



SHINHAN BANK AND SUBSIDIARIES

Consolidated Financial Statements

December 31, 2022 and 2021

(With Independent Auditor's Report Thereon)

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of Shinhan Bank
(A wholly owned subsidiary of Shinhan Financial Group Inc.)

Opinion

We have audited the accompanying consolidated financial statements of Shinhan Bank and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statements of financial position as at December 31, 2022 and 2021, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Group as at December 31, 2022 and 2021, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (K-IFRS).

Basis for Opinion

We conducted our audits in accordance with Korean Standards on Auditing. Our responsibilities under those standards are further described in the Auditor's Responsibilities for the Audit of the Consolidated Financial Statements section of our report. We are independent of the Group in accordance with the ethical requirements of the Republic of Korea that are relevant to our audit of the consolidated financial statements and we have fulfilled our other ethical responsibilities in accordance with the ethical requirements. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

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

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

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

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

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

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

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

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

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

March 6, 2023
Seoul, Korea

This report is effective as of March 6, 2023, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Financial Position
As of December 31, 2022 and 2021

<i>(In millions of Korean won)</i>	<u>Notes</u>	<u>2022</u>	<u>2021</u>
Assets			
Cash and due from banks	3,6,9,40,41	₩ 22,569,882	22,780,127
Securities at fair value through profit or loss	3,7,41,43	21,201,704	24,173,996
Derivative assets	3,8,41,43	4,904,096	3,001,440
Loans at amortized cost	3,9,18,41,43	344,298,939	325,933,496
Loans at fair value through profit or loss	3,9	972,553	894,160
Securities at fair value through other comprehensive income	3,10,18,43	48,770,784	48,300,820
Securities at amortized cost	3,10,18,43	28,379,986	21,325,243
Property and equipment	5,11,12,17,18	2,537,482	2,487,385
Intangible assets	5,13	636,487	543,126
Investments in subsidiaries and associates	14	266,893	211,914
Investment properties	5,15	604,940	606,277
Defined benefit assets	24	530,174	108,591
Current tax assets	37	31,780	27,018
Deferred tax assets	37	437,896	252,983
Other assets	3,9,16,41	15,808,585	16,757,931
Non-current assets held for sale	17	29,211	30,706
Total assets	₩	<u>491,981,392</u>	<u>467,435,213</u>
Liabilities			
Financial liabilities designated at fair value through profit or loss	19	₩ 47,327	-
Deposits	3,20,41	373,104,189	354,937,624
Financial liabilities at fair value through profit or loss	3,21	424,964	583,662
Derivative liabilities	3,8,41,43	5,779,626	2,852,513
Borrowings	3,22,40,41	24,212,792	20,962,239
Debt securities issued	3,23,40	33,186,180	37,625,739
Net defined benefit obligations	24	7,020	-
Provisions	25,39,41	369,201	405,041
Current tax liabilities	37	478,724	311,544
Deferred tax liabilities	37	14,247	18,217
Other liabilities	3,12,26,41,44	23,189,862	20,502,996
Total liabilities	₩	<u>460,814,132</u>	<u>438,199,575</u>
Equity			
Capital stock	27	₩ 7,928,078	7,928,078
Hybrid bonds	27	2,088,542	1,586,662
Capital surplus	27	403,164	403,164
Capital adjustments	27,37	2,515	2,742
Accumulated other comprehensive loss	27,37	(1,260,828)	(607,040)
Retained earnings	27,28	21,997,438	19,914,560
(Reserve for loan loss)		<u>(2,631,990)</u>	<u>(2,342,070)</u>
(Required amount of loan loss (gain))		<u>((131,349))</u>	<u>(289,920)</u>
(Expected amount of loan loss (gain))		<u>₩ ((131,349))</u>	<u>(289,920)</u>
Total equity attributable to equity holder of Shinhan Bank		31,158,909	29,228,166
Non-controlling interests	27	8,351	7,472
Total equity		<u>31,167,260</u>	<u>29,235,638</u>
Total liabilities and equity	₩	<u>491,981,392</u>	<u>467,435,213</u>

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income
For the years ended December 31, 2022 and 2021

<i>(In millions of Korean won, except earnings per share data)</i>	<u>Notes</u>	<u>2022</u>	<u>2021</u>
Interest income			
Financial instruments at fair value through profit or loss		₩ 401,732	217,825
Financial instruments at fair value through other comprehensive income and amortized cost		13,684,084	9,227,646
Interest expense		5,880,614	2,833,713
Net interest income	3,5,29,41,43	<u>8,205,202</u>	<u>6,611,758</u>
Fees and commission income		1,280,575	1,273,750
Fees and commission expense		325,265	295,945
Net fees and commission income	3,5,30,41,43	<u>955,310</u>	<u>977,805</u>
Dividend income	31,43	20,832	18,571
Net gain on financial instruments at fair value through profit or loss	32	11,427	334,492
Net foreign currencies transaction gain		393,955	201,022
Net gain on financial instruments designated at fair value through profit or loss	19	2,673	-
Net gain (loss) on disposal of securities at fair value through other comprehensive income	10	(1,209)	67,065
Net loss on disposal of securities at amortized cost	10	(60)	(310)
Provision for credit loss allowance	3,9,41	598,289	352,746
General and administrative expenses	33,41	3,702,292	3,361,033
Net other operating expenses	5,35,41	(1,124,799)	(909,907)
Operating income		<u>4,162,750</u>	<u>3,586,717</u>
Net non-operating expense	5,36	(77,425)	(264,221)
Share of profit of associates	5,14	22,301	25,400
Profit before income taxes	5	<u>4,107,626</u>	<u>3,347,896</u>
Income tax expense	5,37	1,061,894	853,002
Profit for the year	5,28	<u>3,045,732</u>	<u>2,494,894</u>
(Adjusted profit after reflection of reserve for loan loss			
For the year ended December 31, 2022:			
3,177,081 million won			
For the year ended December 31, 2021:			
2,204,974 million won			

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income (Continued)

For the years ended December 31, 2022 and 2021

<i>(In millions of Korean won, except earnings per share data)</i>	<u>Notes</u>	<u>2022</u>	<u>2021</u>
Other comprehensive income for the year, net of income tax			
Items that may be reclassified subsequently to profit or loss:			
Foreign currency translation differences for foreign operations		₩ (19,417)	208,223
Unrealized net change in fair value of financial assets at fair value through other comprehensive income		(788,642)	(354,697)
Shares in other comprehensive loss of Associates		₩ (10,186)	(2,866)
		<u>(818,245)</u>	<u>(149,340)</u>
Items that will not be reclassified to profit or loss:			
Remeasurements of defined benefit plans		195,247	33,997
Unrealized net change in fair value of financial assets at fair value through other comprehensive income		(28,496)	17,277
		<u>166,751</u>	<u>51,274</u>
Other comprehensive income (loss) for the year, net of income tax	3,27,37	₩ <u>(651,494)</u>	<u>(98,066)</u>
Total comprehensive income for the year		₩ <u>2,394,238</u>	<u>2,396,828</u>
Profit attributable to:			
Equity holders of Shinhan Bank		₩ 3,045,012	2,494,375
Non-controlling interests		720	519
Profit for the year	5	₩ <u>3,045,732</u>	<u>2,494,894</u>
Total comprehensive income attributable to:			
Equity holders of Shinhan Bank		₩ 2,393,359	2,395,745
Non-controlling interests		879	1,083
Total comprehensive income for the year		₩ <u>2,394,238</u>	<u>2,396,828</u>
Earnings per share:			
Basic and diluted earnings per share in won	38	₩ 1,880	1,538

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Changes in Equity

For the year ended December 31, 2021

	Attributable to equity holder of Shinhan Bank							Non-controlling interests	Total
	Capital stock	Hybrid bonds	Capital surplus	Capital adjustments	Accumulated other comprehensive income (loss)	Retained earnings			
<i>(In millions of Korean won)</i>									
Balance at January 1, 2021	₩ 7,928,078	1,586,662	403,164	4,198	(541,411)	18,278,434	6,389	27,665,514	
Total comprehensive income (loss), net of income tax:									
Profit for the year	-	-	-	-	-	2,494,375	519	2,494,894	
Other comprehensive income (loss) for the year									
Foreign currency translation differences for foreign operations	-	-	-	-	207,655	-	568	208,223	
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income	-	-	-	-	(304,415)	(33,001)	(4)	(337,420)	
Share of other comprehensive loss of associates	-	-	-	-	(2,866)	-	-	(2,866)	
Remeasurements of defined benefit plans	-	-	-	-	33,997	-	-	33,997	
Total comprehensive income (loss) for the year	-	-	-	-	(65,629)	2,461,374	1,083	2,396,828	
Transactions with owners in their capacity as owner									
Annual dividends to equity holder	-	-	-	-	-	(770,000)	-	(770,000)	
Dividends to hybrid bond holders	-	-	-	-	-	(55,248)	-	(55,248)	
Share-based payment transactions	-	-	-	(1,456)	-	-	-	(1,456)	
Total transactions with owners in their capacity as owners	-	-	-	(1,456)	-	(825,248)	-	(826,704)	
Balance at December 31, 2021	₩ 7,928,078	1,586,662	403,164	2,742	(607,040)	19,914,560	7,472	29,235,638	

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES

Consolidated Statements of Changes in Equity (Continued)

For the year ended December 31, 2022

	Attributable to equity holder of Shinhan Bank							Non-controlling interests	Total
	Capital stock	Hybrid bonds	Capital surplus	Capital adjustments	Accumulated other comprehensive income (loss)	Retained earnings			
<i>(In millions of Korean won)</i>									
Balance at January 1, 2022	₩ 7,928,078	1,586,662	403,164	2,742	(607,040)	19,914,560	7,472	29,235,638	
Total comprehensive income (loss), net of income tax									
Profit for the year	-	-	-	-	-	3,045,012	720	3,045,732	
Other comprehensive income (loss) for the year									
Foreign currency translation differences for foreign operations	-	-	-	-	(19,590)	-	173	(19,417)	
Unrealized net changes in fair values of financial assets at fair value through other comprehensive income	-	-	-	-	(819,236)	2,135	(37)	(817,138)	
Share of other comprehensive loss of associates	-	-	-	-	(10,186)	-	-	(10,186)	
Remeasurements of defined benefit plans	-	-	-	-	195,224	-	23	195,247	
Total comprehensive income (loss) for the year	-	-	-	-	(653,788)	3,047,147	879	2,394,238	
Transactions with owners in their capacity as owner									
Annual dividends to equity holder	-	-	-	-	-	(900,000)	-	(900,000)	
Dividends to hybrid bond holders	-	-	-	-	-	(64,269)	-	(64,269)	
Issuance of hybrid bonds	-	631,581	-	-	-	-	-	631,581	
Repayment of hybrid bonds	-	(129,701)	-	(299)	-	-	-	(130,000)	
Share-based payment transactions	-	-	-	72	-	-	-	72	
Total transactions with owners in their capacity as owners	-	501,880	-	(227)	-	(964,269)	-	(462,616)	
Balance at December 31, 2022	₩ 7,928,078	2,088,542	403,164	2,515	(1,260,828)	21,997,438	8,351	31,167,260	

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Cash Flows
For the years ended December 31, 2022 and 2021

(In millions of Korean won)

	2022	2021
Cash flows from operating activities		
Profit before income tax	₩ 4,107,626	3,347,896
Adjustments for:		
Interest income	(14,085,816)	(9,445,471)
Interest expense	5,880,614	2,833,713
Dividend income	(20,832)	(18,571)
	<u>(8,226,034)</u>	<u>(6,630,329)</u>
Income and expense items without cash in/outflow:		
Net (gain) loss on financial instruments at fair value through profit or loss	277,946	(18,307)
Net non-cash foreign currencies transaction (gain) loss	(154,165)	102,851
Net (gain) loss on financial instruments designated at fair value through profit or loss	(2,673)	-
Net (gain) loss on disposal of financial assets at fair value through other comprehensive income	1,209	(67,065)
Net loss on disposal of securities at amortized cost	60	310
Provision for credit loss allowance	598,289	352,746
Non-cash employee benefits	129,036	140,136
Depreciation and amortization	436,776	412,217
Net non-cash other operating expenses	145,306	113,247
Share of profit of associates	(22,301)	(25,400)
Non-operating (income) expense	36,237	204,468
	<u>1,445,720</u>	<u>1,215,203</u>
Changes in assets and liabilities:		
Deposits at amortized cost	373,687	2,143,460
Securities at fair value through profit or loss	3,033,522	(1,732,229)
Derivative assets	2,367,751	4,850,344
Loans at amortized cost	(19,254,073)	(26,590,607)
Loans at fair value through profit or loss	(87,247)	(40,704)
Other assets	1,206,994	(5,367,414)
Deposits due to customers	18,432,707	35,993,806
Financial liabilities at fair value through profit or loss	(198,102)	19,672
Derivative liabilities	(2,252,062)	(4,919,338)
Defined benefit liabilities	(262,188)	(181,115)
Provisions	(15,735)	(21,631)
Other liabilities	1,791,472	(1,532,249)
	<u>5,136,726</u>	<u>2,621,995</u>
Income tax paid	(845,674)	(698,820)
Interest received	13,735,865	9,590,406
Interest paid	(4,973,751)	(2,898,122)
Dividends received	22,693	33,524
Net cash inflow from operating activities	₩ 10,403,171	6,581,753

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Cash Flows (Continued)
For the years ended December 31, 2022 and 2021

(In millions of Korean won)

