	Market yield Other spread

Financial assets and financial liabilities that are classified as Level 3 are measured at fair value based on the valuation performed by independent professionals or the estimated amount using the valuation model of the Bank. Unobservable input variables are calculated from an internal system, and suitability of the unobservable input variables is reviewed at all times. The valuation council of fair value reviews the valuation model of the Bank and reviews and approves the suitability of the valuation model.

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36. Fair value hierarchy of financial instruments (cont'd)

The following table shows the sensitivity analysis of the fair value of Level 3 financial instruments.

The sensitivity analysis of the financial instruments has been performed by classifying them as favorable and unfavorable changes based on how changes in unobservable assumptions have effects on the fluctuations of financial instruments' value. When the fair value of financial instruments is affected by more than one input variable, the results from assuming the most favorable and the most unfavorable changes are shown in the table below. The sensitivity analysis was performed for two types of Level 3 financial instruments: (a) interest rate derivatives, equity derivatives, equity securities and loans whose fair value changes are recognized in net income and (b) equity securities whose fair value changes are recognized in other comprehensive income.

Sensitivity analysis by type of financial instruments as a result of changes in input parameters as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022				
	Book value	Net income (loss)		Other comprehensive income (loss)	
		Favorable	Unfavorable	Favorable	Unfavorable
Financial assets:					
Financial assets at FVTPL (*1)	₩ 2,739,207	₩ 9,093	₩ (6,701)	₩ -	₩ -
Derivative assets (*2)	1	1	(1)	-	-
Financial assets at FVTOCI (*1)	283,182	-	-	10,564	(6,249)
	<u>₩ 3,022,390</u>	<u>₩ 9,094</u>	<u>₩ (6,702)</u>	<u>₩ 10,564</u>	<u>₩ (6,249)</u>
Financial liabilities:					
Derivative liabilities (*2)	₩ 19,046	₩ -	₩ (2)	₩ -	₩ -

(*1) Fair value changes of equity securities are calculated by increasing or decreasing the growth rate (-1%–1%) and the discount rate or the correlation between liquidation value (-1%–1%) and discount rate.

(*2) Fair value changes of derivatives are calculated by increasing or decreasing historical fluctuation rate of stock price by 10% and interest by 2%.

Classification	December 31, 2021				
	Book value	Net income (loss)		Other comprehensive income (loss)	
		Favorable	Unfavorable	Favorable	Unfavorable
Financial assets:					
Financial assets at FVTPL (*1)	₩ 2,458,721	₩ 17,982	₩ (12,591)	₩ -	₩ -
Derivative assets (*2)	1,422	142	(299)	-	-
Financial assets at FVTOCI (*1)	265,223	-	-	8,165	(6,350)
	<u>₩ 2,725,366</u>	<u>₩ 18,124</u>	<u>₩ (12,890)</u>	<u>₩ 8,165</u>	<u>₩ (6,350)</u>
Financial liabilities:					
Derivative liabilities (*2)	₩ 1,297	₩ 217	₩ (71)	₩ -	₩ -

(*1) Fair value changes of equity securities are calculated by increasing or decreasing the growth rate (0–1%) and the discount rate or the correlation between liquidation value (-1%–1%) and discount rate.

(*2) Fair value changes of derivatives are calculated by increasing or decreasing historical fluctuation rate of stock price by 10% and interest by 2%.

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36. Fair value hierarchy of financial instruments (cont'd)

Changes in Level 3 financial instruments for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

	For the year ended December 31, 2022					
	Beginning	Gain (loss)	Other comprehensive income	Purchase/issue	Disposal/settlement	Ending
Financial instruments:						
Financial assets at FVTPL	₩ 2,458,721	₩ (37,461)	₩ -	₩ 532,397	₩ (214,450)	₩ 2,739,207
Net derivative assets	125	(18,695)	-	103	(578)	(19,045)
Financial assets at FVTOCI	265,223	-	16,959	1,000	-	283,182
	<u>₩ 2,724,069</u>	<u>₩ (56,156)</u>	<u>₩ 16,959</u>	<u>₩ 533,500</u>	<u>₩ (215,028)</u>	<u>₩ 3,003,344</u>
	For the year ended December 31, 2021					
	Beginning	Gain (loss)	Other comprehensive income	Purchase/issue	Disposal/settlement	Ending
Financial instruments:						
Financial assets at FVTPL	₩ 2,100,024	₩ 65,345	₩ -	₩ 691,083	₩ (397,731)	₩ 2,458,721
Net derivative assets	(745)	646	-	344	(120)	125
Financial assets at FVTOCI	245,080	-	20,177	-	(34)	265,223
	<u>₩ 2,344,359</u>	<u>₩ 65,991</u>	<u>₩ 20,177</u>	<u>₩ 691,427</u>	<u>₩ (397,885)</u>	<u>₩ 2,724,069</u>

For the years ended December 31, 2022 and 2021, gain (loss) related to financial assets and liabilities is included in gain (loss) on financial instruments at FVTPL in the consolidated statements of profit or loss and other comprehensive income.

Total valuation gain and loss, which are recognized as other comprehensive income (loss), are related to unlisted equity securities for strategic purposes as of December 31, 2022 and 2021.

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36. Fair value hierarchy of financial instruments (cont'd)

Gain or loss recognized from changes in Level 3 financial instruments for the years ended December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	
	Profit or loss during the reporting period	Profit or loss related to financial instruments held at the end of the reporting period
Gain on financial assets at FVTPL	₩ (56,156)	₩ (46,288)

Classification	For the year ended December 31, 2021	
	Profit or loss during the reporting period	Profit or loss related to financial instruments held at the end of the reporting period
Gain on financial assets at FVTPL	₩ 65,990	₩ 75,599

The Group recognizes transfers between the fair value hierarchy levels as of the event or change in circumstances that caused the transfer. There are no changes in valuation techniques, which are used as measurement methods of fair value of financial instruments, which are classified as Level 2 and Level 3. There are no significant changes to the business environment or economic environment, which affect the fair value of financial instruments owned by the Group for the years ended December 31, 2022 and 2021.

Fair value and carrying amount of financial assets and liabilities that are recorded at amortized cost as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022				
	Level 1	Level 2	Level 3	Fair value	Book value
Financial assets:					
Cash and due from banks	₩ 4,653,258	₩ 10,259,206	₩ -	₩ 14,912,464	₩ 14,912,464
Securities at amortized cost	775,817	13,990,319	-	14,766,136	15,490,104
Loans at amortized cost	-	-	298,714,461	298,714,461	308,633,317
Other financial assets	-	-	2,851	2,851	2,852
	<u>₩ 5,429,075</u>	<u>₩ 24,249,525</u>	<u>₩ 298,717,312</u>	<u>₩ 328,395,912</u>	<u>₩ 339,038,737</u>
Financial liabilities:					
Deposits	₩ -	₩ -	₩ 309,238,653	₩ 309,238,653	₩ 307,727,928
Borrowings	-	-	17,149,936	17,149,936	17,213,232
Debentures	-	20,686,308	-	20,686,308	21,121,965
Other financial liabilities (*1)	-	-	16,000,757	16,000,757	17,761,290
	<u>₩ -</u>	<u>₩ 20,686,308</u>	<u>₩ 342,389,346</u>	<u>₩ 363,075,654</u>	<u>₩ 363,824,415</u>

(*1) Interest payables included in the computation for fair value of deposits, borrowings and debentures are excluded from fair value of other financial liabilities.

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36. Fair value hierarchy of financial instruments (cont'd)

Classification	December 31, 2021					Book value
	Level 1	Level 2	Level 3	Fair value		
Financial assets:						
Cash and due from banks	₩ 4,207,662	₩ 3,173,208	₩ -	₩ 7,380,870	₩ 7,380,870	
Securities at amortized cost	1,045,777	14,166,195	-	15,211,972	15,283,824	
Loans at amortized cost	-	-	308,775,615	308,775,615	296,441,906	
Other financial assets	-	-	185	185	153	
	<u>₩ 5,253,439</u>	<u>₩ 17,339,403</u>	<u>₩ 308,775,800</u>	<u>₩ 331,368,642</u>	<u>₩ 319,106,753</u>	
Financial liabilities:						
Deposits	₩ -	₩ -	₩ 291,845,210	₩ 291,845,210	₩ 290,595,674	
Borrowings	-	-	15,003,119	15,003,119	15,001,425	
Debentures	-	22,441,814	-	22,441,814	22,431,474	
Other financial liabilities (*1)	-	-	13,985,300	13,985,300	14,938,963	
	<u>₩ -</u>	<u>₩ 22,441,814</u>	<u>₩ 320,833,629</u>	<u>₩ 343,275,443</u>	<u>₩ 342,967,536</u>	

(*1) Interest payables included in the computation for fair value of deposits, borrowings and debentures are excluded from fair value of other financial liabilities.

Fair value of financial instruments traded in an active market is determined by using the published price quotations based on market prices; however, if the market for a financial instrument is not active, fair value is determined by using a valuation method.