	2022	2021
Cash flows from investing activities		
Net cash flow of derivative financial instruments for hedges	₩ 4,022	(1,206)
Proceeds from decrease of securities at fair value through profit or loss	1,839,509	1,866,642
Acquisition of securities at fair value through profit or loss	(1,944,891)	(2,419,739)
Proceeds from decrease of securities at fair value through other comprehensive income	17,109,221	23,388,064
Acquisition of securities at fair value through other comprehensive income	(18,398,922)	(32,571,172)
Proceeds from decrease of securities at amortized cost	5,097,731	4,765,154
Acquisition of securities at amortized cost	(12,077,239)	(5,824,562)
Proceeds from disposal of property and equipment	960	682
Acquisition of property and equipment	(229,149)	(188,051)
Proceeds from disposal of intangible assets	3,547	17
Acquisition of intangible assets	(397,443)	(336,653)
Proceeds from disposal of investments in associates	15,616	20,842
Acquisition of investments in associates	(72,739)	(100,840)
Proceeds from disposal of investment properties	-	276
Acquisition of investment properties	(6,883)	(8,292)
Proceeds from sale of non-current assets held for sale	9,991	47,792
Decrease in other assets	645,080	627,525
Increase in other assets	(534,297)	(566,510)
Net cash outflow from investing activities	(8,935,886)	(11,300,031)
Cash flows from financing activities		
Net cash flow of derivative financial instruments for hedges	56	1,652
Increase in financial liabilities designated at fair value through profit or loss	49,993	-
Net increase (decrease) in borrowings	2,872,249	(169,958)
Proceeds from issuance of debt securities	23,488,790	16,782,492
Repayment of debt securities	(27,078,364)	(13,919,757)
Dividends paid	(963,305)	(825,248)
Issuance of hybrid bonds	631,581	-
Repayment of hybrid bonds	(130,000)	-
Increase in other liabilities	101,315	122,556
Decrease in other liabilities	(287,678)	(345,894)
Net cash inflow (outflow) from financing activities	(1,315,363)	1,645,843
Effect of exchange rate fluctuations on cash and cash equivalents held	(10,317)	26,160
Net increase (decrease) in cash and cash equivalents	141,605	(3,046,275)
Cash and cash equivalents at the beginning of the year (Note 40)	21,238,317	24,284,592
Cash and cash equivalents at the end of the year (Note 40)	₩ 21,379,922	21,238,317

See accompanying notes to the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

1. Reporting entity

(a) Overview

Shinhan Bank Co., Ltd., the controlling company (hereinafter referred to as the “Bank”) has its headquarters at 20 Sejong-daero 9-gil, Jung-gu, Seoul. The consolidated financial statements for the reporting period ended on December 31, 2022 consist of shares in the Bank and its subsidiaries (hereinafter collectively referred to as the “Group”), and its associates and joint ventures.

The Bank is established with a new merger (October 1, 1943, bank named Choheung Bank Co., Ltd.) of Hansung Bank established on February 19, 1897 and Dongil Bank established on August 8, 1906.

The Bank acquired Chungbuk Bank and Kangwon Bank in 1999 and the former Shinhan Bank on April 1, 2006, and subsequently changed its name to Shinhan Bank. As of December 31, 2022, the Bank has 1,585,615,506 outstanding common shares with par value of ₩7,928,078 million which is 100% owned by Shinhan Financial Group Co., Ltd. (“Shinhan Financial Group”). As of December 31, 2022, the Bank operates through 603 domestic branches, 118 depository offices, 27 premises and 14 overseas branches.

(b) Subsidiaries included in consolidation (structured entities excluded)

Details of ownerships in subsidiaries as of December 31, 2022 and 2021 are as follows:

Controlling company	Name of subsidiary	Location	Closing month	Sectors	Ownership (%)	
					December 31, 2022	December 31, 2021
Shinhan Bank	Shinhan America	U.S.A	December 31	Bank	100.00	100.00
	Shinhan Europe	Germany	December 31	Bank	100.00	100.00
	Shinhan Cambodia	Cambodia	December 31	Bank	97.50	97.50
	Shinhan Kazakhstan	Kazakhstan	December 31	Bank	100.00	100.00
	Shinhan Canada	Canada	December 31	Bank	100.00	100.00
	Shinhan China	China	December 31	Bank	100.00	100.00
	Shinhan Japan	Japan	March 31	Bank	100.00	100.00
	Shinhan Vietnam	Vietnam	December 31	Bank	100.00	100.00
	Shinhan Mexico	Mexico	December 31	Bank	99.99	99.99
	Shinhan Indonesia	Indonesia	December 31	Bank	99.00	99.00
Shinhan Bank Japan	SBJ DNX	Japan	March 31	Computer Service	100.00	100.00

i) Shinhan Bank America

Shinhan Bank America (“Shinhan America”) is established through the merger of Chohung Bank of New York and California Chohung Bank. Shinhan America’s capital stock amounted to USD 173 million as of December 31, 2022.

ii) Shinhan Bank Europe GmbH

Shinhan Bank Europe GmbH (“Shinhan Europe”) is established in 1994 for obtaining the authorization of banking business. As of December 31, 2022, Shinhan Europe’s capital stock amounted to EUR 63 million.

iii) Shinhan Bank Cambodia

Shinhan Bank Cambodia (“Shinhan Cambodia”) is established on October 15, 2007 for obtaining the authorization of banking business. Shinhan Cambodia was renamed from Shinhan Khmer Bank PLC during the year ended December 31, 2018. Shinhan Cambodia’s capital stock amounted to USD 75 million as of December 31, 2022.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

1. Reporting entity (continued)

(b) Subsidiaries included in consolidation (structured entities excluded) (continued)

iv) Shinhan Bank Kazakhstan Limited

Shinhan Bank Kazakhstan Limited (“Shinhan Kazakhstan”) is established on December 16, 2008 for the purpose of engaging banking business, etc. As of December 31, 2022, Shinhan Kazakhstan’s capital stock amounted to KZT 10,029 million.

v) Shinhan Bank Canada

Shinhan Bank Canada (“Shinhan Canada”) is established on March 9, 2009 for the purpose of engaging banking business, etc. As of December 31, 2022, Shinhan Canada’s capital stock amounted to CAD 80 million.

vi) Shinhan Bank China Limited

The local branch of the Group has been incorporated as the entity on May 12, 2008 for the purpose of engaging banking business, etc. As of December 31, 2022, Shinhan China’s capital stock amounted to CNY 2,000 million.

vii) Shinhan Bank Japan

The local branch of the Group has been converted its organization type to an entity on September 14, 2009. Shinhan Japan’s capital stock amounted to JPY 17,500 million as of December 31, 2022.

viii) Shinhan Bank Vietnam Ltd.

The local branch of the Group has been converted its organization type to an entity on November 16, 2009 for the purpose of engaging banking business, etc. and merged with Shinhan Vina Bank on November 28, 2011. On December 17, 2017, Shinhan Vietnam acquired the retail business of ANZ Vietnam. As of December 31, 2022, Shinhan Vietnam’s capital stock amounted to VND 5,709,900 million.

ix) Banco Shinhan de Mexico

Banco Shinhan de Mexico (“Shinhan Mexico”) is established on October 12, 2015 for obtaining the authorization of banking business. As of December 31, 2022, Shinhan Mexico’s capital stock amounted to MXN 1,583 million.

x) PT Bank Shinhan Indonesia

On November 30, 2015, the Bank obtained the control of PT Bank Metro Express, which is established on September 8, 1967 for obtaining the authorization of banking business and is engaged in the banking business. PT Bank Metro Express is renamed as PT Bank Shinhan Indonesia (“Shinhan Indonesia”) in 2016 and merged PT Centratama Nasional Bank, a former subsidiary of the Bank, on December 6, 2016. As of December 31, 2022, Shinhan Indonesia’s capital stock amounted to IDR 944,278 million.

xi) SBJ DNX

It is established on April 1, 2020 for the purpose of operating the computer service business, and as of December 31, 2022, and SBJ DNX’s capital stock amounted to JPY 50 million.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

1. Reporting entity (continued)

(c) Structured entities included in consolidation

Structured entities included in consolidation as of December 31, 2022 are as follows:

Structured entities	Location	Closing month	Sectors
MPC Yulchon Green 1st	Korea	3/6/9/12	Other financial business
MPC Yulchon 2nd	Korea	3/6/9/12	Other financial business
MPC Yulchon 1st	Korea	3/6/9/12	Other financial business
Shinhan-S-Russell Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan-Daesung Contents Fund	Korea	12	Others
Tiger Eyes 3rd Co., Ltd.	Korea	12	Other financial business
Sunny Smart 4th Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB portfolio a 3rd Co., Ltd.	Korea	1/4/7/10	Other financial business
S-redefine 3rd Co., Ltd.	Korea	7	Other financial business
Maestro ER Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB DM Co., Ltd.	Korea	3/6/9/12	Other financial business
Rich gate 14th Corp.	Korea	3/6/9/12	Other financial business
MAESTROST Co., Ltd.	Korea	12	Other financial business
S-redefine 10th Co., Ltd.	Korea	1/4/7/10	Other financial business
Maestrogongdeok Co., Ltd.	Korea	3/6/9/12	Other financial business
GIBDAEMYUNG 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
GIBLAB 2nd Co., Ltd.	Korea	9	Other financial business
Shinhan Display 3rd Co., Ltd.	Korea	1/4/7/11	Other financial business
MAESTRO H Co., Ltd.	Korea	1/4/7/10	Other financial business
MaestroDcube Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Porter 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO Byeolnae Co., Ltd.	Korea	1/4/7/10	Other financial business
SH ROAD No.1 Co., Ltd.	Korea	1/4/7/10	Other financial business
MAESTRO Landmark Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO DS Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB ST Co., Ltd.	Korea	3/6/9/12	Other financial business
MAESTRO H No.2 Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Caps Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger 10th Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB JDT Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mobility 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB YB Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Force 2nd Co., Ltd.	Korea	2/5/8/11	Other financial business
MAESTRO Aero Co., Ltd.	Korea	3/6/9/12	Other financial business

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities	Location	Closing month	Sectors
MAESTRO YS Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Bright 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Games Co., Ltd.	Korea	3/6/9/12	Other financial business
Maestro Iksan Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger LIP Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Chemical Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Loex Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Haan Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB HwangGeum Co., Ltd.	Korea	3/6/9/12	Other financial business
S-bright Hongdae	Korea	3/6/9/12	Other financial business
BRIGHT WOONJEONG Co., Ltd.	Korea	2/5/8/11	Other financial business
S BRIGHT CHEONHO Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB County 1st Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mokpo Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Tech Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB SungSan Co., Ltd.	Korea	3/6/9/12	Other financial business
S BRIGHT PANGYO Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger K Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Energy Co., Ltd.	Korea	1/4/7/10	Other financial business
Shinhan-GIB-SKL Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate YONGSAN Co., Ltd.	Korea	1/4/7/10	Other financial business
Rich gate Shinseol Corp.	Korea	3/6/9/12	Other financial business
S BRIGHT ENERGY Co., Ltd.	Korea	2/5/8/11	Other financial business
S BRIGHT IKSAN Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger Jeju Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Magok Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Sahwa Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB HC 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Munjung Co., Ltd.	Korea	3/6/9/12	Other financial business
Shinhan GIB Rozen Co., Ltd.	Korea	1/4/7/10	Other financial business
S-Tiger First Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB RB 1st Co., Ltd.	Korea	7	Other financial business
Rich gate Box Corp.	Korea	2/5/8/11	Other financial business
GIB EMT Co., Ltd.	Korea	1/4/7/10	Other financial business
S BRIGHT LDC Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Chowol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Gyeongju Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Duwol Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Mighty 2nd Co., Ltd.	Korea	11	Other financial business
GIB ST 2nd Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Haeundae Co., Ltd.	Korea	12	Other financial business
Rich gate Alpha Corp.	Korea	1/4/7/10	Other financial business
GIB AL 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Sinchon Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate Baegot Corp.	Korea	2/5/8/11	Other financial business
Rich gate Jaseok Corp.	Korea	2/5/8/11	Other financial business

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

1. Reporting entity (continued)

(c) Structured entities included in consolidation (continued)

Structured entities	Location	Closing month	Sectors
Shinhan GIB Mirae Co., Ltd.	Korea	2/5/8/11	Other financial business
S First 1st Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Dujjeong Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Pungmu Co., Ltd.	Korea	2/5/8/11	Other financial business
Shinhan GIB Hwaseong Co., Ltd.	Korea	2/5/8/11	Other financial business
Rich gate N Corp.	Korea	3/6/9/12	Other financial business
S-Tiger Jinro Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Doan Co., Ltd.	Korea	1/4/7/10	Other financial business
GIB Yucheon Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Yongmun Co., Ltd.	Korea	1/4/7/10	Other financial business
OSHC Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Sinsa Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB Segyo Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Gildong Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB JD Co., Ltd.	Korea	6	Other financial business
GIB Sahwa Co., Ltd.	Korea	3/6/9/12	Other financial business
S-Tiger Oil Co., Ltd.	Korea	3/6/9/12	Other financial business
S-First L Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB Mighty 3rd Co., Ltd.	Korea	3/6/9/12	Other financial business
Gangnam Landmark 1st Co., Ltd.	Korea	1/4/7/10	Other financial business
RICHGATE GANGNAM Co., Ltd.	Korea	4/7/10/1	Other financial business
S-Tiger SP Co., Ltd.	Korea	4/7/10/1	Other financial business
GIB SOOPYO Co., Ltd.	Korea	5/8/11/2	Other financial business
GIB SINJEONG Co., Ltd.	Korea	4/7/10/1	Other financial business
GIBMAJANG Co., Ltd.	Korea	5/8/11/2	Other financial business
GIB HOMEPLUS Co., Ltd.	Korea	1/4/7/11	Other financial business
GIB YD Co., Ltd.	Korea	1/4/7/11	Other financial business
S TIGER BIZON Co., Ltd.	Korea	2/5/8/11	Other financial business
S TIGER SI Co., Ltd.	Korea	2/5/8/11	Other financial business
RICH GATE GANGSEO Co., Ltd.	Korea	2/5/8/11	Other financial business
S TIGER HD Co., Ltd.	Korea	2/5/8/11	Other financial business
GIB GYEONGAN Co., Ltd.	Korea	3/6/9/12	Other financial business
GIB NAMSA Co., Ltd.	Korea	3/6/9/12	Other financial business
S TIGER LEC Co., Ltd.	Korea	2/5/8/11	Other financial business
Hana Micron 2nd Co.,Ltd.	Korea	1/4/7/10	Other financial business
RICH GATE H	Korea	3/6/9/12	Other financial business
S TIGER MOBILE INC.	Korea	5/8/11/2	Other financial business
Development Trust	Korea	12	Trust
Non-specified Money Trust	Korea	12	Trust
Old-age Living Pension Trust	Korea	12	Trust
New-Personal Pension Trust	Korea	12	Trust
Personal Pension Trust	Korea	12	Trust
Retirement Trust	Korea	12	Trust
New Old-age Living Pension Trust	Korea	12	Trust
Pension Trust	Korea	12	Trust
Household Money Trust (Shinhan)	Korea	12	Trust
Corporation Money Trust (Shinhan)	Korea	12	Trust
Shinhan SG Rail Professional Investment Type Private Special Asset Investment Trust No. 2	Korea	1/4/7/11	Beneficiary certificate
Shinhan AIM Private Real Estate Investment Trust No.31	Korea	6/12	Beneficiary certificate

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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1. **Reporting entity (continued)**

(c) Structured entities included in consolidation (continued)

The Group consolidates a structured entity when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to most significantly affect those returns through its power over the structured entity based on the terms in the agreement relating to the establishment of the structured entity. There is no non-controlling interest in the structured entities since the ownership interest in the structured entities is presented as a liability of the Group.

As of December 31, 2022 and 2021, the Group provides credit guarantees (ABCP purchase agreement, etc.) amounting to ₩4,573,327 million and ₩4,199,413 to the structured entities described above.

(d) Changes in subsidiaries

Subsidiaries newly included or excluded for the year ended December 31, 2022 are as follows:

Newly included subsidiaries for the year ended December 31, 2022	Subsidiaries
	Rich gate Alpha Corp.
	GIB AL 1st Co., Ltd.
	GIB Shinchon Co., Ltd.
	Rich gate Baegot Corp.
	Rich gate Jaseok Corp.
	Shinhan GIB Mirae Co., Ltd.
	S-First 1st Co., Ltd.
	GIB Dujeong Co., Ltd.
	GIB Pungmu Co., Ltd.
	Shinhan GIB Hwaseong Co., Ltd.
	Rich gate N Corp.
	S-tiger Jinro Co., Ltd.
	GIB Doan Co., Ltd.
	GIB Yucheon Co., Ltd.
	Green Bio No.2 Co., Ltd.
	GIB Yongmun Co., Ltd.
	OSHC Co., Ltd.
	GIB Sinsa Co., Ltd.
	GIB Segyo Co., Ltd.
	GIB Gildong Co., Ltd.
	GIB JD Co., Ltd.
	GIB Sahwa Co., Ltd.
	S-Tiger Oil Co., Ltd.
	S-First L Co., Ltd.
	GIB Mighty 3rd Co., Ltd.
	Gangnam Landmark 1st Co., Ltd.
	RICHGATE GANGNAM Co., Ltd.
	S-Tiger SP Co., Ltd.
	GIB SOOPYO Co., Ltd.
	GIB SINJEONG Co., Ltd.
	GIBMAJANG Co., Ltd.
	GIB HOMEPLUS. Co., Ltd.
	GIB YD Co., Ltd.
	S TIGER BIZON Co., Ltd.
	S TIGER SI Co., Ltd.
	RICH GATE GANGSEO Co., Ltd.
	S TIGER HD Co., Ltd.
	GIB GYEONGAN Co., Ltd.
	GIB NAMSA Co., Ltd.
	S TIGER LEC Co., Ltd.
	Hana Micron 3rd Co., Ltd.
	RICH GATE H
	S TIGER MOBILE INC.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
 December 31, 2022 and 2021

1. Reporting entity (continued)

(d) Changes in subsidiaries (continued)

Subsidiaries newly included or excluded for the year ended December 31, 2022 are as follows:(continued)

Excluded subsidiaries for the year ended December 31, 2022	Subsidiaries
	GIB Chungju Co., Ltd.
	Shinhan S-Force Co., Ltd.
	Rich gate 9th Corp.
	Rich gate 11th Corp.
	Sunny Finance 10th Co., Ltd.
	Rich gate 8th Corp.
	Rich gate 12th Corp.
	GIB Sol 1st Co., Ltd
	AR Plus 1st Co., Ltd
	Shinhan GIB Mommy Co., Ltd.
	S-Tiger 5th Co., Ltd.
	Rich gate Songpa Corp.
	GIB time 1st
	MAESTROST Co., Ltd.
	MaestroLEC Co., Ltd.
	MAESTRO BIZON Co., Ltd.
	MAESTRO S.I Co., Ltd.
	Tiger Eyes 1st Co., Ltd.
	Shinhan BNPP Private Corporate 25th
	S-Tiger 8th Co., Ltd.
	MAESTRO S.A Co., Ltd.
	Hana Micron 2nd Co.LTD.
	Rich gate 3rd corp.
	S-Force 1st Co., Ltd.
	S-Tiger seomyun
	GIB Hakjam Co., Ltd.
	GIB Konkuk Co., Ltd.
	Green Bio No.2 Co., Ltd.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

2. **Significant accounting policies**

The significant accounting policies applied by the Group are as follows:

(a) Basis of preparation

The accompanying consolidated financial statements have been prepared in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (“K-IFRS”), as prescribed in *the Article 5(1)1 Act on External Audits of Corporations in the Republic of Korea*.

The financial statements for the current and comparative periods (December 31, 2022 and 2021) were prepared in accordance with the accounting policies described below.

(b) Basis of measurement

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

- derivative financial instruments are measured at fair value
- financial instruments at fair value through profit or loss (“FVTPL”) are measured at fair value
- financial instruments at fair value through other comprehensive income (“FVTOCI”) are measured at fair value
- share-based payment arrangements are initially measured at fair value on grant date
- changes in fair value attributable to the risk being hedged for financial instruments designated as hedged items in qualifying fair value hedge relationships are recognized in profit or loss
- liabilities for defined benefit plans are recognized as net of the total present value of defined benefit obligations less the fair value of plan assets

(c) Functional and presentation currency

The respective financial statements of the Group entities are prepared in the functional currency of the respective operation. These consolidated financial statements are presented in Korean won, which is the Bank’s functional currency and the currency of the primary economic environment in which the Bank operates. Subsidiaries whose functional currency is not Korean won are as follows:

Functional currency	Subsidiaries
USD	Shinhan America, Shinhan Cambodia
EUR	Shinhan Europe
KZT	Shinhan Kazakhstan
CAD	Shinhan Canada
CNY	Shinhan China
JPY	Shinhan Japan, SBJ DNX
VND	Shinhan Vietnam
MXN	Shinhan Mexico
IDR	Shinhan Indonesia

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

2. **Significant accounting policies (continued)**

(d) Use of estimates and judgements

In preparation of the financial statements according to K-IFRS, the use of estimates and assumptions is required for the application of accounting policies or matters affecting the reporting amounts of assets, liabilities and revenues and expenses as of December 31, 2022. When estimates and assumptions based on management's judgment as of December 31, 2022 differ from the actual, actual results may differ from these estimates.

Estimates and underlying assumptions are continually reviewed, and changes in accounting estimates are recognized during the period in which the estimate is changed and the future period in which it will be affected. Information about significant areas of estimation uncertainty and critical judgements in applying accounting policies that have the significant effect on the amount recognized in the consolidated financial statements is described in Note 4.

The Group recognizes credit loss allowance for expected credit losses on debt instruments, loans and receivables that are measured at amortized cost or at FVTOCI, loan commitments and financial guarantee contracts upon adoption of K-IFRS No.1109, 'Financial Instruments'. The measurement of such allowance is determined by techniques, assumptions and input variables used by the Group to measure expected future cash flows of individual financial instruments and to measure expected credit losses in a collective manner. The details of techniques, assumptions and input variables used to measure the credit loss allowance for expected credit losses as of December 31, 2022 are described in Note 3.

The prolonged COVID-19 is negatively affecting the global economy. The Group uses forward-looking information to estimate expected credit losses in accordance with K-IFRS No.1109 'Financial instruments'. Due to the prolonged COVID-19, there have been significant changes in forward-looking information and the internal and external economic uncertainty such as inflation and rising market interest rates. As of December 31, 2022, the forecast default rate is re-estimated using changed forward-looking information on the GDP growth rate, consumer price index growth rate, unemployment rate, etc. which are major variables for calculating the default rate. The Group will continue to monitor the impact of the internal and external economic uncertainty and the COVID-19 on the economy.

(e) New and amended standards and interpretations adopted by the Group

From the accounting period beginning on January 1, 2022, the Group has newly applied the following standards and interpretations.

i) K-IFRS No. 1103 'Business combination' amended – Reference to the Conceptual Framework

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

ii) K-IFRS No. 1037, 'Provisions, Contingent Liabilities and Contingent Assets' amended - Onerous Contracts: Cost of Fulfilling a Contract

The amendments clarify that the direct costs of fulfilling a contract include both the incremental costs of fulfilling the contract and an allocation of other costs directly related to fulfilling contracts when assessing whether the contract is onerous. The amendments do not have a significant impact on the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021
(In millions of Korean won)

2. **Significant accounting policies (continued)**

(e) New and amended standards and interpretations adopted by the Group (continued)

iii) Annual Improvements to K-IFRSs 2018-2020 Cycle

For Annual Improvements to K-IFRSs 2018-2020 Cycle, the amendments will take effect for annual periods beginning after January 1, 2022 and are permitted for early application. The amendments do not have a significant impact on the consolidated financial statements.

- K-IFRS No.1101, 'First-time Adoption of K-IFRS' - Subsidiary as a First-time Adopter
- K-IFRS No.1109, 'Financial instruments' - Fees related to 10 percent test for derecognition of financial liabilities
- K-IFRS No.1041, 'Agriculture' - Fair value measurement

iv) K-IFRS No. 1007 'Statements of Cash Flows' - Cash and cash equivalents

The Group did not classify deposits with restrictions under related regulations, such as reserve deposits, as cash and cash equivalents. However, in accordance with the agenda decision on 'Demand deposit with restrictions of use arising from a contract with a third party' by the IFRS Interpretation Committee and K-IFRS agenda decision on 'Reserve deposit in Bank of Korea' by Korea Accounting Standards Board, reserve deposits, etc. corresponding to demand deposits were classified as cash and cash equivalents and it was also applied retroactively.

The impact of this change in accounting policy is as follows:

ⓐ Impact on the statements of cash flows

	2022	2021
Net cash outflow from operating activities	₩ (819,983)	(6,861,278)
Effect of exchange rate fluctuations on cash and cash equivalents denominated in foreign currency	(1,575)	3,301
Net increase of cash and cash equivalents at the beginning of the year	10,791,001	17,648,978
Net increase of cash and cash equivalents at the end of the year	9,969,443	10,791,001

ⓑ Impact on the notes to the financial statements

	2022	2021
Net decrease of restricted deposits	₩ 9,969,443	10,791,001

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(e) New standards and interpretations not yet adopted by the Group (continued)

The following new accounting standards and interpretations have been published that are not mandatory for December 31, 2022, reporting periods and have not been early adopted by the Group.

i) K-IFRS No. 1001 'Presentation of Financial Statements' - Classification of Liabilities as Current or Non-current

The amendments clarify that liabilities are classified as either current or non-current, depending on the substantive rights that exist at the end of the reporting period. Classification is unaffected by the likelihood that an entity will exercise right to defer settlement of the liability or the expectations of management. Also, the settlement of liability includes the transfer of the entity's own equity instruments, however, it would be excluded if an option to settle them by the entity's own equity instruments if compound financial instruments is met the definition of equity instruments and recognized separately from the liability. The amendments should be applied for annual periods beginning on or after January 1, 2024, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

ii) K-IFRS No. 1001 'Presentation of Financial Statements' - Disclosure of Accounting Policies

The amendments require an entity to define and to disclose its material information about accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

iii) K-IFRS No. 1008 'Accounting Policies, Changes in Accounting Estimates and Errors' - Definition of Accounting Estimates

The amendments clarify the definition of accounting estimates and how distinguish it from a change in accounting policies. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

iv) K-IFRS No. 1012 'Income Taxes' - Deferred Tax Related to Assets and Liabilities Arising from a Single Transaction

Under the amendments, an entity does not apply the initial recognition exemption for transactions which involve the recognition of both an asset and liability – which in turn leads to equal taxable and deductible temporary differences. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

v) K-IFRS No. 1001 'Presentation of Financial Statements' – Classification of Debt with Covenants as Current or Non-current

The amendments require disclosure of the carrying amount of the financial liability and its related gains or losses if, all or part of a financial instrument subject to adjustment of the exercise price according to changes in the issuer's stock price. The amendments should be applied for annual periods beginning on or after January 1, 2023, and earlier application is permitted. The Group expects that the amendments will not have a significant impact on the consolidated financial statements.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(f) Approval date of the financial statements

The consolidated financial statements of the Group were authorized for issue by the Board of Directors on February 7, 2023, and the consolidated financial statements were submitted for approval to the stockholder's meeting held on March 22, 2023.

(g) Basis of consolidation

i) Subsidiaries

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

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

There is no non-controlling interest in structured entities because the ownership interests in structured entities are shown as liabilities of the Group.

ii) Intra-group transactions eliminated on consolidation

Intra-group balances, transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Intra-group losses are recognized as expense if intra-group losses indicate an impairment that requires recognition in the consolidated financial statements.

iii) Non-controlling interests

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

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021

2. **Significant accounting policies (continued)**

(h) Business combinations

i) Business combinations

A business combination is accounted for by applying the acquisition method, unless it is a combination involving entities or businesses under common control.