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37. RELATED-PARTY TRANSACTIONS:

Details of related parties of the Group as of December 31, 2022, are as follows:

Classification	Company
Ultimate parent company	NACF
Parent company	NH Financial Group Inc.
Associates	Korea Credit Bureau Co., Ltd.; NH-AJUIB Growth 2013 PEF; IBK-NH Smallgiant PEF; Kyunggi-DSC Superman Investment Fund No. 1; NH Agri-Biz Value Creative 1st PEF; NH-AJU Digital Fund; NH Venture-AJU IB New Growth Fund; NH-NAU Agro Food 1st Private Equity Fund; NH-NAU Agro Food 2nd Private Equity Fund; 2012 sunlight Co., Ltd.; Seasons Shipping Co., Ltd; NH-NICE Venture Fund-1 ; IFC KOREA INC.; NH Digital Alliance Fund; NH Agtech Innovation Private Equity Fund; GNO Co., Ltd; GARAK SUSAN CO., LTD.; PROTEK KOREA CO., LTD.; Cardo Inc.; PARADISE Co., Ltd.; MEDI LAB CO., LTD.; NH-DX Open Innovation Fund
Other related parties	NH Life Insurance Co., Ltd.; NH Property and Casualty Insurance Co., Ltd.; NH Investment & Securities Co., Ltd.; NH NongHyup Capital Co., Ltd.; NH Savings Bank Co., Ltd.; NH REITs Management Co., Ltd.; NH Venture Investment Co., Ltd.; NH-Amundi Overseas Senior Loan Private Fund 2; NH-Amundi Global TPG Asia VII Private Master Fund(USD)(F0F); NH-Amundi MBKP Special Situations I Private Fund 1; NH-Amundi Global Infra Fund No. 13; VOGO U.S. Buyout Private Fund IV; MMT; Woori Global Real Estate Private Balanced Fund; NH Futures Co., Ltd.; NH Investment & Securities (H.K.) Ltd.; NH Absolute Global Opportunity Fund; NH Absolute Return Investment Strategies Fund; NH Securities Vietnam Co., Ltd.; NH Securities America, Inc.; NH Absolute Return Partners Pte, Ltd.; PT. NH Korindo Securities Indonesia; Beijing NH Investment Advisory Co., Ltd.; NH INVESTMENT & SECURITIES EUROPE LTD; NH Sea I Fund; NH Absolute Return PEF No. 1; NH New Growth Private Equity Fund; GnM Holdings Co., Ltd.; Granmonster Co., Ltd.; GnM Performance Co., Ltd.; NH Hedge Co., Ltd.; Principal Guaranteed Trust of NH Investment & Securities; Warmachine 10th Co., Ltd.; Tlindependence; Cube 5th Co., Ltd.; Merigogo 4th Co., Ltd.; MMT; Parkcity First Co., Ltd.; yongintechnologisno1., Ltd; Song Am Park 2nd; Mi Mi Day 1st Co., Ltd; ARA Korea Private Real Estate Fund No. 10; Pacific Private Real Estate Fund No. 63-1; SMARTKAMSAM2ND Co., Ltd.; Mi Mi Day 3rd Co., Ltd; Newstart Yeonsinnae second Co., Ltd; Mi Mi Day 2nd Co., Ltd; PV Landscape Co., Ltd.; CheongJu Express D-Two Co., Ltd; New World Myeongji Tres Co., Ltd; NHHunin 2nd Co., Ltd.; NewworldGeol-dong 1st Co., Ltd; NewworldGeol-dong 2nd Co., Ltd; Newforest 2nd Co., Ltd; Newforest 3rd Co., Ltd; GyeongsanLogis 3rd Co., Ltd; GoyangLogis 1st Co., Ltd; CubeSkyline; RASupyo 1st Co., Ltd; Galaxy All-one 1st Co., Ltd; RAHaeundae 4th Co., Ltd; EIP Investment Infrastructure No. 1 PEF; NH-Amundi Global Infra Fund No. 6; PIA Infrastructure Private Equity Fund No. 4; NH Absolute Mezzanine Private Equity Fund No. 2; NH Absolute Kosdaq Venture Mezzanine Alpha Private Equity Fund No. 1; Eugene Aviation Private Equity Fund No. 9; Tiger Private Fund No. 61; Absolute Lion Private Fund No. 1; NH Absolute Equity Multi General Private Placement Investment Trust No. 1; NH Absolute Project On Plus General Private Placement Investment Trust; YRD 1st Co., Ltd; Pinemilkthree Co., Ltd.; SMARTWIRYE1ST Co., Ltd.; Uncas The Second; Uncas The First; Industry Kimhae 1st Co., Ltd; Industry Kimhae 2nd Co., Ltd; PLN 5th Co., Ltd; HeyYS 1st Co., Ltd; Galaxy Yeouido Co., Ltd; Cube Culture First Co., Ltd; MJ Hangdong 5th Co., Ltd.; MJ Hangdong 4th Co., Ltd.; MJ Hangdong 3rd Co., Ltd.; Blue Sea Jinhae; RA2nd; The Sharp Gwangyang Ma-dong.inc; RA3rd; ModernBeta Co., Ltd; RA4th; Cloud 1st Co., Ltd; PrimaNonhyun Charlie Co., Ltd; Busan Minam 2nd Co., Ltd; Busan Minam 1st Co., Ltd; NewWorld Jeonbang 4th; BestEH 1st; Gangreung Mono 1st; NH Absolute KOSDAQ Venture Mezzanine Private equity fund No. 1; EIP Solar One; Suimei LP; NH-Amundi Asset Management Co., Ltd.; Genesis No. 1 Private Equity Fund; LB Private Equity Fund III-1; Highland 2022 9th Private Equity Fund; Blue Ocean Corporate's Financial Stabilization PEF No. 1; NH-LB Growth Champ 2011-4 PEF; INIAS NH Private Equity Joint Venture; Truben Global Healthcare Private Equity Joint Venture; Yeouido munhwa broadcasting PFV; NH SPECIAL PURPOSE ACQUISITION 19 COMPANY; Stassets DA value Investment Association No. 2; Stassets DA value Investment Association No. 3; Midas PEF No. 1; Global Opportunity Private Equity Joint Venture; Ascendo New Generation Healthcare Investment; NH-AJU KOSDAQ SCALEUP FUND; Sprott Global Renewable Private Equity Fund I; NH-Paxtone Private Equity Fund; NH-OPUS Corporate Financial Stability Private Equity Fund; NH-OPUS II Corporate Financial Stability Private Equity Fund; Sandonghansangchieop Co., Ltd.; Seoulseongbochieop Co., Ltd.; Daguang Real Estate Developing Co., Ltd.; Edupalace Inc.; Edupalace Co., Ltd.; Square-DAvalue Fund NO 1; MK Ventures-K Clavis Growth capital Venture Fund 1; Mastern No. 51 Yeouido PFV Co., Ltd; Smilegate Vietnam Kairos Private Equity Fund #1; Lodestone Second Private Equity Fund; NH-Soo Investment innovative growth M&A fund; NH Co-Investment Private Equity Fund ; NH IBKC High-tech 1 Fund; Korea Investment-Brick Investment New Technology Investment Fund 1st; NS Partners Inc; Harvest Private Equity Fund II; HIZE EBEST The Current Fund No. 2; NH-SYNERGY BIO Fund; NH SYNERGY M.C.E. New TechnologyInvestment Fund; NH-Meritz Contents 1 Fund; NH-IBKC Bio New Technology Fund; NH-Horizon Secondary Fund; NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd.; NH SPECIAL PURPOSE ACQUISITION 21 COMPANY; Kyobo NH Healthcare Fund I; Daishin-GVA New Technology Investment Fund 1st; The Lakebridge-Samsung Securities Growth Fund I ; DAYLI Swanson Bio Healthcare Fund 8; LD New Technology Business Investment Fund 2; NH Kyobo AI Solution Investment Fund; NH IBKC Dental Solution Investment Fund; NH MIDAS 1st Private Equity Fund; Recovery Partners Co., Ltd; NH SPECIAL PURPOSE ACQUISITION 22 COMPANY; Kiwoon AI New Technology Business Investment Fund; Meritz-NH healthcare 1 Fund; Smilegate Aphrodite Sub One Fund; Smart Quaternary Industry Square Investment Fund 2; NH Absolute Mezzanine Private Equity Fund No. 1; NH Absolute Pre IPO Private Equity Fund No. 1; NH Absolute Pre IPO Mezzanine Private Equity Fund No. 1; IBKS Green Private Equity Fund; KCLAVIS Cloud Fund No. 1; The Lakebridge-Samsung Securities Growth Fund I ; J&Hercules Private Equity Fund; Brick-Orbit 4 New Technology Business Investment Fund; STL Minerva Private Equity Fund; The Overseas Growth Fund 1; MIDAS No. 2 PRIVATE EQUITY FUND; Future Healthcare Fund; Global Robot Healthcare Investment Fund; DAYLI Swanson Bio Healthcare Fund 7; Kyobo Hanyang ESG Investment Fund; HI YG Win-win Fund No. 1; NH-Brain EV Fund; NH SPECIAL PURPOSE ACQUISITION 23 COMPANY

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37. Related-party transactions (cont'd)

Classification	Company
Other related parties	<p>Pentastone Bridge I Funds; SJGP YG Fund No. 1; NH-Alpha 1st Fund; NH-J&-IBKC Label Technology Fund; NH EBEST MATERIALS Fund No. 1; NH SPECIAL PURPOSE ACQUISITION 24 COMPANY; NH Absolute Mezzanine Private Equity Fund No. 3; POSITIVE Sobujang Venture Fund #1; NH-OPUS III Corporate Financial Stability Private Equity Fund; NH-Meritz Hightech Fund; NH SPECIAL PURPOSE ACQUISITION 25 COMPANY; NH SPECIAL PURPOSE ACQUISITION 27 COMPANY; NH SPECIAL PURPOSE ACQUISITION 26 COMPANY; NH-Daishin-Kyobo healthcare 1 Fund; NH-Principle Private Equity Fund; NH SPECIAL PURPOSE ACQUISITION 28 COMPANY; NH-U&S-Brain Pre-IPO Investment Fund; Nextrade Co., Ltd.; CO-OP Group (Tianjin) International Leasing Co., Ltd.; Dt & Investment NHC-DTNI Agirfood ABC Investment Association No.1; Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2; Attila Infra PEF No. 1; Korea Growth Opportunity Private Equity Fund I ; Stonebridge Rising Star Venture Fund No. 1; IFFCO-Kisan Finance Ltd; Geum-Wang FONE CO., Ltd; NH-IRIS ESG Fund; NH Agri-Food Venture Fund; NH-UON Fund No. 1; Korea-ASEAN Technology Fund 1; NH-Deep Dive Smart Logistics Fund; Korea-ASEAN Technology Fund 2; NH Young-Farmers Venture Fund; NH Agribusiness Group Inc.; NH Networks Co., Ltd.; NH Information System Co., Ltd.; Agricultural Cooperative Asset Management Co., Ltd.; NH Partners Co., Ltd.; NH Gimhae I&D Co., Ltd; NongHyup Hanaro Mart Inc.; Agricultural Corporation NongHyup Food Grain Inc.; Korea Agriculture Cooperative Marketing Inc.; NongHyup Logistics Service Inc.; NongHyup Chemical Co., Ltd.; NH NongHyup Trading Co., Ltd.; NongHyup-Agro Inc.; NongHyup Red Ginseng Co., Ltd.; Namhae Chemical Corporation; NongHyup Moguchon Inc.; NongHyup Feed Inc.; Nongwoo BIO Co., Ltd.; NH Heuk Sarang Co., Ltd.; NongHyup Food Inc.; Kongyoung Homeshopping Co., Ltd.; Agricultural Corporation Orion NongHyup Inc.; Home and Shopping Co., Ltd; NH-Hay Inc.; NonghHup TMR Co., Ltd.; PT NongHyup feed Indonesia; OL Va Ran. Inc.; NES Materials Corporation; Nisso-namhae Agro Co., Ltd.; Tosoh Namhae Silica Co., Ltd.; Korea NongHyup International; NongHyup America Inc.; NH Sanghai Trade Co., Ltd.; Sanglim Agricultural Co., Ltd.; Beijing Shinong Seed Co., Ltd.; Nongwoo Seed America Inc.; PT Koreana Seed Indonesia; Nongwoo Seed INDIA PVT. Ltd.; NONGWOOBIO TOHUMCULUK SANAYI TICARET ANONIM SIRKETI; TS Daesung H Professional Investment Type Private I Investment Company; Daewoo Logistics Corp.; H&D Logistics Corporation; Gwangyang International Container Terminal</p>