Each identifiable asset and liability is measured at its acquisition-date fair value except for below:

- Leases and insurance contracts are required to be classified on the basis of the contractual terms and other factors
- Only those contingent liabilities assumed in a business combination that are a present obligation and can be measured reliably are recognized
- Deferred tax assets or liabilities are recognized and measured in accordance with K-IFRS No.1012, '*Income Taxes*'
- Employee benefit arrangements are recognized and measured in accordance with K-IFRS No.1019, '*Employee Benefits*'
- Indemnification assets are recognized and measured on the same basis as the indemnified liability or asset
- Reacquired rights are measured in accordance with special provisions
- Liabilities or equity instruments related to share-based payment transactions are measured in accordance with the method in K-IFRS No.1102, '*Share-based Payment*'
- Non-current assets held for sale are measured at fair value less costs to sell in accordance with K-IFRS No.1105, '*Non-current Assets Held for Sale and Discontinued Operations*'

As of the acquisition date, non-controlling interests in the acquiree are measured as the non-controlling interests' proportionate share of the acquiree's identifiable net assets.

The consideration transferred in a business combination is measured at fair value, which is calculated as the sum of the acquisition-date fair values of the assets transferred by the acquirer, the liabilities incurred by the acquirer to former owners of the acquiree and the equity interests issued by the acquirer. However, any portion of the acquirer's share-based payment awards exchanged for awards held by the acquiree's employee that is included in consideration transferred in the business combination shall be measured in accordance with the method described above rather than at fair value.

Acquisition-related costs are costs the acquirer incurs to effect a business combination. Those costs include finder's fees; advisory, legal, accounting, valuation and other professional or consulting fees; general administrative costs, including the costs of maintaining an internal acquisitions department; and costs of registering and issuing debt and equity securities. Acquisition-related costs, other than those associated with the issue of debt or equity securities, which are recognized in accordance with K-IFRS No.1032, '*Financial Instruments: Presentation*' and K-IFRS No.1109, '*Financial Instruments*', are expensed in the periods in which the costs are incurred and the services are received.

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2. **Significant accounting policies (continued)**

(h) Business combinations (continued)

ii) Goodwill

The Group measures goodwill at the acquisition date as:
the fair value of the consideration transferred; plus
the recognized amount of any non-controlling interests in the acquiree; plus
if the business combination is achieved in stages, the fair value of the pre-existing equity interest in the acquiree; less
the net recognized amount (generally fair value) of the identifiable assets acquired and liabilities assumed.

When the excess is negative, a bargain purchase gain is recognized immediately in profit or loss.

When the Group additionally acquires non-controlling interest, the Group does not recognize goodwill since the transaction is regarded as equity transaction.

As part of its transition to K-IFRS, the Group elected to restate only those business combinations which occurred on or after January 1, 2010 in accordance with K-IFRS. In respect of acquisitions prior to January 1, 2010, goodwill is included on the basis of its deemed cost, which represents the amount recorded under previous Generally Accepted Accounting Principles (“GAAP”).

(i) Associates and joint ventures

An associate is an entity in which the Group has significant influence, but not control, over the entity’s financial and operating policies. Significant influence is presumed to exist when the Group holds between 20 to 50 percent of the voting power of another entity.

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 arrangement. Joint control is the contractually agreed sharing of control of an arrangement, which exists only when decisions about the relevant activities require the unanimous consent of the parties sharing control.

The investment in an associate and a joint venture is initially recognized at cost, and the carrying amount is increased or decreased to recognize the Group’s share of the profit or loss and changes in equity of the associate and the joint venture after the date of acquisition. Intra-group balances and transactions, and any unrealized income and expenses arising from intra-group transactions, are eliminated in preparing the consolidated financial statements. Intra-group losses are recognized as expense if intra-group losses indicate an impairment that requires recognition in the consolidated financial statements.

If an associate or a joint venture uses accounting policies different from those of the Group for like transactions and events in similar circumstances, appropriate adjustments are made to its financial statements in applying the equity method.

When the Group’s share of losses exceeds its interest in an equity accounted investee, the carrying amount of that interest, including any long-term investments, is reduced to nil and the recognition of further losses is discontinued except to the extent that the Group has an obligation or has to make payments on behalf of the investee for further losses.

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2. **Significant accounting policies (continued)**

(j) Operating segments

An operating segment is a component of the Group that engages in business activities from which it may earn revenues and incur expenses, including revenues and expenses that relate to transactions with any of the Group's other components, whose operating results are reviewed regularly by the chief operating decision maker to make decisions about resources allocated to each segment and assess its performance, and for which discrete financial information is available.

The segment reporting to a chief executive officer includes items directly attributable to a segment as well as those that can be allocated on a reasonable basis. Unallocated items comprise mainly general expenses and income tax assets and liabilities. The Group considers the Chief Executive Officer ("CEO") of the Bank as the chief operating decision maker.

(k) Foreign currency translation

i) Foreign currency transactions

Transactions in foreign currencies are translated to the respective functional currencies of the Group at exchange rates at the dates of the transactions. Monetary assets and liabilities denominated in foreign currencies at the end of the reporting period are retranslated to the functional currency using the exchange rate at the end of the reporting period. The foreign currency gain or loss on monetary items is the difference between amortized cost in the functional currency at the beginning of the period, adjusted for effective interest and payments during the period, and the amortized cost in foreign currency translated at the exchange rate at the end of the reporting period. Translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

Foreign currency differences arising on retranslation are recognized in profit or loss, except for differences arising on the retranslation of available-for-sale equity instruments, a financial liability designated as a hedging instrument of the net investment in a foreign operation or a qualifying cash flow hedge, which are recognized in other comprehensive income. Translation differences on non-monetary assets and liabilities such as equities held at fair value through profit or loss are recognized in profit or loss and translation differences on non-monetary assets such as equities held at fair value through other comprehensive income are recognized in other comprehensive income.

ii) Foreign operations

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

The assets and liabilities of foreign operations, whose functional currency is not the currency of a hyperinflationary economy, are translated to presentation currency at exchange rates at the end of the reporting period. The income and expenses of foreign operations are translated to functional currency at exchange rates at the dates of the transactions. Foreign currency differences are recognized in other comprehensive income.

Any goodwill arising on the acquisition of a foreign operation and any fair value adjustments to the carrying amounts of assets and liabilities arising on the acquisition of that foreign operation are treated as assets and liabilities of the foreign operation and are translated using the exchange rate at the end of the reporting period.

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2. **Significant accounting policies (continued)**

(k) Foreign currency translation (continued)

When a foreign operation is disposed of, the relevant amount in the translation is transferred to profit or loss as part of the profit or loss on disposal. On the partial disposal of a subsidiary that includes a foreign operation, the relevant proportion of such cumulative amount is reattributed to non-controlling interest. In any other partial disposal of a foreign operation, the relevant proportion is reclassified to profit or loss.

iii) Net investment in a foreign operation

If the settlement of a monetary item receivable from or payable to a foreign operation is neither planned nor likely in the foreseeable future, then foreign currency differences arising on the item form part of the net investment in the foreign operation and are recognized in other comprehensive income and reclassified from equity to profit or loss on disposal of the net investment.

(l) Cash and cash equivalents

The Group classifies cash balances, call deposits and highly liquid investment assets with original maturities of three months or less from the acquisition date that are easily converted into a fixed amount of cash and are subject to an insignificant risk of changes in their fair value as cash and cash equivalents. Equity instruments are excluded from cash equivalents unless they are, in substance, cash equivalents, like in the case of preferred shares acquired within a short period of their maturity and with a specified redemption date. However, the Group's account overdraft is included in borrowings.

(m) Non-derivative financial assets

Financial assets are recognized when the Group becomes a party to the contractual provisions of the instrument. In addition, a regular way purchase or sale (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 market concerned) is recognized on the trade date.

A financial asset is measured initially at its fair value plus, for an item not at FVTPL, transaction costs that are directly attributable to its acquisition of the financial asset. Transaction costs on the financial assets at FVTPL that are directly attributable to the acquisition are recognized in profit or loss as incurred.

i) Financial assets designated at FVTPL

Financial assets can be irrevocably designated as measured at FVTPL despite of classification standards stated below, if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains or losses on them on different bases. However, once the financial assets are designated at FVTPL, it is irrevocable.

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2. **Significant accounting policies (continued)**

(m) Non-derivative financial assets (continued)

ii) Equity instruments

For the equity instruments that are not held for trading, at initial recognition, the Group may make an irrevocable election to present subsequent changes in fair value in other comprehensive income. Equity instruments that are not classified as financial assets at FVTOCI are classified as financial assets at FVTPL.

The Group subsequently measures all equity investments at fair value. Valuation gains or losses of the equity instruments that are classified as financial assets at FVTOCI previously recognized as other comprehensive income is not reclassified as profit or loss on derecognition. The Group recognizes dividends in profit or loss when the Group's right to receive payments of the dividend is established.

Valuation gains or losses due to changes in fair value of the financial assets at FVTPL are recognized as gains or losses on financial assets at FVTPL. Impairment loss (reversal) on equity instruments at FVTOCI is not recognized separately.

iii) Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model in which the asset is managed and the contractual cash flow characteristics of the asset. Debt instruments are classified as financial assets at amortized cost, at FVTOCI, or at FVTPL. Debt instruments are reclassified only when the Group's business model changes.

Ⓐ Financial assets at amortized cost

Assets that are held within a business model whose objective is to hold assets to collect contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. Impairment losses, and gains or losses on derecognition of the financial assets at amortized cost are recognized in profit or loss. Interest income on the effective interest method is included in the 'Interest income' in the consolidated statement of comprehensive income.

Ⓑ Financial assets at FVTOCI

Assets that are held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at FVTOCI. Other than impairment losses, interest income amortized using effective interest method and foreign exchange differences, gains or losses of the financial assets at FVTOCI are recognized as other comprehensive income in equity. On derecognition, gains or losses accumulated in other comprehensive income are reclassified to profit or loss. The interest income on the effective interest method is included in the 'Interest income' in the consolidated statement of comprehensive income. Foreign exchange differences and impairment losses are included in the 'Net foreign currency transaction gain' and 'Provision for credit loss allowance' in the consolidated statement of comprehensive income, respectively.

Ⓒ Financial assets at FVTPL

Debt securities other than financial assets at amortized costs or FVTOCI are classified at FVTPL. Unless hedge accounting is applied, gains or losses from financial assets at FVTPL are recognized as profit or loss and are included in 'Net gain on financial assets at fair value through profit or loss' in the consolidated statement of comprehensive income.

SHINHAN BANK AND SUBSIDIARIES
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2. **Significant accounting policies (continued)**

(m) Non-derivative financial assets (continued)

iv) Embedded derivatives

Financial assets with embedded derivatives are classified regarding the entire hybrid contract, and the embedded derivatives are not separately recognized. The entire hybrid contract is considered when it is determined whether the contractual cash flows represent solely payments of principal and interest.

v) Derecognition of financial assets

The Group derecognizes a financial asset when the contractual rights to the cash flows from the asset expire, or it transfers the rights to receive the contractual cash flows on the financial asset in a transaction in which substantially all the risks and rewards of ownership of the financial asset are transferred. If the Group does not have or transfer most of the risks and rewards of ownership of the financial asset, the entity shall remove the financial asset if it does not control the financial asset. If the Group continues to control the financial asset, it continues to recognize the transferred asset to the extent that it is continuously involved and recognizes the related liability together.

If the Group transfers the right to cash flows of a financial asset but holds most of the risks and rewards of ownership of the financial asset, the entity shall continue to recognize the asset. Also, the amount of disposal received is recognized as a liability.

vi) Offsetting

Financial assets and financial liabilities are offset and the net amount is presented in the consolidated statement of financial position only when the Group currently has a legally enforceable right to set off the recognized amounts, and intends either to settle on a net basis or to realize the asset and settle the liability simultaneously.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(n) Expected credit loss on financial assets

As for financial assets at amortized cost and financial assets at FVTOCI, the expected credit loss is evaluated at the end of each period and recognized as loss allowances.

Since initial recognition, a loss allowance shall be measured by the three stages in the table below depending on the extent of significant increase in credit risk.

Stage	Category	Description
Stage 1	Credit risk has not increased significantly since initial recognition	12 month expected credit losses: Expected credit loss resulting from potential default of financial instruments occurring over 12 months from the end of reporting period
Stage 2	Credit risk has increased significantly since initial recognition	Lifetime expected credit losses: Expected credit loss resulting from all potential default of financial instruments occurring over the expected life
Stage 3	Credit-impaired financial assets	

However, as for the financial assets whose credit is impaired at the initial recognition, only the cumulative change in the lifetime expected credit loss is recognized as the loss allowance.

The ‘lifetime’ refers to the expected life to the contractual maturity of the financial asset.

i) Forward looking information

The Group determines a material increase on credit risk and estimates the expected credit loss on a forward looking basis.

The measuring factors of the expected credit loss are assumed to have certain relationship with the economic cycle. Through relationship analysis between the macroeconomic variables and the credit risk measuring factors, the forward looking information is reflected in the expected credit loss estimation.

ii) Financial assets at amortized cost

The expected credit loss on the financial assets at amortized cost is recognized as the difference between the present value of the contractual cash flow and the present value of the expected cash flow. The expected cash flow is estimated separately for the individually material financial assets.

For the financial assets which are not individually material, they are included in a group of assets with a similar credit risk and expected credit loss is estimated collectively.

The expected credit losses of financial assets measured as amortized cost are presented net of loss allowance, and the allowance is derecognized together with the asset when it is determined to be unrecoverable. When the loan previously written-off is subsequently collected, it is recognized as an increase in loss allowance. At the end of the reporting period, the Group recognizes in profit or loss the amount of the change in loss allowance.

iii) Financial assets at FVTOCI

The expected credit loss on the financial assets at FVTOCI is calculated using the same method as that on the financial assets at amortized cost, however the changes in loss allowance are recognized as other comprehensive income. As for disposal and repayment, the loss allowance is reclassified from other comprehensive income to profit or loss.