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37. Related-party transactions (cont'd)

Details of related-party transactions of the Group as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Company	December 31, 2022						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Ultimate parent company:							
NACF	₩ 112,787	81,291	73	43,786	1,785,896	185,810	43,941
Parent company:							
NH Financial Group Inc.	340	-	29	-	3,243	-	227,365
Associates:							
Korea Credit Bureau Co., Ltd.	-	-	-	-	436	-	-
Kyunggi-DSC Superman Investment Fund No. 1	-	-	-	-	218	-	-
NH Agri-Biz Value Creative 1st PEF	570	-	-	-	-	-	-
NH-AJU Digital Fund	-	-	-	-	530	-	-
NH Venture-AJU IB New Growth Fund	-	-	-	-	2,965	-	-
NH-NAU Agro Food 1st Private Equity Fund	96	-	-	-	-	-	-
NH-NAU Agro Food 2nd Private Equity Fund	174	-	-	-	-	-	-
2012 Sunlight Co., Ltd.	882	-	-	-	-	-	-
Seasons Shipping Co., Ltd.	1,105	-	-	-	-	-	-
NH Digital Alliance Fund	-	-	-	-	12,007	-	-
GNO Co., Ltd.	2,363	-	-	-	-	-	-
GARAK SUSAN CO., LTD.	146	-	-	-	-	-	-
PROTEK KOREA CO., LTD.	1,054	-	-	-	-	-	-
Cardo Inc.	7	-	-	-	359	-	-
PARADISE CO., LTD.	210	-	-	-	-	-	-
NH-DX Open Innovation Fund	-	-	-	-	4,194	-	-

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37. Related-party transactions (cont'd)

Company	December 31, 2022						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Other related parties:							
NH Life Insurance Co., Ltd.	₩ 2,118	107,653	1	665	25,996	36	4,171
NH Property and Casualty Insurance Co., Ltd.	1,735	14,438	1	-	10,273	6,234	-
NH Investment & Securities Co., Ltd.	50,454	250	68	236	459,727	-	7,607
NH Nonghyup Capital Co., Ltd.	5,836	-	4	-	742,642	-	6
NH Savings Bank Co., Ltd.	147	-	13	-	-	-	-
NH REITs Management Co., Ltd.	33	-	3	-	1,839	-	2
NH Venture Investment Co., Ltd.	30	-	3	-	11,731	-	52
NH Futures Co., Ltd.	105	-	-	251	72,474	-	25
GnM Holdings Co., Ltd.	-	-	-	-	1,352	-	-
Warmachine 10th Co., Ltd.	-	-	-	-	296	-	-
Tiindependence	-	-	-	-	155	-	-
Cube 5th Co., Ltd.	-	-	-	-	32	-	-
Merigogo 4th Co., Ltd.	-	-	-	-	425	-	-
Parkcity First co., Ltd.	-	-	-	-	97	-	-
yongintechnologisno1., Ltd	-	-	-	-	51	-	-
Song Am Park 2nd	-	-	-	-	147	-	-
Mi Mi Day 1st Co., Ltd	-	-	-	-	3,202	-	-
SMARTKAMSAM2ND Co., Ltd.	-	-	-	-	1,049	-	-
Mi Mi Day 3rd Co., Ltd	-	-	-	-	125	-	-
Newstart Yeonsinnae second Co., Ltd	-	-	-	-	142	-	-
Mi Mi Day 2nd Co., Ltd	-	-	-	-	202	-	-
PV Landscape Co., Ltd.	-	-	-	-	97	-	-
CheongJu Express D-Two Co., Ltd	-	-	-	-	137	-	-
New World Myeongji Tres Co., Ltd	-	-	-	-	116	-	-
NHHunin 2nd Co., Ltd.	-	-	-	-	1,691	-	-
NewworldGeol-dong 1st Co., Ltd	-	-	-	-	78	-	-
NewworldGeol-dong 2nd Co., Ltd	-	-	-	-	107	-	-
Newforest 2nd Co., Ltd	-	-	-	-	158	-	-
Newforest 3rd Co., Ltd	-	-	-	-	100	-	-
GyeongsanLogis 3rd Co., Ltd	-	-	-	-	65	-	-
GoyangLogis 1st Co., Ltd	-	-	-	-	40	-	-
CubeSkyline	-	-	-	-	115	-	-
RASupyo 1st Co., Ltd	-	-	-	-	648	-	-
Galaxy All-one 1st Co., Ltd	-	-	-	-	218	-	-
RAHaeundae 4th Co., Ltd	-	-	-	-	961	-	-
YRD 1st Co., Ltd	-	-	-	-	1,294	-	-
Pinemilkthree Co., Ltd.	-	-	-	-	40	-	-
Uncas The Second	-	-	-	-	3,461	-	-
Uncas The First	-	-	-	-	990	-	-
Industry Kimhae 1st Co., Ltd	-	-	-	-	65	-	-
Industry Kimhae 2nd Co., Ltd	-	-	-	-	89	-	-
PLN 5th Co, Ltd	-	-	-	-	1,280	-	-
HeyYS 1st Co., Ltd	-	-	-	-	11	-	-
Galaxy Yeouido Co., Ltd	-	-	-	-	148	-	-
Cube Culture First Co., Ltd	-	-	-	-	37	-	-
MJ Hangdong 5th Co., Ltd.	-	-	-	-	310	-	-
MJ Hangdong 4th Co., Ltd.	-	-	-	-	1,013	-	-
MJ Hangdong 3rd Co., Ltd.	-	-	-	-	1,377	-	-
Blue Sea Jinhae	-	-	-	-	427	-	-
RA2nd	-	-	-	-	80	-	-
The Sharp Gwangyang Ma-dong.inc	-	-	-	-	964	-	-

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37. Related-party transactions (cont'd)

Company	December 31, 2022						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Other related parties:							
RA3rd	₩ -	-	-	-	2,261	-	-
ModernBeta Co., Ltd	-	-	-	-	106	-	-
RA4th	-	-	-	-	288	-	-
Cloud 1st Co., Ltd	-	-	-	-	597	-	-
PrimaNonhyun Charlie Co., Ltd	-	-	-	-	495	-	-
Busan Minam 2nd Co., Ltd	-	-	-	-	40	-	-
Busan Minam 1st Co., Ltd	-	-	-	-	238	-	-
NewWorld Jeonbang 4th	-	-	-	-	1,190	-	-
BestEH 1 st	-	-	-	-	4,553	-	-
Gangreung Mono 1st	-	-	-	-	202	-	-
NH-Amundi Asset Management Co., Ltd.	249	-	26	-	70,582	-	229
Yeouido munhwa broadcasting PFV	27,212	-	-	-	6,364	-	-
NH SPECIAL PURPOSE ACQUISITION 19 COMPANY	-	-	-	-	19,360	-	216
Stassets DA value Investment Association No. 2	-	-	-	-	22	-	-
Stassets DA value Investment Association No. 3	-	-	-	-	10	-	-
Ascendo New Generation Healthcare Investment	-	-	-	-	99	-	-
NH-AJU KOSDAQ SCALEUP FUND	-	-	-	-	963	-	-
Square-DValue Fund NO 1	-	-	-	-	16	-	-
MK Ventures-K Clavis Growth capital Venture Fund 1	-	-	-	-	255	-	-
Smilegate Vietnam Kairos Private Equity Fund #1	-	-	-	-	338	-	-
NH-Soo Investment innovative growth M&A fund	-	-	-	-	9,150	-	12
NH-SYNERGY BIO Fund	-	-	-	-	560	-	-
NH-IBKC Bio New Technology Fund	-	-	-	-	22	-	-
NH-Horizon Secondary Fund	-	-	-	-	262	-	-
NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd.	-	-	-	-	9,526	-	148
Kyobo NH Healthcare Fund I	2,414	-	-	-	-	-	-
Daishin-GVA New Technology Investment Fund 1st	-	-	-	-	167	-	-
DAYLI Swanson Bio Healthcare Fund 8	-	-	-	-	103	-	-
NH IBKC Dental Solution Investment Fund	-	-	-	-	923	-	-
Recovery Partners Co., Ltd	8	-	-	-	36	-	-
NH SPECIAL PURPOSE ACQUISITION 22 COMPANY	-	-	-	-	2,715	-	31
Smart Quaternary Industry Square Investment Fund 2	-	-	-	-	2,813	-	-
DAYLI Swanson Bio Healthcare Fund 7	-	-	-	-	160	-	-
Kyobo Hanyang ESG Investment Fund	-	-	-	-	400	-	-

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37. Related-party transactions (cont'd)

Company	December 31, 2022						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Other related parties:							
NH SPECIAL PURPOSE ACQUISITION 23 COMPANY	₩ -	-	-	-	2,440	-	25
NH SPECIAL PURPOSE ACQUISITION 25 COMPANY	-	-	-	-	874	-	10
NH SPECIAL PURPOSE ACQUISITION 27 COMPANY	-	-	-	-	1,937	-	22
NH SPECIAL PURPOSE ACQUISITION 26 COMPANY	-	-	-	-	2,709	-	31
NH SPECIAL PURPOSE ACQUISITION 28 COMPANY	-	-	-	-	1,184	-	-
Dt & Investment NHC-DTNI Agirfood ABC Investment Association No.1	-	-	-	-	10,364	-	19
Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2	-	-	-	-	2,705	-	2
Korea Growth Opportunity Private Equity Fund I	-	-	-	-	335	-	-
Geum-Wang FONE CO., Ltd	-	-	-	-	176	-	-
NH-IRIS ESG Fund	-	-	-	-	358	-	-
NH Agri-Food Venture Fund	-	-	-	-	711	-	-
NH-UON Fund No. 1	-	-	-	-	282	-	-
Korea-ASEAN Technology Fund 1	-	-	-	-	688	-	-
NH-Deep Dive Smart Logistics Fund	-	-	-	-	218	-	-
Korea-ASEAN Technology Fund 2	-	-	-	-	7,937	-	17
NH Agribusiness Group Inc.	2,318,462	-	1,443	1,566	1,127,621	-	2,074
NH Networks Co., Ltd.	16,440	-	46	15,448	36,325	-	15,737
NH Information System Co., Ltd.	216	-	-	-	25,084	-	59
Agricultural Cooperative Asset Management Co., Ltd.	160,469	-	100	-	594	-	304
NH Partners Co., Ltd.	248	-	-	-	21,931	-	1,322
NongHyup Hanaro Mart Inc.	10,263	-	10	422	1	-	7,291
Agricultural Corporation NongHyup Food Grain Inc.	38,191	-	156	-	10,161	-	16
Korea Agriculture Cooperative Marketing Inc.	308	-	-	-	22,606	-	4,029
NongHyup Logistics Service Inc.	18,162	-	3	-	15,887	-	9
NongHyup Chemical Co., Ltd.	73,552	-	40	-	288	-	-
NH NongHyup Trading Co., Ltd.	34,143	2,018	158	-	22,770	295	1
NongHyup-Agro Inc.	61	-	-	-	77	-	62
NongHyup Red Ginseng Co., Ltd.	26,076	-	250	-	12	-	9
Namhae Chemical Corporation	131,365	2,340	83	-	22,830	-	14

(*1) Other assets and other liabilities include consolidated tax, right-of-use assets and lease liabilities.

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37. Related-party transactions (cont'd)

Company	December 31, 2022						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Other related parties:							
NongHyup Moguchon Inc.	₩ 66,958	-	55	-	1,994	-	-
NongHyup Feed Inc.	704,554	36,178	1,202	-	5,771	-	1
Nongwoo BIO Co., Ltd.	21,830	-	8	-	5,067	-	3
NH Heuk Sarang Co., Ltd.	532	-	-	-	80	-	-
NongHyup Food Inc.	73	-	2	-	4,143	-	-
Kongyoung Homeshopping Co., Ltd.	98	-	-	-	197	-	-
Agricultural Corporation Orion NongHyup Inc.	2,551	-	-	-	7,373	-	1
Home and Shopping Co., Ltd.	-	-	-	-	270	-	-
NES Materials Corporation	5,734	-	-	-	-	-	-
Nisso-namhae Agro Co., Ltd.	17	-	-	-	23,001	-	4
Tosoh Namhae Silica Co., Ltd.	5	-	1	-	372	-	-
Sanglim Agricultural Co., Ltd.	3,844	-	10	-	13	-	-

(*1) Other assets and other liabilities include consolidated tax, right-of-use assets and lease liabilities.

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37. Related-party transactions (cont'd)

Company	December 31, 2021						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Ultimate parent company:							
NACF	₩ 4,868	₩ 105,119	₩ 3	₩ 54,079	₩ 82,299	₩ 19,829	₩ 53,974
Parent company:							
NH Financial Group Inc.	220	-	12	-	3,385	-	145,873
Associates:							
Korea Credit Bureau Co., Ltd.	-	-	-	-	1,001	-	2,034
Kyunggi-DSC Superman Investment Fund No. 1	-	-	-	-	42	-	-
NH Agri-Biz Value Creative 1st PEF	142	-	-	-	-	-	-
NH-AJU Digital Fund	-	-	-	-	2,143	-	-
NH Venture - AJU IB New Growth Fund	-	-	-	-	19,775	-	2
NH-NAU Agro Food 1st Private Equity Fund	116	-	-	-	-	-	-
NH-NAU Agro Food 2nd Private Equity Fund	174	-	-	-	-	-	-
2012 Sunlight Co., Ltd.	882	-	-	-	-	-	-
Yujinmplus Co., Ltd.	1,076	-	-	-	-	-	-
Seasons Shipping Co., Ltd.	1,105	-	-	-	-	-	-
Inkordan Trading Co., Ltd.	1,680	-	-	-	-	-	-
GNO Co., Ltd.	2,363	-	-	-	-	-	-
GARAK SUSAN Co., Ltd	146	-	-	-	-	-	-
PROTEK KOREA Co., Ltd	1,054	-	-	-	-	-	-
Cardo Inc.	4	-	-	-	1,218	-	-
PARADISE Co., Ltd.	3,455	-	-	-	-	-	-
Other related parties:							
NH Life Insurance Co., Ltd.	2,703	86,528	1	580	28,669	4,525	7,192
NH Property and Casualty Insurance Co., Ltd.	1,867	11,608	1	-	29,221	14	1
NH Investment & Securities Co., Ltd.	10,772	98	3	456	307,078	671	5,429
NH Nonghyup Capital Co., Ltd.	13,544	-	7	-	28,312	-	-
NH Savings Bank Co., Ltd.	132	-	9	-	-	-	-
NH REITs Management Co., Ltd.	33	-	2	-	13,873	-	16
NH Venture Investment Co., Ltd.	54	-	1	-	17,552	-	-
NH Futures Co., Ltd.	178	-	-	193	59,304	-	44
NH Amundi Asset Management Co., Ltd.	185	-	13	-	62,972	-	393
Yeouido munhwa broadcasting PFV	31,572	-	-	-	2,250	-	-
NH Special Purpose Acquisition 18 Co., Ltd.	-	-	-	-	2,815	-	4
NH Special Purpose Acquisition 19 Co., Ltd.	-	-	-	-	19,316	-	84
Stassets DA value Investment Association No. 2	-	-	-	-	25	-	-
Stassets DA value Investment Association No. 3	-	-	-	-	14	-	-
Ascendo New Generation Healthcare Investment	-	-	-	-	136	-	-
NH-AJU KOSDAQ SCALEUP FUND	-	-	-	-	25,411	-	4
Square-DAvalue Fund NO 1	-	-	-	-	75	-	-

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37. Related-party transactions (cont'd)

Company	December 31, 2021						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Other related parties:							
MK Ventures-K Clavis Growth capital Venture Fund 1	₩ -	₩ -	₩ -	₩ -	₩ 230	₩ -	₩ -
Smilegate Vietnam Kairos Private Equity Fund #1	-	-	-	-	80	-	-
NH-DELTA Fintech Fund	-	-	-	-	204	-	-
NH-Soo Investment innovative growth M&A fund	-	-	-	-	8,042	-	2
NH-SYNERGY BIO Fund	-	-	-	-	882	-	-
NH-IBKC Bio New Technology Fund	-	-	-	-	764	-	-
NH-Horizon Secondary Fund	-	-	-	-	342	-	-
NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd	-	-	-	-	9,495	-	44
NH SPECIAL PURPOSE ACQUISITION 21 COMPANY	-	-	-	-	2,244	-	12
Daishin-GVA New Technology Investment Fund 1st	-	-	-	-	190	-	-
DAYLI Swanson Bio Healthcare Fund 8	-	-	-	-	193	-	-
NH IBKC Dental Solution Investment Fund	-	-	-	-	1,111	-	-
Recovery Partners Co., Ltd	3	-	-	-	3,749	-	-
NH SPECIAL PURPOSE ACQUISITION 22 COMPANY	-	-	-	-	2,760	-	-
Smart Quaternary Industry Square Investment Fund 2	-	-	-	-	5,804	-	1
Daishin New Technology Investment Fund 3rd	-	-	-	-	43	-	-
DAYLI Swanson Bio Healthcare Fund 7	-	-	-	-	273	-	-
Kyobo Hanyang ESG Investment Fund	-	-	-	-	474	-	-
Dt & Investment NHC-DTNI Agirfood ABC Investment Association No. 1	-	-	-	-	1,457	-	-
Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2	-	-	-	-	5,568	-	-
Korea Growth Opportunity Private Equity Fund I	-	-	-	-	620	-	-
Geum-Wang FONE CO., Ltd	-	-	-	-	187	-	-
NH-IRIS ESG Fund	-	-	-	-	576	-	-
NH Agri-Food Venture Fund	-	-	-	-	1,447	-	-
NH-UON Fund No. 1	-	-	-	-	559	-	-
NH Agribusiness Group Inc.	517,121	-	207	17	217,077	-	253
NH Networks Co., Ltd.	20,930	-	45	14,765	29,045	-	15,010
NH Information System Co., Ltd	194	-	-	-	37,784	-	177

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37. Related-party transactions (cont'd)

Company	December 31, 2021						
	Receivables	Derivative assets	Allowances	Other assets (*1)	Deposits	Derivative liabilities	Other liabilities (*1)
Other related parties:							
Agricultural Cooperative Asset Management Co., Ltd.	₩ 150,454	₩ -	₩ 60	₩ -	₩ 4,882	₩ -	₩ 383
NH Partners Co., Ltd.	163	-	-	-	17,172	-	133
NongHyup Hanaro Mart Inc.	824	-	-	39	26,905	-	40
Agricultural Corporation NongHyup Food Grain Inc.	51,852	-	155	-	18,143	-	-
Korea Agriculture Cooperative Marketing Inc.	697	-	-	-	37,056	-	25,802
NongHyup Logistics Service Inc.	9,909	-	3	2,262	14,664	-	2,269
NongHyup Chemical Co., Ltd.	81,153	57	38	-	39,236	-	1
NH NongHyup Trading Co., Ltd.	15,969	27	55	-	1,541	46	-
NongHyup-Agro Inc.	31	-	-	-	393	-	-
NongHyup Red Ginseng Co., Ltd.	28,379	-	184	-	221	-	-
Namhae Chemical Corporation	233,516	74	42	-	63,882	88	-
NongHyup Moguchon Inc.	51,523	-	43	-	2,983	-	-
NongHyup Feed Inc.	635,201	268	852	-	54,752	4,478	-
Nongwoo BIO Co., Ltd.	13,135	-	1	-	3,499	-	-
NH Heuk Sarang Co., Ltd.	516	-	-	-	1,643	-	-
NongHyup Food Inc.	41	-	7	-	4,171	-	1
Kongyoung Homeshopping Co., Ltd.	77	-	-	-	264	-	-
Agricultural Corporation Orion NongHyup Inc.	2,831	-	-	-	4,241	-	-
Home and Shopping Co., Ltd.	-	-	-	-	304	-	-
NES Materials Corporation	5	-	-	-	7,090	-	-
Nisso-namhae Agro Co., Ltd.	14	-	-	-	19,583	-	-
Tosoh Namhae Silica Co., Ltd.	9	-	-	-	42	-	-
Sanglim Agricultural Co., Ltd.	3,566	-	3	-	2	-	-

(*1) Other assets and other liabilities include consolidated tax, right-of-use assets and lease liabilities.