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2. **Significant accounting policies (continued)**

(o) Derivative financial instruments

Derivatives are initially recognized at fair value. Subsequently, after the initial recognition, derivatives are measured at fair value at the end of every reporting period, and changes therein are accounted for as described below.

i) Hedge accounting

The Group holds forward exchange contracts, interest rate swaps, currency swaps and other derivative contracts to manage interest rate risk and foreign exchange risk. The Group designated derivatives as hedging instruments to hedge the risk of changes in the fair value of assets, liabilities or firm commitments (a fair value hedge) and foreign currency risk of highly probable forecasted transactions or firm commitments (a cash flow hedge), and foreign currency risk of net investment in foreign operation (net investment hedges).

On initial designation of the hedge, the Group formally documents the relationship between the hedging instrument(s) and hedged item(s), including the risk management objectives and strategy in undertaking the hedge transaction, together with the methods that will be used to assess the effectiveness of the hedging relationship.

① *Fair value hedges*

Changes in the fair value of a derivative hedging instrument designated as a fair value hedge are recognized in profit or loss. The gain or loss from remeasuring the hedging instrument at fair value and the gain or loss on the hedged item attributable to the hedged risk are recognized in profit or loss in the same line item of the consolidated statement of comprehensive income.

The Group discontinues fair value hedge accounting if risk management strategy or purpose will be changed, the hedging instrument expires or is sold, terminated or exercised, or if the hedge no longer meets the criteria for hedge accounting. Any adjustment arising from gain or loss on the hedged item attributable to the hedged risk is amortized to profit or loss from the date the hedge accounting is discontinued.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(o) **Derivative financial instruments (continued)**

② *Cash flow hedges*

When a derivative is designated as the hedging instrument in a hedge of the variability in cash flows attributable to a particular risk associated with a recognized asset or liability or a highly probable forecasted transaction that could affect profit or loss, the effective portion of changes in the fair value of the derivative is recognized in other comprehensive income and presented in the hedging reserve in equity. The amount recognized in other comprehensive income is removed and included in profit or loss in the same period as the hedged cash flows affect profit or loss under the same line item in the consolidated statements of comprehensive income as the hedged item. Any ineffective portion of changes in the fair value of the derivative is recognized immediately in profit or loss.

Once hedge accounting is discontinued, any cumulative gain or loss existing in equity at that time and is recognized over the period the forecast transaction occurs as profit or loss. However, when a forecast transaction is no longer expected to occur, the cumulative gain or loss recognized in equity is immediately recognized in the profit or loss.

If the hedging instrument no longer meets the criteria for hedge accounting, expires or is sold, terminated, exercised, or the designation is revoked, then hedge accounting is discontinued prospectively. The cumulative gain or loss previously recognized in other comprehensive income and presented in the hedging reserve in equity remains there until the forecasted transaction affects profit or loss. When the hedged item is a non-financial asset, the amount recognized in other comprehensive income is transferred to the carrying amount of the asset when the asset is recognized. If the forecasted transaction is no longer expected to occur, then the balance in other comprehensive income is recognized immediately in profit or loss. In other cases the amount recognized in other comprehensive income is transferred to profit or loss in the same period that the hedged item affects profit or loss.

③ *Hedge of net investment*

The portion of the change in fair value of a financial instrument designated as a hedging instrument that meets the requirements for hedge accounting for a net investment in a foreign operation is recognized in other comprehensive income and the ineffective portion of the hedge is recognized in profit or loss. The portion recognized as other comprehensive income that is effective as a hedge is recognized in the statement of comprehensive income as a result of reclassification adjustments in accordance with K-IFRS No. 1021, "Effect of Changes in Foreign Exchange Rates" at the time of disposing of its overseas operations or disposing of a portion of its overseas operations to profit or loss.

ii) *Embedded derivatives*

If a hybrid contract contains a host that is not an financial asset, embedded derivatives are separated from the host contract and accounted for separately only if the economic characteristics and risks of the host contract and the embedded derivative are not closely related; a separate instrument with the same terms as the embedded derivative would meet the definition of a derivative; and the combined instrument is not designated at FVTPL. Changes in the fair value of separable embedded derivatives are recognized immediately in profit or loss.

iii) *Derivative financial instruments held for trading*

Changes in the fair value of derivative financial instruments not designated as a hedging instrument are recognized immediately in profit or loss.

SHINHAN BANK AND SUBSIDIARIES
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2. **Significant accounting policies (continued)**

(o) **Derivative financial instruments (continued)**

iv) *Day one profit or loss*

If the Group uses a valuation technique that incorporates data not obtained from observable markets for the fair value at initial recognition of financial instruments, there may be a difference between the transaction price and the amount determined using that valuation technique. As for these circumstances, the difference between the fair value at the initial recognition and the transaction price is not recognized as profit or loss but deferred. The deferred difference is amortized by using straight line method over the life of the financial instruments.

(p) **Property and equipment**

Property and equipment are initially measured at cost and after initial recognition. The cost of property and equipment includes expenditures arising directly from the construction or acquisition of the asset, any costs 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 and the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

Property and equipment are carried at cost less accumulated depreciation and accumulated impairment losses. Certain land and buildings are measured at fair value at the date of transition to K-IFRS, which is deemed cost, in accordance with K-IFRS No.1101, 'First-time Adoption of K-IFRS'. Dividend from relevant revaluation surplus is prohibited in accordance with the resolution of the board of directors.

The Group recognizes in the carrying amount of an item of property and equipment the cost of replacing part of property and equipment when that cost is incurred if it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of those parts that are replaced is derecognized. The costs of the day-to-day servicing of property and equipment are recognized in profit or loss as incurred.

Among property and equipments, land is not depreciated. Other property and equipments are depreciated on a straight-line basis over the estimated useful lives, which most closely reflect the expected pattern of consumption of the future economic benefits embedded in the asset:

Descriptions	Useful lives
Buildings	40 years
Other properties	4~5 years

The gain or loss arising from the derecognition of an item of property and equipment, which is included in profit or loss, is determined as the difference between the net disposal proceeds, if any, and the carrying amount of the item.

At the end of each reporting period, the Group reviews the residual value, useful life, and depreciation method of the asset and treats it as a change in accounting estimate if it is appropriate to change it.

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2. **Significant accounting policies (continued)**

(q) Intangible assets

Intangible assets are measured initially at cost and, subsequently, are carried at cost less accumulated amortization and accumulated impairment losses.

Amortization of intangible assets except for goodwill is calculated on a straight-line basis over the estimated useful lives of intangible assets as below from the date that they are available for use. The residual value of intangible assets is zero. Related amortization costs are recognized as general administrative expenses.

Descriptions	Useful lives
Software and capitalized development cost	5 years
Capitalized development cost	5 years
Other intangible assets	5 years or contract periods

Amortization periods and the amortization methods for intangible assets with finite useful lives are reviewed at the end of each reporting period. The useful lives of intangible assets that are not being amortized are reviewed at the end of each reporting period to determine whether events and circumstances continue to support indefinite useful life assessments for those assets. Changes are accounted for as changes in accounting estimates.

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

(r) Investment properties

Investment property is property held either to earn rental income or for capital appreciation or both. An investment property is initially recognized at cost including any directly attributable expenditure. Subsequently, after the initial recognition, the asset is measured at cost less accumulated depreciation and accumulated impairment losses, if any.

The depreciation method and the estimated useful lives for the current and comparative periods are as follows:

Descriptions	Depreciation method	Useful lives
Buildings	Straight-line	40 years

Subsequent costs are recognized in the carrying amount of investment property at cost or, if appropriate, as separate items if it is probable that future economic benefits associated with the item will flow to the Group and the cost of the item can be measured reliably. The carrying amount of the replaced part is derecognized. The costs of the day-to-day servicing are recognized in profit or loss as incurred.

The depreciation methods, useful lives and residual values of investment properties are to be reviewed at the end of each reporting period and adjusted, if appropriate. The change is accounted for as changes in accounting estimates.

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2. **Significant accounting policies (continued)**

(s) Leases

The Group leases various tangible assets, such as real estate and vehicles, and the terms of the lease are negotiated individually and include a variety of terms and conditions. There are no other restrictions imposed by the lease contracts, except that the lease assets cannot be provided as collaterals for borrowings.

At the commencement date of the lease, the Group recognizes a right-of-use asset and a lease liability. The payment of each lease is allocated to the repayment of the liability and finance cost. The Group recognizes in profit or loss the amount calculated to produce a constant periodic rate of interest on the lease liability balance for each period as finance costs.

Right-of-use assets are depreciated using a straight-line method from the inception of the lease over the lease term of the right-of-use assets.

Lease liabilities are measured at present value of the lease payments that are not paid at the commencement date of the lease agreement, and included in other liabilities. Lease payments included in the measurement of the lease liabilities consist of the following:

- Fixed lease payments (including in-substance fixed payments, less any lease incentives receivable)
- Variable lease payments depending on an index or a rate
- Amounts expected to be paid by the lessee under a residual value guarantee
- The exercise price under a purchase option that the lessee is reasonably certain to exercise
- Payments of penalties for early terminating a lease unless the lessee is reasonably certain not to terminate early

If the implicit interest rate in the lease can be readily determined, the lease payments shall be discounted using that rate, and if that rate cannot be readily determined, the lessee shall use the lessee's incremental borrowing rate.

The right-of-use asset is initially at cost, which comprises:

- The amount of the initial measurement of the lease liability
- Any lease payments made at or before the commencement date, less any lease incentives received
- Any initial direct costs incurred by the lessee
- An estimate of costs to be incurred by the lessee in dismantling and removing the underlying asset, restoring the site on which it is located or restoring the underlying asset to the condition required by the terms and conditions of the lease

The Group includes right-of-use assets within the same line item as that within which the corresponding underlying assets would be presented if they are owned. Any right-of-use asset that meets the definition of investment property is presented as investment property. Lease payments associated with short-term leases or leases of low-value assets are recognized as an expense on a straight line basis over the lease term.

Additional considerations for the Group's accounting as a lessee include:

- Extension options and termination options are generally included in multiple real estate lease contracts.
- When estimating the lease term, the Group considers all relevant facts and circumstances that create an economic incentive to exercise the option to extend the lease, or not to exercise the option to terminate the lease.
- Period covered by an extension option (or period covered by termination option) is included in lease term only if the lessee is reasonably certain to exercise (or not to exercise) the option.
- If the lessee and the lessor have the right to terminate without the consent of the other parties, the termination period shall be determined in consideration of the economic disadvantages incurred in terminating the contract.
- When significant events occur or there are significant changes in circumstances that have affected the lessee's control and the lease term before, the parties reassess whether they are quite certain to exercise the option of extension (or not).

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Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(t) Non-current assets held for sale

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

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

If an asset is classified as held for sale or is part of a disposal group classified as held for sale, it is no longer depreciated or amortized.

(u) Impairment of non-financial assets

The carrying amounts of the Group's non-financial assets, other than assets arising from employee benefits, deferred tax assets and non-current assets held for sale, are reviewed at the end of the reporting period to determine whether there is any indication of impairment. If any such indication exists, then the asset's recoverable amount is estimated. Goodwill and intangible assets that have indefinite useful lives or that are not yet available for use, irrespective of whether there is any indication of impairment, are tested for impairment annually by comparing their recoverable amount to their carrying amount.

The Group estimates the recoverable amount of an individual asset, if it is impossible to measure the individual recoverable amount of an asset, then the Group estimates the recoverable amount of cash-generating unit ("CGU"). A CGU is the smallest identifiable group of assets that generates cash inflows that are largely independent of the cash inflows from other assets or group of assets. The recoverable amount of an asset or a CGU is the greater of its value in use and its fair value less costs to sell. The value in use is estimated by applying a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or the CGU for which estimated future cash flows have not been adjusted, to the estimated future cash flows expected to be generated by the asset or the CGU.

An impairment loss is recognized if the carrying amount of an asset or a CGU exceeds its recoverable amount. Impairment losses are recognized in profit or loss.

Goodwill acquired in a business combination is allocated to each CGU that is expected to benefit from the synergies arising from the goodwill acquired. Any impairment identified at the CGU level will first reduce the carrying value of goodwill and then be used to reduce the carrying amount of the other assets in the CGU on a pro rata basis. Except for impairment losses in respect of goodwill which are never reversed, an impairment loss is reversed if there has been a change in the estimates used to determine the recoverable amount. An impairment loss is reversed only to the extent that the asset's carrying amount does not exceed the carrying amount that would have been determined, net of depreciation or amortization, if no impairment loss had been recognized.

SHINHAN BANK AND SUBSIDIARIES
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2. **Significant accounting policies (continued)**

(v) Non-derivative financial liabilities

The Group recognizes financial liabilities in the consolidated statement of financial position when the Group becomes a party to the contractual provisions of the financial liability in accordance with the substance of the contractual arrangement and the definitions of financial liabilities.

Transaction costs on the financial liabilities at FVTPL are recognized in profit or loss as incurred.

i) Financial liabilities designated at FVTPL

Financial liabilities can be irrevocably designated as measured at FVTPL if doing so eliminates or significantly reduces an accounting mismatch that would otherwise arise from measuring assets or liabilities or recognizing the gains and losses on them on different bases, or a group of financial instruments is managed and its performance is evaluated on a fair value basis, in accordance with a documented risk management or investment strategy. However, once the financial assets are designated at FVTPL, it is irrevocable. The amount of change in the fair value of the financial liabilities designated at FVTPL that is attributable to changes in the credit risk of that liabilities shall be presented in other comprehensive income.

ii) Financial liabilities at FVTPL

Since initial recognition, financial liabilities at FVTPL is measured at fair value, and changes in the fair value are recognized as profit or loss.

iii) Other financial liabilities

Non-derivative financial liabilities other than financial liabilities at fair value through profit or loss are classified as other financial liabilities, and other financial liabilities include deposits, borrowings, debentures etc. At the date of initial recognition, other financial liabilities are measured at fair value minus transaction costs that are directly attributable to the acquisition. Subsequently, after the initial recognition, other financial liabilities are measured at amortized cost using the effective interest method. The Group derecognizes a financial liability from the consolidated statement of financial position when it is extinguished (i.e., when the obligation specified in the contract is discharged, cancelled, or expires).

(w) Paid-in capital

i) Equity instruments

Capital stock is classified as equity. Incremental costs directly attributable to the transaction of stock are deducted from equity, net of any tax effects.

ii) Hybrid bonds

The Group classifies an issued financial instrument, or its component parts, as a financial liability or an equity instrument depending on the substance of the contractual arrangement of such financial instrument. Hybrid bonds where the Group has an unconditional right to avoid delivering cash or another financial asset to settle a contractual obligation are classified as an equity instrument and presented in equity.

iii) Non-controlling interests

Non-controlling interests, which represent the equity in a subsidiary not attributable, directly or indirectly, to a parent's ownership interests, consist of the amount of those non-controlling interests at the date of the original combination calculated in accordance with K-IFRS No.1103, 'Business Combinations' and the non-controlling interests share of changes in equity since the date of the combination.

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2. **Significant accounting policies (continued)**

(x) Employee benefits

i) Short-term employee benefits

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

ii) Other long-term employee benefits

The Group's net obligation in respect of other long-term employee benefits that are not expected to be settled wholly before 12 months after the end of the annual reporting period in which the employees render the related service, is the amount of future benefit that employees have earned in return for their service in the current and prior periods. That benefit is discounted to determine its present value. Remeasurements are recognized in profit or loss in the period in which they arise.

iii) Retirement benefits: defined benefit plans

A defined benefit plan is a post-employment benefit plan other than a defined contribution plan. The Group's net obligation in respect of defined benefit plans is calculated by estimating the amount of future benefit that employees have earned in return for their service in the current and prior periods; that benefit is discounted to determine its present value. The fair value of plan assets is deducted. The calculation is performed annually by an independent actuary using the projected unit credit method.

The discount rate is the yield at the end of the reporting period on high-quality corporate bonds that have maturity dates approximating the terms of the Group's obligations and that are denominated in the same currency in which the benefits are expected to be paid. The Group recognizes service cost and net interest on the net defined benefit liability (asset) in profit or loss and remeasurements of the net defined benefit liability (asset) in other comprehensive income.

iv) Retirement benefits: defined contribution plans

The Group recognizes the contribution expense as an account of severance payments in profit or loss in the period according to the defined contribution plans.

v) Termination benefits

Termination benefits are expensed at the earlier of when the Group can no longer withdraw the offer of those benefits and when the Group recognizes costs for a restructuring. If benefits are not expected to be wholly settled within 12 months of the end of the reporting period, then they are discounted.

SHINHAN BANK AND SUBSIDIARIES
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2. **Significant accounting policies (continued)**

(y) Share-based payment transactions

The grant date fair value of share-based payment awards granted to employees is recognized as an employee expense, with a corresponding increase in equity, over the period that the employees unconditionally become entitled to the awards. The amount recognized as an expense is adjusted to reflect the number of awards for which the related service and non-market vesting conditions are expected to be met, such that the amount ultimately recognized as an expense is based on the number of awards that do meet the related service and non-market performance conditions at the vesting date. For share-based payment awards with non-vesting conditions, the grant date fair value of the share-based payment is measured to reflect such conditions and there is no true-up for differences between expected and actual outcomes.

The fair value of the amount payable to employees in respect of share appreciation rights, which are settled in cash, is recognized as an expense with a corresponding increase in liabilities, over the period that the employees unconditionally become entitled to payment. The liability is remeasured at the end of each reporting period and at settlement date. Any changes in the fair value of the liability are recognized as personnel expense in profit or loss.

The Group has granted share-based payment based on Shinhan Financial Group's share to the employees. In accordance with a repayment arrangement with Shinhan Financial Group, the Group is required to pay Shinhan Financial Group for the provision of the share-based payments. The Group recognizes the costs as expenses and accrued expenses in liabilities for the service period. When vesting conditions are not satisfied because of death, retirement or dismissal of employees during the specified service period, no amount is recognized for goods or services received on a cumulative basis. Share-based payment arrangements are accounted for as equity-settled share-based payment transactions, regardless of the repayment arrangement with Shinhan Financial Group. The share-based compensation agreement that the Group has given to its executives and employees is measured in cash-settled.

(z) Provisions

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

The risks and uncertainties that inevitably surround many events and circumstances are taken into account in reaching the best estimate of a provision. Where the effect of the time value of money is material, provisions are determined at the present value of the expected future cash flows.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimate. If it is no longer probable that an outflow of resources embodying economic benefits will be required to settle the obligation, the provision is reversed.

Provisions shall be used only for expenditures for which the provisions are originally recognized.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(aa) Financial guarantee contracts

A financial guarantee contract is a contract that requires the Group to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payment when due in accordance with the original or modified terms of a debt instrument.

Financial guarantee contracts are recognized initially at their fair value, and the initial fair value is amortized over the life of the financial guarantee contract.

After initial recognition, financial guarantee contracts are measured at the higher of:

- Loss allowance in accordance with K-IFRS No.1109, '*Financial Instruments*'
- The amount initially recognized less, when appropriate, the cumulative amount of income recognized in accordance with the principles of K-IFRS No.1115, '*Revenue from Contracts with Customers*'

(ab) Recognition of revenues and expenses

The Group's revenues are recognized using five-step revenue recognition model as follows: ① 'Identifying the contract' → ② 'Identifying performance obligations' → ③ 'Determining the transaction price' → ④ 'Allocating the transaction price to performance obligations' → ⑤ 'Recognizing the revenue by satisfying performance obligations'.

i) Interest income and expenses

Interest income and expense are recognized in profit or loss using the effective interest method. The effective interest rate is the rate that exactly discounts the estimated future cash payments and receipts through the expected life of the financial asset or liability or, where appropriate, a shorter period to the net carrying amount of the financial asset or liability. When calculating the effective interest rate, the Group estimates cash flows considering all contractual terms of the financial instrument but does not consider future credit losses. The calculation includes all fees and points paid or received between parties to the contract that are an integral part of the effective interest rate, and all other premiums or discounts. When it is not possible to estimate reliably the cash flows or the expected life of a financial instrument, the Group uses the contractual cash flows over the full contractual term of the financial instrument.

Once a financial asset or a group of similar financial assets has been written down as a result of an impairment loss, interest income is thereafter recognized using the rate of interest used to discount the future cash flows for the purpose of measuring the impairment loss.

ii) Fees and commission

The recognition of revenue for financial service fees depends on the purposes for which the fees are assessed and the basis of accounting for any associated financial instrument.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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2. **Significant accounting policies (continued)**

(ab) Recognition of revenues and expenses (continued)

ii) Fees and commission

① Fees that are an integral part of the effective interest rate of a financial instrument

Such fees are generally treated as an adjustment to the effective interest rate. Such fees may include compensation for activities such as evaluating the borrower's financial condition, evaluating, and recording guarantees, collateral and other security arrangements, preparing and processing documents, closing the transaction and the origination fees received on issuing financial liabilities. However, when the financial instrument is measured at fair value with the change in fair value recognized in profit or loss, the fees are recognized as revenue when the instrument is initially recognized.

② Fees earned as services are provided

Fees and commission income, including investment management fees, sales commission, and account servicing fees, are recognized as revenue when the related service as a performance obligation is provided.

③ Fees that are earned on the execution of a significant act

The fees that are earned on the execution of a significant act including commission on the allotment of shares or other securities to a client, placement fee for arranging a loan between a borrower and an investor and sales commission, are recognized as revenue when the significant act as a performance obligation has been completed.

iii) Dividends income

Dividend income is recognized when the shareholder's right to receive payment is established. Usually this is the ex-dividend date for equity securities.

(ac) Income tax

Income tax expense comprises current and deferred tax. Current tax and deferred tax are recognized in profit or loss except to the extent that it relates to a business combination, or items recognized directly in equity or in other comprehensive income.

Shinhan Financial Group, the parent company, files its national income tax return with the Korean tax authorities under the consolidated corporate tax system, which allows it to make national income tax payments based on the consolidated profits or losses of the Shinhan Financial Group and its wholly owned domestic subsidiaries including the Bank. Deferred taxes are measured based on the future tax benefits expected to be realized in consideration of the expected profits or losses of eligible companies in accordance with the consolidated corporate tax system. Consolidated corporate tax amounts, once determined, are allocated to each of the subsidiaries and are used as a basis for the income taxes to be recorded in their stand-alone financial statements.

The Group recognizes deferred tax liabilities for all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Group is able to control the timing of the reversal of the temporary difference and it is probable that the temporary difference will not reverse in the foreseeable future. The Group recognizes deferred tax assets for all deductible temporary differences arising from investments in subsidiaries and associates, to the extent that it is probable that the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

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2. **Significant accounting policies (continued)**

(ac) Income tax (continued)

Deferred tax assets and liabilities are measured at the tax rates that are expected to apply to the period when the asset is realized or the liability is settled, based on tax 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 deferred tax assets reflects the tax consequences that would follow from the manner in which the Group expects, at the end of the reporting period to recover or settle the carrying amount of its assets and liabilities.

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

Deferred tax assets and liabilities are offset only if there is a legally enforceable right to offset the related current tax liabilities and assets, and they relate to income taxes levied by the same tax authority and they intend to settle current tax liabilities and assets on a net basis.

If any additional income tax expense exists by payment of dividends, the Group recognizes it when the liability relating to the payment is recognized.

Because of the tax positions taken by the Group, tax uncertainties arise from the complexity of transactions and differences in tax law interpretation. Also, uncertainty arises from a tax refund suit, tax investigation, or a refund suit against the tax authorities' assessed tax amount. For the tax amount paid to the tax authorities, in accordance with K-IFRS No.2123, it will be recognized as the corporate tax assets if a refund in the future is probable. In addition, the amount expected to be paid as a result of the tax investigation is recognized as the tax liability.

(ad) Accounting for trust accounts

The Group accounts for trust accounts separately from its bank accounts under *the Financial Investment Services and Capital Markets Act* and thus the trust accounts are not included in the accompanying consolidated financial statements. Borrowings from trust accounts are included in other liabilities. Trust fees and commissions in relation to the service provided to trust accounts by the Group are recognized as fees and commission income.

(ae) Earnings per share

The Group presents basic and diluted earnings per share (EPS) data for its ordinary shares. Basic EPS is calculated by dividing the profit or loss attributable to the ordinary shareholder of the Bank by the weighted average number of common shares outstanding during the period, adjusted for own shares held. Diluted EPS is determined by adjusting the profit or loss attributable to ordinary shareholders and the weighted average number of ordinary shares outstanding, adjusted for own shares held, for the effects of all dilutive potential ordinary shares, which comprise share options granted to employees.

SHINHAN BANK AND SUBSIDIARIES
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3. Financial risk management

3-1. Credit risk

Credit risk is the risk of financial loss of the Group if a customer or counterparty fails to meet its contractual obligation. Credit risk is classified as the most important risk to be managed in the Group's business activities, and management carefully manages the maximum credit risk exposure. Credit exposure arises principally from due from banks, the lending process related to loans, investment activities in debt securities, drafts in the Group's asset portfolio and off balance sheet items including loan commitments, etc.

(a) Credit risk management

The Group's basic policy on credit risk management is determined by the Risk Policy Committee. The Risk Policy Committee consists of the Chief Risk Officer(CRO) as the chairman, the Chief Credit Officer (CCO), the head of the business group, and the head of the risk management department, and decides the credit risk management plan and the direction of the loan policy for the entire bank. Apart from the Risk Policy Committee, the Credit Review Committee is established to separate credit monitoring, such as large loans and limit approval, and the CCO is composed of the chairman, CRO and the head of the group in charge of the credit-related business group, the head of the credit planning department, and the senior examination team to enhance the credit quality of the loan and profitability of operation.

The risk management of the asset is primarily carried out by all operating units that hold and manage the asset subject to credit risk, and the credit risk management department, such as the risk management department and the credit planning department, is in charge of the credit risk management of the Bank as a whole. The risk management department and the risk engineering department manage credit portfolio management by managing credit risk limits set by the Risk Policy Committee and credit maximum exposure limits for the same parties, affiliates, industries, and countries. The Group also measures and manages risk components such as PD (Probability of Default), LGD (Loss Given Default), and EAD (Exposure at Default) through the operation of the credit rating system and collateral management system. As an organization for supporting and checking loan decisions, the Credit Planning Department manages the credit policy and system of the entire bank, and the Credit Review Department conducts independent credit rating and loan decision making. Also, the Credit Supervision Department conducts individual credit supervision on large loans.

Each of the Group's borrowers(retail borrowers and companies) is assigned with a credit rating, which is based on a comprehensive internal credit evaluation system that considers a variety of criteria. For retail borrowers, the credit rating takes into account the borrower's individual information, past dealings with the Group and external credit rating information. For corporate borrowers, the credit rating takes into account financial indicators as well as non-financial indicators such as industry risk, operational risk and management risk, among others. The credit rating, once assigned, serves as the fundamental instrument in the Group's credit risk management, and is applied in a wide range of credit risk management processes, including credit approval, credit limit management, loan pricing and computation of allowance for credit loss.

The Group's credit rating system reflects the requirements of Basel III, ACE (Automatic Credit Evaluation) and operates retail SOHO credit rating system with a maximum exposure of ₩500 million or less, and Advanced Internal Rating System (AIRS).