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37. Related-party transactions (cont'd)

Significant transactions with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Company	For the year ended December 31, 2022						
	Interest income	Commission income	Other income	Provision (reversal) of allowance	Interest expenses	Commission expenses	Other expenses
Ultimate parent company:							
NACF	₩ 158	₩ -	₩ 124,552	₩ 69	₩ 1,652	₩ -	₩ 575,210
Parent company:							
NH Financial Group Inc.	-	-	1,419	17	-	-	1,736
Associates:							
Korea Credit Bureau Co., Ltd.	-	-	-	-	5	-	-
Kyunggi-DSC Superman Investment Fund No. 1	-	-	-	-	6	-	-
NH Agri-Biz Value Creative 1st PEF	-	87	-	-	-	-	-
NH_AJU Digital Fund	-	-	-	-	4	-	-
NH Venture - AJU IB New Growth Fund	-	-	-	-	61	-	-
NH-NAU Agro Food 1st Private Equity Fund	-	407	-	-	-	-	-
NH-NAU Agro Food 2nd Private Equity Fund	-	690	-	-	-	-	-
Seasons Shipping Co., Ltd	-	32	-	-	-	-	-
GNO Co., Ltd	-	6	-	-	-	-	-
PROTEK KOREA CO., LTD	-	20	-	-	-	-	-
Cardo Inc.	-	-	-	-	4	-	-
NH-DX Open Innovation Fund	-	-	-	-	10	-	-
Other related parties:							
NH Life Insurance Co., Ltd.	3	7,210	226,307	-	23	324	3,033
NH Property and Casualty Insurance Co., Ltd.	-	1,362	18,351	-	11	-	28,397
NH Investment & Securities Co., Ltd.	659	3,069	2,164	3	3,013	70	3,894
NH NongHyup Capital Co., Ltd.	45	300	-	(3)	26	-	-
NH Savings Bank Co., Ltd.	-	76	-	3	-	-	-
NH REITs Management Co., Ltd.	-	-	-	1	19	-	-
NH Venture Investment Co., Ltd.)	-	-	-	1	107	-	-
NH Futures Co., Ltd.	-	29	-	-	601	604	-
Merigogo 4th Co., Ltd.	-	-	-	-	1	-	-
SMARTKAMSAM2ND Co., Ltd.	-	-	-	-	1	-	-
CheongJu Express D-Two Co., Ltd	-	-	-	-	1	-	-
RAHaeundae 4th Co., Ltd	-	-	-	-	2	-	-
YRD 1st Co., Ltd	-	-	-	-	1	-	-
Uncas The Second	-	-	-	-	4	-	-
Uncas The First	-	-	-	-	1	-	-
PLN 5th Co, Ltd	-	-	-	-	1	-	-
MJ Hangdong 4th Co., Ltd.	-	-	-	-	1	-	-
MJ Hangdong 3rd Co., Ltd.	-	-	-	-	1	-	-

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37. Related-party transactions (cont'd)

Company	For the year ended December 31, 2022						
	Interest income	Commission income	Other income	Provision (reversal) of allowance	Interest expenses	Commission expenses	Other expenses
Other related parties:							
The Sharp Gwangyang Ma-dong.inc	₩ -	₩ -	₩ -	₩ -	₩ 1	₩ -	₩ -
NH-Amundi Asset Management Co., Ltd.	-	2	-	13	736	-	1,155
Yeouido munhwa broadcasting PFV	1,159	-	-	-	5	-	-
NH SPECIAL PURPOSE ACQUISITION 19 COMPANY	-	-	-	-	243	-	-
NH-AJU KOSDAQ SCALEUP FUND	-	-	-	-	36	-	-
NH-Soo Investment innovative growth M&A fund	-	-	-	-	100	-	-
NH-SYNERGY BIO Fund	-	-	-	-	3	-	-
NH-IBKC Bio New Technology Fund	-	-	-	-	2	-	-
NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd.	-	-	-	-	201	-	-
Kyobo NH Healthcare Fund I	127	-	-	-	-	-	-
NH IBKC Dental Solution Investment Fund	-	-	-	-	5	-	-
Recovery Partners Co., Ltd	-	-	-	-	5	-	-
NH SPECIAL PURPOSE ACQUISITION 22 COMPANY	-	-	-	-	33	-	-
Smart Quaternary Industry Square Investment Fund 2	-	-	-	-	88	-	-
Kyobo Hanyang ESG Investment Fund	-	-	-	-	1	-	-
NH SPECIAL PURPOSE ACQUISITION 23 COMPANY	-	-	-	-	26	-	-
NH SPECIAL PURPOSE ACQUISITION 25 COMPANY	-	-	-	-	10	-	-
NH SPECIAL PURPOSE ACQUISITION 27 COMPANY	-	-	-	-	23	-	-
NH SPECIAL PURPOSE ACQUISITION 26 COMPANY	-	-	-	-	32	-	-
Dt & Investment NHC-DTNI Agirfood ABC Investment Association No. 1	-	-	-	-	130	-	-
Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2	-	-	-	-	37	-	-
NH-IRIS ESG Fund	-	-	-	-	2	-	-
NH Agri-Food Venture Fund	-	-	-	-	7	-	-
NH-UON Fund No. 1	-	-	-	-	1	-	-
Korea-ASEAN Technology Fund 1	-	-	-	-	3	-	-
Korea-ASEAN Technology Fund 2	-	-	1	-	59	-	-
NH Agribusiness Group Inc.	25,523	1	237	1,236	624	-	17,011
NH Networks Co., Ltd.	693	-	157	1	5	-	15,978
NH Information System Co., Ltd.	-	-	5,027	-	105	-	77,373
Agricultural Cooperative Asset Management Co., Ltd.	4,979	-	-	41	9	3,768	-
NH Partners Co., Ltd.	-	-	164	-	1	-	42,577
NongHyup Hanaro Mart Inc.	142	5	391	10	-	-	829
Agricultural Corporation NongHyup Food Grain Inc.	186	2	235	1	17	-	232
Korea Agriculture Cooperative Marketing Inc.	4	14	866	-	68	-	2,583
NongHyup Logistics Service Inc.	616	309	291	-	9	-	27,889
NongHyup Chemical Co., Ltd.	3,064	15	758	2	12	-	-
NH NongHyup Trading Co., Ltd.	1,375	384	2,020	103	5	-	295
NongHyup-Agro Inc.	31	2	-	-	-	-	13
NongHyup Red Ginseng Co., Ltd.	863	-	5	66	-	-	757

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37. Related-party transactions (cont'd)

Company	For the year ended December 31, 2022						
	Interest income	Commission income	Other income	Provision (reversal) of allowance	Interest expenses	Commission expenses	Other expenses
Other related parties:							
Namhae Chemical Corporation	₩ 1,959	₩ 1,199	₩ 2,496	₩ 41	₩ 1,173	₩ -	₩ 205
NongHyup Moguchon Inc.	1,141	2	1	12	1	-	61
NongHyup Feed Inc.	477	2,383	36,189	351	26	-	-
Nongwoo BIO Co., Ltd.	700	3	1	7	71	-	107
NH Heuk Sarang Co., Ltd.	-	-	-	-	-	-	27
NongHyup Food Inc.	-	-	2	(6)	2	-	327
Agricultural Corporation Orion							
NongHyup Inc.	55	1	-	-	2	-	-
NonghHup TMR Co., Ltd.	-	-	1	-	-	-	-
Nisso-namhae Agro Co., Ltd.	-	1	3	-	90	-	-
Tosoh Namhae Silica Co., Ltd.	-	-	-	1	-	-	-
Sanglim Agricultural Co., Ltd.	164	3	-	7	-	-	-
Daewoo Logistics Corp.	-	15	-	-	-	-	-

(*1) The investee is excluded from the scope of related party as of December 31, 2022.

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37. Related-party transactions (cont'd)

Company	For the year ended December 31, 2021						
	Interest income	Commission income	Other income	Provision (reversal) of allowance	Interest expenses	Commission expenses	Other expenses
Ultimate parent company:							
NACF	₩ 2,093	₩ 8	₩ 377,389	₩ -	₩ 1,226	₩ -	₩ 398,501
Parent company:							
NH Financial Group Inc.	-	-	1,210	(9)	-	-	-
Associates:							
Korea Credit Bureau Co., Ltd.	-	-	-	-	10	-	-
Kyunggi-DSC Superman Investment Fund No. 1	-	-	-	-	2	-	-
NH Agri-Biz Value Creative 1st PEF	-	142	-	-	-	-	-
NH-AJU Digital Fund	-	-	-	-	4	-	-
NH Venture - AJU IB New Growth Fund	-	-	-	-	19	-	-
NH-NAU Agro Food 1st Private Equity Fund	-	344	-	-	-	-	-
NH-NAU Agro Food 2nd Private Equity Fund	-	516	-	-	-	-	-
Seasons Shipping Co., Ltd.	-	-	17	-	-	-	-
Inkordan Trading Co., Ltd.	-	-	16	-	-	-	-
GNO Co., Ltd.	-	-	6	-	-	-	-
GARAK SUSAN CO., LTD	-	-	12	-	-	-	-
Other related parties:							
NH Life Insurance Co., Ltd.	15	6,933	226,447	-	18	-	2,827
NH Property and Casualty Insurance Co., Ltd.	1	1,491	25,715	-	15	-	22,005
NH Investment & Securities Co., Ltd.	268	1,511	5,060	-	913	89	3,455
NH Nonghyup Capital Co., Ltd.	-	282	-	4	10	-	-
NH Savings Bank Co., Ltd.	-	147	39	(5)	-	-	-
NH REITs Management Co., Ltd.	-	-	-	2	16	-	-
NH Venture Investment Co., Ltd.	-	-	-	-	1	-	-
NH Futures Co., Ltd.	1	28	-	-	22	272	-
NH Amundi Asset Management Co., Ltd.	-	2	-	-	555	-	1,128
Yeouido munhwa broadcasting PFV	1,286	-	-	-	2	-	-
NH Special Purpose Acquisition 18 Co., Ltd.	-	-	-	-	16	-	-
NH Special Purpose Acquisition 19 Co., Ltd.	-	-	-	-	84	-	-
NH-AJU KOSDAQ SCALEUP FUND	-	-	-	-	55	-	-
Smilegate Vietnam Kairos Private Equity Fund #1	-	-	-	-	2	-	-
NH-Soo Investment innovative growth M&A fund	-	-	-	-	15	-	-
NH-SYNERGY BIO Fund	-	-	-	-	2	-	-
NH-IBKC Bio New Technology Fund	-	-	-	-	1	-	-
NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd.	-	-	-	-	45	-	-
NH SPECIAL PURPOSE ACQUISITION 21 COMPANY Co., Ltd.	-	-	-	-	12	-	-
Kyobo NH Healthcare Fund I DAYLI Swanson Bio Healthcare Fund 8	80	-	-	-	-	-	-
NH IBKC Dental Solution Investment Fund	-	-	-	-	1	-	-
Recovery Partners Co., Ltd	-	-	-	-	1	-	-
NH SPECIAL PURPOSE ACQUISITION 22 COMPANY	-	-	-	-	1	-	-