The credit decision for companies is based on a collective decision-making system, making objective and prudent decisions. In the case of a general credit, the credit is approved by agreement between the branch's RM (Relationship Manager) and headquarters of each business division. In the case of a large or important credit, the credit is approved by a screening body. In particular, the Credit review Committee, which is the highest decision-making body of loans, examines important loans, such as large loans that exceed the limit. The individual credit is evaluated by the individual credit evaluation system based on objective statistical methods and an automated credit scoring system (CSS) based on the bank's credit policy.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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3. Financial risk management (continued)

3-1. Credit risk (continued)

(a) Credit risk management (continued)

The Group operates a regular monitoring system for the regular management of individual loans. The review team and RM are required to conduct Loan Reviews by automatically searching for non-performing companies among the corporate loan clients, and the credit supervision department, which is independent from the business group, determines the adequacy of Loan Review results and requests credit rating adjustment of the company as necessary. In accordance with these procedures, a company is classified as an early warning company, an observer company, and a normal company, and discriminatory management is carried out in accordance with the management guidelines for each risk stage to prevent the insolvency of the loans at an early stage. The financial analysis support system affiliated with a professional credit rating agency supports credit screening and management, and the credit planning department calculates and manages industrial grades and analyzes and provides industry trends and company information.

(b) Risk management and risk mitigation policy

In order to control the credit risk of the Group at an appropriate level, the following risk management system is established and operated.

- Credit risk limits are set and managed by business sector, customer, product, industry, etc. based on credit VaR (Value at Risk) and maximum exposure amount.
- The Risk Management Department establishes and manages limits for credit VaR, and maximum exposure limits. The Credit Planning Department and the credit assessment department conduct maximum exposure limits.
- The Risk Management Department and Risk Engineering Department establish a credit risk limit operation plan for the entire bank at least once a year and commit it to the risk policy committee.
- Each business unit monitors and adheres to credit risk limits assigned to each business unit.
- The risk is re-assessed on an annual basis or within the period if deemed necessary, and the limit of risk is set and managed for each sector, such as by the person, industry and country.
- The maximum exposure for each borrower, including institutions, is managed by low level limits that are individually set for accounts in the consolidated financial statements and off-balance sheet accounts, and risk limits for daily transactions related to commodity trading including foreign currency forward trading, are also determined.
- Actual maximum exposure limits are managed daily.
- Maximum credit risk exposure is managed in the process of analyzing the interest and principal repayment ability of the borrower, and if necessary, changes the loan limit in the process.

Other risk management measures are as follows.

i) Collateral

The Group has adopted policies and procedures to mitigate credit risk. In connection with credit risk, collateral bond is generally used, and the Group has adopted a policy for pledging certain types of assets. The main types of collateral are as follows:

- Mortgage
- Real estate, inventories, accounts receivable, etc.
- Financial instruments such as debt securities and equity securities

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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3. Financial risk management (continued)

3-1. Credit risk (continued)

(b) Risk management and risk mitigation policy (continued)

Long-term loans are generally collateralized. On the other hand, revolving personal loans are generally unsecured. In addition, to minimize losses due to credit risk, the Group establishes additional collateral for the counterparty in the event of an indication of impairment of the asset.

Collateral for financial assets other than loans is subject to the nature of the products. Except for special cases such as Asset Backed Securities (ABS), unsecured securities are common in the case of debt securities.

ii) Derivative financial instruments

The Group maintains a credit limit on the amount and duration of derivative financial instruments that are in between the disposal agreements after purchase.

iii) Master netting arrangements

The Group limits its maximum exposure to credit losses by entering into master netting arrangements with counterparties in performing significant number of transactions.

Master netting arrangements generally do not result from offsetting assets and liabilities in the consolidated financial statements, as transactions are usually set at a gross amount basis. However, the right to offset, which is legally enforceable and affects the realization of individual financial assets and the settlement of financial liabilities, may arise under a master netting arrangement, and the credit risk of financial assets associated with this is reduced by master netting arrangements within the scope of financial liabilities.

iv) Credit related contracts

Guarantees and credit enhancements have credit risks similar to credit. Credit (which guarantees credit on behalf of the customer by issuing a note to a third party for the amount requested under specific terms and conditions) is secured by the underlying commodities associated with them, it involves less risk. The credit enhancement arrangements represent the unused portion of the credit limit in the form of a credit, guarantee or letter of credit. In relation to the credit risk of a credit enhancement arrangement, the Group is potentially exposed to the same amount as the total unused arrangements. Long-term contracts generally have a greater degree of credit risk than short-term, and the Group monitors the maturity of credit arrangements.

(c) Techniques, assumptions, and input variables used to measure impairment (Expected credit loss model)

i) Determining significant increases in credit risk since initial recognition

At the end of each reporting period, the Group assesses whether the credit risk on a financial asset has increased significantly since initial recognition. When making the assessment, the Group uses the change in the risk of a default occurring over the expected life of the financial assets instead of the change in the amount of expected credit losses. To make that assessment, the Group compares the risk of a default occurring on the financial assets at the end of the reporting period with the risk of a default occurring on the financial assets as at the date of initial recognition and consider reasonable and supportable information, that is available without undue cost or effort, that is indicative of significant increases in credit risk since initial recognition. The supportable information also includes historical default data held by the Group and the analysis by internal credit risk rating specialists.

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Notes to the Consolidated Financial Statements
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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

i) Measuring the risk of default

The Group assigns an internal credit risk rating to each individual exposure based on observable data and historical experiences that have been found to have a reasonable correlation with the risk of default. The internal credit risk rating is determined by considering both qualitative and quantitative factors that indicate the risk of default, which may vary depending on the nature of the exposure and the type of borrower.

The internal credit risk rating based on the borrower's information related to each individual exposure on initial recognition, may change depending on the results of continuing monitoring and reviews.

ii) Measuring term structure of probability of default

The Group accumulates information after analyzing the information regarding exposure to credit risk and default information by the type of product and borrower and results of internal credit risk assessment. For some portfolios, the Group uses information obtained from external credit rating agencies when performing these analyses.

The Group applies statistical techniques to estimate the probability of default for the remaining life of the exposure from the accumulated data and to estimate changes in the estimated probability of default over time.

iii) Significant increases in credit risk

The Group uses the indicators defined as per portfolio to determine the significant increase in credit risk and such indicators generally consist of changes in the risk of default estimated from changes in the internal credit risk rating, qualitative factors, days of delinquency, and others. The method used to determine whether credit risk of financial instruments has significantly increased after the initial recognitions is summarized as follows:

Corporate exposures	Retail exposures
Significant change in credit ratings	Significant change in credit ratings
Continued past due more than 30 days	Continued past due more than 30 days
Loan classification of precautionary and below	Loan classification of precautionary and below
Borrower with early warning signals	Borrower with early warning signals
Negative net assets	Specific pool segment
Adverse audit opinion or disclaimer of opinion	Collective loans for housing for which the constructors are insolvent
Interest coverage ratio below 1 for a consecutive period of three years or negative cash flows from operating activities for a consecutive period of two years	Loans with identified indicators for significant increases in other credit risk
Loans with identified indicators for significant increases in other credit risk	

SHINHAN BANK AND SUBSIDIARIES
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3. Financial risk management (continued)

3-1. Credit risk (continued)

**(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model)
(continued)**

The Group considers the credit risk of financial assets has been significantly increased since initial recognition if a specific exposure is past due more than 30 days. The Group counts the number of days past due from the earliest date on which the Group has not received the contractual payments in full of the borrower and does not consider the grace period granted to the borrower.

The Group regularly reviews the criteria for determining if there have been significant increases in credit risk from the following perspective.

- A significant increase in credit risk shall be identified prior to the occurrence of default.
- The criteria established to judge the significant increase in credit risk shall represent proactive prediction than the days of delinquency criteria.
- As a result of applying the judgment criteria, financial assets shall not be to move too frequently between the 12-months expected credit losses measurement and the lifetime expected credit losses measurement.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

ii) Modified financial assets

If the contractual cash flows on a financial asset have been renegotiated or modified and the financial asset is not derecognized, the Group assesses whether there has been a significant increase in the credit risk of the financial assets by comparing the risk of a default occurring at initial recognition based on the original, unmodified contractual terms and the risk of a default occurring at the end of the reporting period based on the modified contractual terms.

The Group may adjust the contractual cash flows of loans to customers who are in financial difficulties to manage the risk of default and enhance the collectability (hereinafter referred to as 'debt restructuring'). These adjustments generally involve extension of maturity, changes in interest payment schedule, and changes in other contractual terms.

Debt restructuring is a qualitative indicator of a significant increase in credit risk and the Group recognizes lifetime expected credit losses for the exposure expected to be the subject of such adjustments. If a borrower faithfully makes payments of contractual cash flows that are modified in accordance with the debt restructuring or if the borrower's internal credit rating has recovered to the level prior to the recognition of the lifetime expected credit losses, the Group recognizes the 12-months expected credit losses for that exposure again.

iii) Risk of default

The Group considers a financial asset to be in default if it meets one or more of the following conditions:

- If a borrower is more than 90 days past due on its contractual payments
- If the Group judges that it is not possible to recover principal and interest without enforcing the collateral on a financial asset

The Group uses the following indicators when determining whether a borrower is in default:

- Qualitative factors (e.g. breach of contract terms),
- Quantitative factors (e.g. if the same borrower does not perform more than one payment obligations to the Group, the number of days past due per payment obligation. However, in the case of a specific portfolio, the Group uses the number of days past due for each financial instruments.)
- Internal data and external data

The definition of default applied by the Group generally conforms to the definition of default defined for regulatory capital management purposes; however, depending on the situations, the information used to determine whether a default has incurred, and the extent thereof may vary.

iv) Reflection of forward-looking information

The Group reflects forward-looking information presented by a group of internal experts based on various information when measuring expected credit losses. The Group utilizes economic forecasts disclosed by domestic and foreign research institutes, governments, and public institutions to forecast forward-looking information.

The Group reflects future macroeconomic conditions anticipated from a neutral standpoint that is free from bias in measuring expected credit losses. Expected credit losses in this respect reflect conditions that are most likely to occur and are based on the same assumptions that the Group used in its business plan and management strategy.

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The Group analyzed the data experienced in the past and scenario data, derived correlations between major macroeconomic variables and credit risks required for predicting credit risk and credit loss for each portfolio, and then reflected forward-looking information through regression estimation. To reflect the prolonged COVID-19 and the internal and external economic uncertainty, the Group reflected final forward-looking information by considering 4 scenarios: upside, central, downside and worst.

The economic variables considered by the Group for the years ended December 31, 2022 and 2021 are as follows for each scenario;

① Upside scenario

Major variables(*1)(*2)(*3)	Correlation	2022.4Q	2023			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	1.4	1.6	1.7	2.5	3.9
Private consumption index (YoY %)	(-)	3.6	4.9	2.8	2.1	3.6
Facility investment growth rate (YoY %)	(-)	6.6	1.5	2.0	(4.2)	5.3
Consumer price index growth rate (%)	(+)	5.3	5.0	4.0	3.4	3.0
Balance on current account (100 million dollars)	(-)	15.0	30.0	40.0	80.0	100.0
Government bond 3y yields (%)	-	3.91	3.70	4.00	4.00	4.00

② Central scenario

Major variables(*1)(*2)(*3)	Correlation	2022.4Q	2023			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	1.4	0.4	0.5	1.2	3.7
Private consumption index (YoY %)	(-)	3.6	3.8	1.5	0.6	2.8
Facility investment growth rate (YoY %)	(-)	6.6	0.8	1.0	(5.3)	4.6
Consumer price index growth rate (%)	(+)	5.3	5.3	4.4	3.8	3.4
Balance on current account (100 million dollars)	(-)	15.0	20.0	30.0	60.0	80.0
Government bond 3y yields (%)	-	3.91	4.00	4.20	4.20	4.20

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

③ Downside scenario

Major variables(*1)(*2)(*3)	Correlation	2022.4Q	2023			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	1.4	(0.4)	(0.5)	(0.1)	2.9
Private consumption index (YoY %)	(-)	3.6	2.9	0.3	(0.8)	1.9
Facility investment growth rate (YoY %)	(-)	6.6	0.2	0.3	(6.4)	3.4
Consumer price index growth rate (%)	(+)	5.3	5.7	4.8	4.4	3.8
Balance on current account (100 million dollars)	(-)	15.0	10.0	20.0	40.0	60.0
Government bond 3y yields (%)	-	3.91	4.30	4.60	4.60	4.60

④ Worst scenario

Major variables(*1)(*2)(*4)	Correlation	1 year of crisis situations
GDP growth rate (YoY %)	(-)	(5.1)
Private consumption index (YoY %)	(-)	(11.9)
Facility investment growth rate (YoY %)	(-)	(38.6)
Consumer price index growth rate (%)	(+)	7.5
Balance on current account (100 million dollars)	(-)	401.1
Government bond 3y yields (%)	-	4.39

(*1) As a result of reviewing the correlation of each variable, the GDP growth rates and Consumer price index growth rate were applied among the major variables to reflect the final forward-looking information. The Group additionally selected the unemployment rate in addition to the table above.

(*2) Considering the forecast period of the company's bankruptcy, the Group reflected the forward-looking information.

(*3) The macroeconomic outlook figures are estimated by the Group for the purpose of calculating expected credit losses based on information from domestic and foreign research institutes. Therefore, it could be different from other institutions' estimates.