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37. Related-party transactions (cont'd)

Company	For the year ended December 31, 2021						
	Interest income	Commission income	Other income	Provision (reversal) of allowance	Interest expenses	Commission expenses	Other expenses
Other related parties:							
Smart Quaternary Industry Square Investment Fund 2	₩ -	₩ -	₩ -	₩ -	₩ 7	₩ -	₩ -
Dt & Investment NHC-DTNI Agirfood ABC Investment Association No. 1	-	-	-	-	7	-	-
Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2	-	-	-	-	15	-	-
Korea Growth Opportunity Private Equity Fund I	-	-	-	-	1	-	-
NH Agri-Food Venture Fund	-	-	-	-	7	-	-
NH-UON Fund No. 1	-	-	-	-	1	-	-
NH Agribusiness Group Inc.	9,072	1	267	(45)	619	-	6,236
NH Networks Co., Ltd.	720	-	149	(24)	4	-	17,066
NH Information System Co., Ltd.	-	-	4,228	-	57	-	83,499
Agricultural Cooperative Asset Management Co., Ltd.	2,866	-	-	(12)	10	4,443	-
NH Partners Co., Ltd.	-	-	156	-	1	-	42,053
NH Gimhae I&D Co., Ltd	-	-	-	-	2	-	-
NongHyup Hanaro Mart Inc.	165	9	291	(28)	2	1,285	837
Agricultural Corporation NongHyup Food Grain Inc.	289	-	-	(109)	1	-	43
Korea Agriculture Cooperative Marketing Inc.	2	8	475	-	18	-	273
NongHyup Logistics Service Inc.	361	27	568	(1)	7	-	28,154
NongHyup Chemical Co., Ltd.	2,722	37	-	(18)	4	-	178
NH NongHyup Trading Co., Ltd.	525	322	242	(3)	1	-	390
NongHyup-Agro Inc.	14	-	-	-	-	-	27
NongHyup Red Ginseng Co., Ltd.	673	-	-	(112)	-	-	263
Namhae Chemical Corporation	406	792	148	5	110	-	176
NongHyup Moguchon Inc.	1,003	3	412	(195)	1	-	102
NongHyup Feed Inc.	248	1,782	273	286	1	-	4,478
Nongwoo BIO Co., Ltd.	327	2	-	(7)	-	-	108
NongHyup Food Inc.	-	-	-	2	2	-	230
Agricultural Corporation Orion NongHyup Inc.	81	2	-	-	2	-	-
NongHup TMR Co., Ltd.	-	1	-	-	-	-	-
NES Materials Corporation	-	-	-	-	1	-	-
Nisso-namhae Agro Co., Ltd.	-	1	-	-	-	-	-
Sanglim Agricultural Co., Ltd.	116	3	-	(2)	-	-	-
Daewoo Logistics Corp.	-	-	15	-	-	-	-
Others(*1):							
NH SPECIAL PURPOSE ACQUISITION 13 COMPANY	-	-	-	-	7	-	-
NH SPECIAL PURPOSE ACQUISITION 17 COMPANY	-	-	-	-	9	-	-
Agricultural Cooperative Pusan Gyeongnam Marketing Inc.	-	-	-	-	-	-	22
Agricultural Cooperative Chungbuk Marketing Co., Ltd.	3	12	-	-	-	7	204
Daejeon Agricultural Products Marketing Co., Ltd.	-	12	-	-	-	2	4

(*1) The investee is excluded from the scope of related party as of December 31, 2021.

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37. Related-party transactions (cont'd)

The Group's acceptances, guarantees and unused credit limits with related parties as of December 31, 2022 and 2021, are summarized as follows (Korean won in millions):

c Classification	December 31, 2022	
	Credit limit	Counterparty
Unused credit limit in Korean won	₩ 2,811,817	NACF
Unused credit limit in Korean won	460	NH Financial Group Inc.
Unused credit limit in Korean won	79,162	NH Life Insurance Co., Ltd.
Unused credit limit in Korean won	31,765	NH Property and Casualty Insurance Co., Ltd.
Unused credit limit in Korean won	547,687	NH Investment & Securities Co., Ltd.
Unused credit limit in Korean won	134,164	NH Nonghyup Capital Co., Ltd.
Unused credit limit in Korean won	503	NH Savings Bank Co., Ltd.
Unused credit limit in Korean won	37	NH REITs Management Co., Ltd.
Unused credit limit in Korean won	70	NH Venture Investment Co., Ltd.
Unused credit limit in Korean won	208	NH Futures Co., Ltd.
Unused credit limit in Korean won	751	NH-Amundi Asset Management Co., Ltd.
Unused credit limit in Korean won	836,838	NH Agribusiness Group Inc.
Unused credit limit in Korean won	33,673	NH Networks Co., Ltd.
Unused credit limit in Korean won	7,784	NH Information System Co., Ltd.
Unused credit limit in Korean won	11,044	Agricultural Cooperative Asset Management Co., Ltd.
Unused credit limit in Korean won	10,352	NH Partners Co., Ltd.
Unused credit limit in Korean won	153,551	Nonghyup Hanaro Mart Inc.
Unused credit limit in Korean won	116	Agricultural Corporation Nonghyup Food Grain Inc.
Unused credit limit in Korean won	10,992	Korea Agriculture Cooperative Marketing Inc.
Unused credit limit in Korean won	10,624	Nonghyup Logistics Service Inc.
Unused credit limit in Korean won	190,038	Nonghyup Chemical Co., Ltd.
Unused credit limit in foreign currencies	22,338	Nonghyup Chemical Co., Ltd.
Acceptances and guarantees in foreign currencies	3,930	Nonghyup Chemical Co., Ltd.
Unused credit limit in Korean won	20,006	NH Nonghyup Trading Co., Ltd.
Unused credit limit in foreign currencies	17,417	NH Nonghyup Trading Co., Ltd.
Acceptances and guarantees in Korean won	24,603	NH Nonghyup Trading Co., Ltd.
Acceptances and guarantees in foreign currencies	905	NH Nonghyup Trading Co., Ltd.
Unused credit limit in Korean won	19	Nonghyup-Agro Inc.
Unused credit limit in Korean won	415	Nonghyup Red Ginseng Co., Ltd.
Unused credit limit in Korean won	145,257	Namhae Chemical Corporation
Unused credit limit in foreign currencies	151,359	Namhae Chemical Corporation
Acceptances and guarantees in Korean won	5,617	Namhae Chemical Corporation
Acceptances and guarantees in foreign currencies	43,706	Namhae Chemical Corporation
Unused credit limit in Korean won	8,684	Nonghyup Moguchon Inc.
Unused credit limit in foreign currencies	634	Nonghyup Moguchon Inc.
Unused credit limit in Korean won	15,929	Nonghyup Feed Inc.
Unused credit limit in foreign currencies	230,656	Nonghyup Feed Inc.
Acceptances and guarantees in foreign currencies	254,797	Nonghyup Feed Inc.
Unused credit limit in Korean won	11,150	Nongwoo BIO Co., Ltd.
Unused credit limit in Korean won	28	NH Heuk Sarang Co., Ltd.
Unused credit limit in Korean won	4,527	NongHyup Food Inc.
Unused credit limit in Korean won	102	Kongyoung Homeshopping Co., Ltd.
Unused credit limit in Korean won	4,014	Agricultural Corporation Orion Nonghyup Inc.
Unused credit limit in Korean won	23	Nisso-namhae Agro Co., Ltd.
Unused credit limit in Korean won	692	Sanglim Agricultural Co., Ltd.
Unused credit limit in Korean won	5	Tosoh Namhae Silica Co., Ltd.

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37. Related-party transactions (cont'd)

Classification	December 31, 2021	
	Credit limit	Counterparty
Unused credit limit in Korean won	₩ 2,319,006	NACF
Unused credit limit in Korean won	580	NH Financial Group Inc.
Unused credit limit in Korean won	78,796	NH Life Insurance Co., Ltd.
Unused credit limit in Korean won	31,671	NH Property and Casualty Insurance Co., Ltd.
Unused credit limit in Korean won	544,977	NH Investment & Securities Co., Ltd.
Unused credit limit in Korean won	109,956	NH Nonghyup Capital Co., Ltd.
Unused credit limit in Korean won	518	NH Savings Bank Co., Ltd.
Unused credit limit in Korean won	37	NH REITs Management Co., Ltd.
Unused credit limit in Korean won	76	NH Venture Investment Co., Ltd.
Unused credit limit in Korean won	198	NH Futures Co., Ltd.
Unused credit limit in Korean won	815	NH-Amundi Asset Management Co., Ltd.
Unused credit limit in Korean won	557,723	NH Agribusiness Group Inc.
Unused credit limit in Korean won	34,176	NH Networks Co., Ltd.
Unused credit limit in Korean won	7,806	NH Information System Co., Ltd.
Unused credit limit in Korean won	21,263	Agricultural Cooperative Asset Management Co., Ltd.
Unused credit limit in Korean won	232	NH Partners Co., Ltd.
Unused credit limit in Korean won	202,049	Nonghyup Hanaro Mart Inc
Unused credit limit in Korean won	80	Agricultural Corporation NongHyup Food Grain Inc.
Unused credit limit in Korean won	14,153	Korea Agriculture Cooperative Marketing Inc.
Unused credit limit in Korean won	19,372	NongHyup Logistics Service Inc.
Unused credit limit in Korean won	177,104	NongHyup Chemical Co., Ltd.
Unused credit limit in foreign currencies	18,901	NongHyup Chemical Co., Ltd.
Acceptances and guarantees in foreign currencies	10,601	NongHyup Chemical Co., Ltd.
Unused credit limit in Korean won	14,371	NH NongHyup Trading Co., Ltd.
Unused credit limit in foreign currencies	7,180	NH NongHyup Trading Co., Ltd.
Acceptances and guarantees in Korean won	20,000	NH NongHyup Trading Co., Ltd.
Acceptances and guarantees in foreign currencies	25,204	NH NongHyup Trading Co., Ltd.
Unused credit limit in Korean won	49	NongHyup-Agro Inc.
Unused credit limit in Korean won	784	NongHyup Red Ginseng Co., Ltd.
Unused credit limit in Korean won	5,767	Namhae Chemical Corporation.
Unused credit limit in foreign currencies	102,677	Namhae Chemical Corporation
Acceptances and guarantees in Korean won	63,113	Namhae Chemical Corporation
Acceptances and guarantees in foreign currencies	198,232	Namhae Chemical Corporation
Unused credit limit in Korean won	20,567	NongHyup Moguchon Inc.
Unused credit limit in foreign currencies	478	NongHyup Moguchon Inc.
Acceptances and guarantees in foreign currencies	115	NongHyup Moguchon Inc.
Unused credit limit in Korean won	16,000	NongHyup Feed Inc.
Unused credit limit in foreign currencies	34,191	NongHyup Feed Inc.
Acceptances and guarantees in foreign currencies	202,634	NongHyup Feed Inc.
Unused credit limit in Korean won	11,266	Nongwoo BIO Co., Ltd.
Unused credit limit in Korean won	44	NH Heuk Sarang Co., Ltd
Unused credit limit in Korean won	59	NongHyup Food Inc.
Unused credit limit in Korean won	123	Kongyoung Homeshopping Co., Ltd.
Unused credit limit in Korean won	3,096	Agricultural Corporation Orion NongHyup Inc.
Unused credit limit in Korean won	26	Nisso-namhae Agro Co., Ltd.
Unused credit limit in Korean won	660	Sanglim Agricultural Co., Ltd.
Unused credit limit in Korean won	1	Tosoh Namhae Silica Co., Ltd.

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37. Related-party transactions (cont'd)

Details of commitments related to derivative instruments with related parties as of December 31, 2022 and 2021, are summarized as follows (Korean won in millions):

Company	Classification	December 31, 2022	December 31, 2021
NACF	Open interest	₩ 5,030,337	₩ 4,911,324
NH Life Insurance Co., Ltd.	Open interest	1,545,694	2,815,906
NH Property and Casualty Insurance Co., Ltd.	Open interest	329,861	329,789
NH Investment & Securities Co., Ltd.	Open interest	86,077	161,573
Nonghyup Chemical Co., Ltd.	Open interest	-	27,504
NH Nonghyup Trading Co., Ltd.	Open interest	31,482	17,503
Namhae Chemical Corporation	Open interest	79,840	69,945
Nonghyup Feed Inc.	Open interest	619,352	516,505

Details of fixed asset transactions with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022		For the year ended December 31, 2021	
	Purchase of tangible assets	Purchase of intangible assets	Purchase of tangible assets	Purchase of intangible assets
NACF	₩ 599	₩ -	₩ 4	₩ -
NH Networks Co., Ltd.	88,961	-	72,043	-
NH Information System Co., Ltd.	5,870	26,086	5,125	28,278
Nonghyup Hanaro Mart Inc.	19	-	265	-
NH Partners Co., Ltd.	-	-	63	-

Details of the collateral provided from related parties as of December 31, 2022, are summarized as follows (Korean won in millions):

Company	Classification	Pledged amount
NACF	Securities	₩ 1,340,000
NH Property and Casualty Insurance Co., Ltd.	Securities	40,000
NH Life Insurance Co., Ltd.	Securities	90,000

Details of the collateral provided to related parties as of December 31, 2022, are summarized as follows (Korean won in millions):

Company	Classification	Pledged amount
NH Investment & Securities Co., Ltd.	Securities	₩ 12,776
NH Futures Co., Ltd.	Securities	15,400

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37. Related-party transactions (cont'd)

The key management compensations for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Short-term employee benefits	₩ 3,171	₩ 3,182
Retirement expenses	1,104	899
	₩ 4,275	₩ 4,081

Significant lending transactions with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022			
	Beginning (*1)	Increase	Decrease (*2)	Ending (*1)
Ultimate parent company:				
NACF	₩ -	₩ 108,000	₩ -	₩ 108,000
Associates:				
2012 Sunlight, Co., Ltd. (*3)	882	-	-	882
Yujinplus Co., Ltd. (*3)	1,076	-	-	1,076
Seasons Shipping Co., Ltd. (*3)	1,105	-	-	1,105
Inkordan Trading Co., Ltd. (*3)	1,680	-	-	1,680
GNO Co., Ltd. (*3)	2,363	-	-	2,363
GARAK SUSAN CO., LTD (*3)	146	-	-	146
PROTEK KOREA CO., LTD (*3)	1,054	-	-	1,054
PARADISE CO., LTD. (*3)	3,455	-	-	3,455
Other related parties:				
NH Investment & Securities Co., Ltd.	5,602	43,926	1,800	47,728
Yeouido munhwa broadcasting PFV	31,572	-	4,399	27,173
NH Agribusiness Group Inc.	515,787	1,856,026	76,724	2,295,089
NH Networks Co., Ltd.	20,000	-	5,000	15,000
Agricultural Cooperative Asset Management Co., Ltd.	150,000	-	-	150,000
Agricultural Corporation Nonghyup Food Grain Inc.	51,700	38,100	51,700	38,100
Nonghyup Logistics Service Inc.	9,801	12,737	4,538	18,000
Nonghyup Chemical Co., Ltd.	80,000	-	10,000	70,000
NH Nonghyup Trading Co., Ltd.	2,500	10,000	2,500	10,000
Nonghyup Red Ginseng Co., Ltd.	28,253	358	2,693	25,918
Nonghyup Moguchon Inc.	50,985	14,600	11,100	54,485
Nonghyup Feed Inc.	8,264	13,069	8,264	13,069
Nongwoo BIO Co., Ltd.	12,900	17,000	8,500	21,400
NH Heuk Sarang Co., Ltd.	500	-	-	500
Agricultural Corporation Orion Nonghyup Inc.	2,800	-	286	2,514
Sanglim Agricultural Co., Ltd.	3,482	400	60	3,822

(*1) Transactions from operating activities including settlement are excluded and loans related to credit limit are recorded at net amounts.

(*2) The amounts include foreign currency translation gains and losses.

(*3) The amounts include the transactions before the establishment of related-party relationship.

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37. Related-party transactions (cont'd)

Classification	For the year ended December 31, 2021			
	Beginning (*1)	Increase	Decrease (*2)	Ending (*1)
Ultimate parent company:				
NACF	₩ 21	₩ -	₩ 21	₩ -
Associates:				
2012 Sunlight, Co., Ltd. (*3)	882	-	-	882
Yujinplus Co., Ltd. (*3)	1,076	-	-	1,076
Seasons Shipping Co., Ltd. (*3)	1,128	-	23	1,105
Inkordan Trading Co., Ltd. (*3)	1,696	-	16	1,680
GNO Co., Ltd. (*3)	2,369	-	6	2,363
GARAK SUSAN Co., Ltd. (*3)	-	146	-	146
PROTEK KOREA Co., Ltd. (*3)	-	1,054	-	1,054
PARADISE CO., LTD. (*3)	-	3,455	-	3,455
Other related parties:				
NH Investment & Securities Co., Ltd.	5,679	123	200	5,602
Yeouido munhwa broadcasting PFV	33,276	-	1,705	31,572
NH Agribusiness Group Inc.	604,911	14,000	103,124	515,787
NH Networks Co., Ltd.	20,000	-	-	20,000
Agricultural Cooperative Asset Management Co., Ltd.	160,226	-	10,226	150,000
Nonghyup Hanaro Mart Inc.	62,300	-	62,300	-
Agricultural Corporation NongHyup Food Grain Inc.	51,800	51,700	51,800	51,700
NongHyup Logistics Service Inc.	17,833	5,013	13,046	9,801
NongHyup Chemical Co., Ltd.	84,000	169,400	173,400	80,000
NH NongHyup Trading Co., Ltd.	-	2,500	-	2,500
NongHyup Red Ginseng Co., Ltd.	26,331	6,796	4,873	28,253
NongHyup Moguchon Inc.	60,300	14,185	23,500	50,985
Nonghyup Feed Inc.	8,264	-	-	8,264
Nongwoo BIO Co., Ltd.	17,700	-	4,800	12,900
NH Heuk Sarang Co., Ltd.	500	-	-	500
Agricultural Corporation Orion Nonghyup Inc.	5,100	-	2,300	2,800
Sanglim Agricultural Co., Ltd.	3,558	-	76	3,482

(*1) Transactions from operating activities including settlement are excluded and loans related to credit limit are recorded at net amounts.

(*2) The amounts include foreign currency translation gains and losses.

(*3) The amounts include the transactions before the establishment of related-party relationship.

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37. Related-party transactions (cont'd)

Significant borrowing transactions with related parties for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022			
	Beginning (*1)	Borrowing	Repayment (*2)	Ending (*1)
Associates:				
Korea Credit Bureau Co., Ltd.	₩ 1,000	₩ -	₩ 1,000	₩ -
Other related parties:				
NH Investment & Securities Co., Ltd.	66,011	115,961	66,011	115,961
NH Venture Investment Co., Ltd.	-	8,000	-	8,000
NH Futures Co., Ltd.	1,000	1,000	1,000	1,000
NH REITs Management Co., Ltd.	11,000	1,000	11,000	1,000
NH- Amundi Asset Management Co., Ltd.	54,000	50,000	68,000	36,000
NH Special Purpose Acquisition 18 Co., Ltd.	2,794	-	2,794	-
NH Special Purpose Acquisition 19 Co., Ltd.	19,200	19,294	19,200	19,294
Recovery Partners Co., Ltd	-	1,001	1,001	-
NH-AJU KOSDAQ SCALEUP FUND	3,663	-	3,663	-
NH-Soo Investment innovative growth M&A fund	7,800	-	7,800	-
NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd.	9,000	9,000	9,000	9,000
NH SPECIAL PURPOSE ACQUISITION 21 COMPANY	2,200	-	2,200	-
NH SPECIAL PURPOSE ACQUISITION 22 COMPANY	-	2,500	-	2,500
NH SPECIAL PURPOSE ACQUISITION 25 COMPANY	-	800	-	800
NH SPECIAL PURPOSE ACQUISITION 26 COMPANY	-	2,800	300	2,500
NH SPECIAL PURPOSE ACQUISITION 27 COMPANY	-	1,800	-	1,800
Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2	4,000	-	4,000	-
Nongwoo BIO Co., Ltd.	-	3,000	3,000	-
Cardo Inc.	-	936	900	36
Agricultural Corporation Orion NongHyup Inc.	-	3,000	-	3,000
NH Agribusiness Group Inc.	680	54,730	3,195	52,215
NH Information System Co., Ltd.	-	2,000	-	2,000
Agricultural Cooperative Asset Management Co., Ltd.	500	500	500	500
Korea Agriculture Cooperative Marketing Inc.	2,612	1,600	2,612	1,600
NongHyup Logistics Service Inc.	440	340	440	340
Namhae Chemical Corporation	-	55,000	55,000	-
NongHyup Food Inc.	1,000	-	1,000	-
Agricultural Corporation NongHyup Food Grain Inc.	-	1,000	-	1,000

(*1) Transactions from operating activities including settlement and deposit on demand are excluded.

(*2) The amounts include foreign currency translation gains and losses.

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37. Related-party transactions (cont'd)

Classification	For the year ended December 31, 2021			
	Beginning (*1)	Borrowing	Repayment (*2)	Ending (*1)
Associates:				
Korea Credit Bureau Co., Ltd.	₩ 1,000	₩ 1,000	₩ 1,000	₩ 1,000
Other related parties:				
NH Investment & Securities Co., Ltd.	33,168	433,079	400,236	66,011
NH Venture Investment Co., Ltd.	20,000	-	20,000	-
NH Futures Co., Ltd.	1,000	1,000	1,000	1,000
NH REITs Management Co., Ltd.	-	11,000	-	11,000
NH Amundi Asset Management Co., Ltd.	93,000	108,000	147,000	54,000
NH Special Purpose Acquisition 18 Co., Ltd.	2,800	2,794	2,800	2,794
NH Special Purpose Acquisition 19 Co., Ltd.	-	19,500	300	19,200
Stassets DA value Investment Association No. 2	1,987	-	1,987	-
Stassets DA value Investment Association No. 3	16	-	16	-
NH-AJU KOSDAQ SCALEUP FUND	-	3,663	-	3,663
Square-DAvalue Fund NO 1	162	-	162	-
NH-Soo Investment innovative growth M&A fund	8,500	7,800	8,500	7,800
NH SPECIAL PURPOSE ACQUISITION 20 COMPANY Co., Ltd.	-	9,000	-	9,000
NH SPECIAL PURPOSE ACQUISITION 21 COMPANY	-	2,200	-	2,200
Dt & Investment NHC-DTNI Agirfood ABC Investment Association No.1	4,700	-	4,700	-
Dt & Investment NHC-DTNI Agirfood General Investment Association No. 2	2,000	4,000	2,000	4,000
NH Agribusiness Group Inc.	13,622	680	13,622	680
NH Information System Co., Ltd.	6,000	3,000	9,000	-
Agricultural Cooperative Asset Management Co., Ltd.	500	-	-	500
Agricultural Cooperative Asset Management Co., Ltd.	1,012	2,600	1,000	2,612
Nonghyup Logistics Service Inc.	440	100	100	440
Namhae Chemical Corporation	14,981	42,680	57,660	-
NongHyup Food Inc.	-	1,000	-	1,000

(*1) Transactions from operating activities including settlement and deposit on demand are excluded.

(*2) The amounts include foreign currency translation gains and losses.

During December 31, 2022 and 2021, the Group issued capital stock and NH Financial Group Inc., the Bank's parent company, acquired the whole stock. As a result of the issuance of the capital stock, the Group recognized increases in capital stock and capital surplus. As of December 31, 2022, capital is ₩142,857 million and capital surplus is ₩1,056,454 million, and as of December 31, 2021, capital is ₩65,790 million and capital surplus is ₩433,890 million.

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38. COMMITMENTS AND CONTINGENCIES:

Details of agreements that the Group has made as of December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Loan commitment	₩ 104,847,579	₩ 99,181,971
Credit guarantee (*1)	3,553,765	3,753,120
CP purchase agreement (*1)	124,608	514,806
Securities purchase agreement	2,076,712	1,903,878
	<u>₩ 110,602,664</u>	<u>₩ 105,353,775</u>

(*1) As of December 31, 2022, the Group provided the credit line with the limit of ₩3,553,765 million and made the commercial paper purchase agreement with the limit of ₩124,608 million as collaterals to repay the principals and interests of debentures and commercial papers issued by NH LD First Co., Ltd. and 54 other SPEs.

The Group made 14 investment commitments amounting to ₩508,725 million as of December 31, 2022.

The Group is involved in various pending legal proceedings arising in the normal course of business. As of December 31, 2022, the Group is named as a plaintiff in 64 cases with related aggregate claims amounting to ₩63,052 million and as a defendant in 107 cases with related aggregate claims amounting to ₩46,885 million and the numbers of the cases as a plaintiff or a defendant do not include the cases in which the Group is involved as a custodian bank. Accordingly, the Group accrued for a litigation-related liability of ₩568 million in other liabilities. Except for accrued litigations-related liabilities, the Group believes that the outcome of litigations will not have a material impact on the consolidated financial statements.

The Group holds written-off loans, on which the statute of limitation was not completed or the loans were recovered after amortization the Group has not lost its claim rights to borrowers and guarantors, amounting to ₩3,591,263 million and ₩4,061,328 million as of December 31, 2022 and 2021, respectively.

39. CONSOLIDATED STATEMENTS OF CASH FLOWS:

39.1 Cash and cash equivalents

Cash and cash equivalents in the consolidated statements of cash flows consist of cash and due from banks (excluding restricted due from banks that are not of a demand nature) from the consolidated statements of financial position. Cash and cash equivalents as of December 31, 2022 and 2021, are adjusted as follows (Korean won in millions):

Classification (*1)	December 31, 2022	December 31, 2021
Cash and due from banks	₩ 14,917,120	₩ 7,383,857
Less: Restricted due from banks (refer to Note 6)	(26,613)	(302,044)
Less: Due from banks with a maturity of three months or more at acquisition	(344,244)	(35,916)
	<u>₩ 14,546,263</u>	<u>₩ 7,045,897</u>

(*1) Allowance for ECLs is not included.

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39. Consolidated statements of cash flows (cont'd)

39.2 Non-cash transactions

Significant non-cash transactions not included in the consolidated statements of cash flows for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022	For the year ended December 31, 2021
Changes in (loss) gain on valuation of financial assets at FVTOCI	₩ (789,074)	₩ (290,329)
Transfer between tangible assets and investment properties	26,302	25,466
Recognition of right-of-use assets and lease liabilities	97,915	97,379

39.3 Changes in liabilities arising from financing activities

Changes in liabilities arising from financing activities for the years ended December 31, 2022 and 2021, are as follows (Korean won in millions):

Classification	For the year ended December 31, 2022				December 31, 2022
	January 1, 2022	Cash flows in financing activities	Exchange rate changes	Others	
Borrowings	₩ 15,001,425	₩ 1,998,419	₩ 213,388	₩ -	₩ 17,213,232
Debentures	22,431,474	(1,439,512)	169,097	(39,094)	21,121,965
Borrowings from trust accounts	2,571,627	1,419,419	-	-	3,991,046
Lease liabilities	193,580	(77,171)	3,777	76,344	196,530
	₩ 40,198,106	₩ 1,901,155	₩ 386,262	₩ 37,250	₩ 42,522,773

Classification	For the year ended December 31, 2021				December 31, 2021
	January 1, 2021	Cash flows in financing activities	Exchange rate changes	Others	
Borrowings	₩ 12,841,525	₩ 1,899,422	₩ 260,478	₩ -	₩ 15,001,425
Debentures	20,066,842	2,170,792	219,537	(25,697)	22,431,474
Borrowings from trust accounts	2,827,744	(256,117)	-	-	2,571,627
Lease liabilities	172,991	(68,555)	812	88,332	193,580
	₩ 35,909,102	₩ 3,745,542	₩ 480,827	₩ 62,635	₩ 40,198,106

40. OPERATING LEASE:

Expected schedule of minimum lease payment arising from operating lease contracts and rental contracts as of December 31, 2022 and 2021, is as follows (Korean won in millions):

Classification	December 31, 2022	December 31, 2021
Less than one year	₩ 6,904	₩ 7,320
One year to five years	18,557	10,235
More than five years	902	1,074
	₩ 26,363	₩ 18,629

41. CHANGES IN ACCOUNTING POLICY:

(1) Nature of change in accounting policy

The Group has determined that restricted deposits, including reserve deposits provided by the Bank of Korea, do not meet the definition of cash and cash equivalents in the previous financial statements, and restricted deposits are excluded from cash and cash equivalents in related financial statements, such as the consolidated statements of cash flows.

During the current year, the International Accounting Standards Interpretation Committee decided on the agenda of 'Demand Deposits with Restrictions on Use arising from a Contract with a Third Party' and the Korea Accounting Institute responded to inquiries about 'classification of reserve deposits in the Bank of Korea as cash and cash equivalents.' Based on the results, the Bank of Korea reserve deposit, which is judged to meet the requirements of cash and cash equivalents, was classified as cash and cash equivalents among the restricted deposits held by the Bank.

The Bank determined the change in the classification as a change in accounting policy and retrospectively restated the financial statements of the previous period presented for comparison. The change in classification has no impact on the consolidated statements of financial position and consolidated statements of profit or loss and other comprehensive income, and the presentation on the consolidated statements of cash flows and related notes has been changed.

(2) Effect of change in accounting policy

The effect of the change in the accounting policy following the change in the classification of deposits with restrictions on use on the Bank's consolidated financial statements is as follows (Korean won in millions):

Classification	2022	2021
Cash and cash equivalents at the beginning of year	₩ 2,734,769	₩ 8,268,994
Operating activities	7,158,235	(5,534,225)
Investing activities	-	-
Financing activities	-	-
Effect of exchange rate changes on cash and cash equivalents	-	-
Net increase (decrease) in cash and cash equivalents	7,158,235	(5,534,225)
Cash and cash equivalents at the end of year	₩ 9,893,004	₩ 2,734,769