(*4) It was reflected in consideration of the period of the foreign exchange crisis in Korea.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

① Upside scenario

Major variables(*1)(*2)(*3)	Correlation	2021.4Q	2022			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	3.0	3.1	3.8	3.7
Private consumption index (YoY %)	(-)	6.3	5.1	2.5	3.7	3.8
Facility investment growth rate (YoY %)	(-)	4.1	0.5	1.2	5.0	5.1
Consumer price index growth rate (%)	(-)	3.6	2.6	2.4	2.0	2.0
Balance on current account (100 million dollars)	(-)	202.0	230.0	200.0	220.0	230.0
Government bond 3y yields (%)	-	1.87	1.90	1.90	2.00	2.00

② Central scenario

Major variables(*1)(*2)(*3)	Correlation	2021.4Q	2022			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	2.3	2.4	3.0	3.4
Private consumption index (YoY %)	(-)	6.3	4.4	1.8	2.9	3.5
Facility investment growth rate (YoY %)	(-)	4.1	0.2	0.8	4.5	4.9
Consumer price index growth rate (%)	(-)	3.6	2.7	2.5	2.2	2.0
Balance on current account (100 million dollars)	(-)	202.0	220.0	180.0	200.0	220.0
Government bond 3y yields (%)	-	1.87	1.80	1.80	1.90	1.90

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

③ Downside scenario

Major variables(*1)(*2)(*3)	Correlation	2021.4Q	2022			
			1Q	2Q	3Q	4Q
GDP growth rate (YoY %)	(-)	4.1	1.3	1.3	1.8	3.1
Private consumption index (YoY %)	(-)	6.3	3.4	0.7	1.8	3.1
Facility investment growth rate (YoY %)	(-)	4.1	(0.5)	0.3	4.3	4.5
Consumer price index growth rate (%)	(-)	3.6	3.2	3.0	3.0	2.8
Balance on current account (100 million dollars)	(-)	202.0	200.0	170.0	180.0	200.0
Government bond 3y yields (%)	-	1.87	2.00	2.00	2.20	2.40

(*1) As a result of reviewing the correlation of each variable, the private consumption index were applied among the major variables to reflect the final forward-looking information. The Group additionally selected the KOSPI forecast in addition to the table above.

(*2) Considering the forecast period of the company's bankruptcy, the Group reflected the future economic outlook.

(*3) The macroeconomic outlook figures are estimated by the Group for the purpose of calculating expected credit losses based on information from domestic and foreign research institutes. Therefore, it could be different from other institutions' estimates.

SHINHAN BANK AND SUBSIDIARIES
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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

The predicted correlations between the macroeconomic variables and the risk of default, used by the Group, are derived based on long-term data over the past ten years.

The recent historical default rate is an important reference when estimating the default rate in consideration of the future economic outlook. Although the economy has slowed down by COVID-19 since 2020, the actual default rate of the Group has remained stable because of various government support in response to the COVID-19. The Group operates the financial relief programs such as moratorium of interest payments and repayment in installments, and the Group manages credit risk from the loan from such moratorium by classifying the loans to Stage 2 and performing additional expected loss assessment in order to reflect the potential insolvency. In addition, the Group manages credit risk through additional expected loss assessments for estimated loss loans. As of December 31, 2022, the exposure of the maturity-extended financial loan corresponding to the financial relief program is ₩7,528,585 million, and the provision is ₩116,447 million.

As of December 31, 2022 and 2021, the exposure and provisions for the loans who applied for moratorium of interest payments and moratorium of repayment in installments is as follows:

		December 31, 2022	
		Exposure	Provision
Moratorium of interest payments	₩	165,442	26,582
Moratorium of repayment in installments		1,105,481	123,735
Moratorium of interest payments and moratorium of repayment in installments		66,218	9,814
	₩	<u>1,337,141</u>	<u>160,131</u>
		December 31, 2021	
		Exposure	Provision
Moratorium of interest payments	₩	224,449	27,460
Moratorium of repayment in installments		1,342,366	106,899
Moratorium of interest payments and moratorium of repayment in installments		65,773	8,459
	₩	<u>1,632,588</u>	<u>142,818</u>

To reflect the COVID-19 economic situation, the Group has additionally applied the scenario of worst to three macroeconomic variable scenarios: upside, central, and downside as of December 31, 2022. The probability weight of each scenario is determined by considering the probability distribution of the economic growth rate (GDP) estimated based on the economic growth rate forecast for each scenario that reflected future forecast information presented by the internal expert group.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

iv) Reflection of forward-looking information (continued)

If the probability weights for each scenario are assumed to be 100% and the other assumptions are the same, the sensitivity analysis of the Group's expected credit loss provisions and their impact on provisions is as follows:

Scenarios	Probability weight	Hypothesis	Difference from book value
Upside	25%	₩ 2,098,595	(312,872)
Central	30%	2,122,253	(289,214)
Downside	25%	2,159,045	(252,422)
Worst	20%	3,991,085	1,579,618

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

v) Measurement of expected credit losses

Key variables used in measuring expected credit losses are as follows:

- Probability of default (PD)
- Loss given default (LGD)
- Exposure at default (EAD)

These variables have been estimated from historical experience data by using the statistical techniques developed internally by the Group and have been adjusted to reflect forward-looking information.

Estimates of PD over a specified period are estimated by reflecting characteristics of counterparties and their exposure, based on a statistical model at a specific point of time. The Group uses its own information to develop a statistical credit assessment model used for the estimation, and additional information observed in the market is considered for some portfolios such as a group of large corporates. When a counterparty or exposure is concentrated in specific grades, the method of measuring PD for those grades would be adjusted, and the PD by grade is estimated by considering contract expiration of the exposure.

LGD refers to the expected loss if a borrower default. The Group calculates LGD based on the experience recovery rate measured from past default exposures. The model for measuring LGD is developed to reflect type of collateral, seniority of collateral, type of borrower, and cost of recovery. In particular, LGD for retail loan products uses loan to value (LTV) as a key variable. The recovery rate reflected in the LGD calculation is based on the present value of recovery amount, discounted at the effective interest rate.

EAD refers to the expected exposure at the time of default. The Group derives EAD reflecting a rate at which the current exposure is expected to be used additionally up to the point of default within the contractual limit. EAD of financial assets is equal to the total carrying amount of the asset, and EAD of loan commitments or guarantee contracts is calculated as the sum of the amount expected to be used in the future.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(c) Techniques, assumptions and input variables used to measure impairment (Expected credit loss model) (continued)

v) Measurement of expected credit losses (continued)

When measuring expected credit losses on financial assets, the Group reflects a period of expected credit loss measurement based on a contractual maturity. The Group takes into consideration of the extension rights held by a borrower when deciding the contractual maturity.

Risk factors such as PD, LGD and EAD are collectively estimated according to the following criteria:

- Type of products
- Internal credit risk rating
- Type of collateral
- Loan to value (LTV)
- Industry that the borrower belongs to
- Location of the borrower or collateral
- Days of delinquency

The criteria for classification of groups are periodically reviewed to maintain homogeneity of the group and adjusted if necessary. The Group uses external benchmark information to supplement internal information for a particular portfolio that did not have sufficient internal data accumulated from the past experience.

vi) Write-off of financial assets

The Group writes off a portion of or entire loan or debt security that is not expected to receive its principal and interest. In general, the Group conducts write-off when it is deemed that the borrower has no sufficient resources or income to repay the principal and interest. Such determination on write-off is carried out in accordance with the internal rules of the Group. Apart from write-off, the Group may continue to exercise its right of collection under its own recovery policy even after the write-off of financial assets.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(d) Maximum exposure to credit risk

The Group's maximum exposure to credit risk of the financial instruments held as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Due from banks(*1)(*2):		
Banks	₩ 6,687,333	4,546,076
Government/Public sector/Central bank/Etc	13,622,717	14,081,418
	<u>20,310,050</u>	<u>18,627,494</u>
Loans at amortized cost(*1)(*2):		
Banks	8,857,702	6,306,526
Retail		
Mortgage lending	56,469,256	55,230,898
Others	109,004,701	113,461,509
	<u>165,473,957</u>	<u>168,692,407</u>
Government/Public sector/Central bank/Etc	1,077,981	457,738
Corporate		
Large enterprises	45,855,175	37,461,533
Small and medium-sized enterprises	111,967,778	103,411,737
Special finance	10,822,148	9,423,639
Others	103	262
	<u>168,645,204</u>	<u>150,297,171</u>
Credit cards	244,095	179,654
	<u>344,298,939</u>	<u>325,933,496</u>
Loans at FVTPL(*2):		
Banks	109,099	-
Corporate		
Large enterprises	863,454	830,606
Small and medium-sized enterprises	-	63,554
	<u>863,454</u>	<u>894,160</u>
	<u>972,553</u>	<u>894,160</u>
Securities at FVTPL:		
Debt securities	20,900,078	23,894,803
Gold/silver deposits	75,969	83,691
	<u>20,976,047</u>	<u>23,978,494</u>
Securities at FVTOCI(*1)	47,554,952	47,584,677
Securities at amortized cost(*1)	28,379,986	21,325,243
Derivative assets	4,904,096	3,001,440
Other financial assets(*1)(*3)	15,463,269	16,529,548
Off-balance accounts:		
Guarantee contracts	17,995,698	16,546,629
Loan commitments and other credit related liabilities	111,110,774	103,157,749
	<u>129,106,472</u>	<u>119,704,378</u>
	<u>₩ 611,966,364</u>	<u>577,578,930</u>

(*1) The maximum exposure amounts for due from banks, loans, securities and other financial assets are measured as the amount net of unamortized balances and allowances.

(*2) Due from banks and loans are classified as similar credit risk group to be with consistent calculating capital adequacy ratio under New Basel Capital Accord (Basel III).

(*3) Other financial assets comprise accounts receivable, accrued income, guarantee deposits, domestic exchange settlement receivables, suspense payments, etc.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of December 31, 2022 and 2021 are as follows:

	December 31, 2022									
	12-month expected loss		Life-time expected loss				Total	Allowances	Net	Mitigation of credit risk due to collateral
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired					
Due from banks:										
Banks	₩ 4,822,966	1,875,057	-	177	-	6,698,200	(10,867)	6,687,333	-	
Government/ Public sector/Central bank/Etc	12,560,296	1,068,372	-	556	-	13,629,224	(6,507)	13,622,717	-	
	<u>17,383,262</u>	<u>2,943,429</u>	<u>-</u>	<u>733</u>	<u>-</u>	<u>20,327,424</u>	<u>(17,374)</u>	<u>20,310,050</u>	<u>-</u>	
Loans at amortized cost:										
Banks	6,501,512	2,255,363	111,593	-	-	8,868,468	(10,766)	8,857,702	42,418	
Retail										
Residential real estate mortgage loan	53,501,020	228,730	1,967,926	716,564	76,723	56,490,963	(21,707)	56,469,256	53,729,184	
Others	98,302,645	3,138,300	6,354,309	1,296,396	404,929	109,496,579	(491,878)	109,004,701	66,719,130	
Government/ Public sector/Central bank/Etc	1,063,999	2,863	12,055	-	-	1,078,917	(936)	1,077,981	-	
Corporate										
Large enterprises	30,191,499	10,823,234	2,368,333	2,725,435	132,406	46,240,907	(385,732)	45,855,175	10,942,389	
Small and medium- sized enterprises	67,181,097	23,458,473	8,491,172	13,379,684	438,675	112,949,101	(981,323)	111,967,778	80,698,917	
Special finance	2,154,704	8,515,020	26,997	156,358	-	10,853,079	(30,931)	10,822,148	4,668,799	
Others	-	43	-	86	-	129	(26)	103	-	
Credit cards	14	244,400	-	3,111	4,325	251,850	(7,755)	244,095	64	
	<u>258,896,490</u>	<u>48,666,426</u>	<u>19,332,385</u>	<u>18,277,634</u>	<u>1,057,058</u>	<u>346,229,993</u>	<u>(1,931,054)</u>	<u>344,298,939</u>	<u>216,800,901</u>	
Securities at FVTOCI(*)	38,391,288	9,096,464	-	67,200	-	47,554,952	-	47,554,952	-	
Securities at amortized cost	26,735,483	1,643,688	-	10,517	-	28,389,688	(9,702)	28,379,986	-	
	<u>₩ 341,406,523</u>	<u>62,350,007</u>	<u>19,332,385</u>	<u>18,356,084</u>	<u>1,057,058</u>	<u>442,502,057</u>	<u>(1,958,130)</u>	<u>440,543,927</u>	<u>216,800,901</u>	

(*) Credit loss allowance recognized in other comprehensive income on securities at FVTOCI is ₩24,746 million.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

i) The maximum exposure of financial instruments to credit risk by credit risk grade as of December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021									
	12-month expected loss		Life-time expected loss				Total	Allowances	Net	Mitigation of credit risk due to collateral
	Grade 1	Grade 2	Grade 1	Grade 2	Impaired					
Due from banks:										
Banks	₩ 3,428,533	1,125,709	-	434	-	4,554,676	(8,600)	4,546,076	-	
Government/ Public sector/Central bank/Etc	13,394,476	694,415	-	257	-	14,089,148	(7,730)	14,081,418	-	
	<u>16,823,009</u>	<u>1,820,124</u>	<u>-</u>	<u>691</u>	<u>-</u>	<u>18,643,824</u>	<u>(16,330)</u>	<u>18,627,494</u>	<u>-</u>	
Loans at amortized cost:										
Banks	4,050,591	2,152,237	112,254	-	-	6,315,082	(8,556)	6,306,526	133,618	
Retail										
Residential real estate mortgage loan	52,547,947	254,012	1,733,914	632,584	83,069	55,251,526	(20,628)	55,230,898	51,981,686	
Others	102,729,140	3,509,099	5,982,433	1,239,751	333,438	113,793,861	(332,352)	113,461,509	65,961,052	
Government/ Public sector/Central bank/Etc	442,015	16,112	-	-	-	458,127	(389)	457,738	-	
Corporate										
Large enterprises	23,033,770	9,100,770	2,675,305	2,910,251	132,475	37,852,571	(391,038)	37,461,533	9,649,855	
Small and medium-sized enterprises	61,630,453	22,607,642	7,161,189	12,426,271	478,222	104,303,777	(892,040)	103,411,737	72,445,216	
Special finance	2,343,147	6,928,856	22,524	153,771	-	9,448,298	(24,659)	9,423,639	4,094,442	
Others	-	150	-	139	-	289	(27)	262	-	
Credit cards	4	177,499	2	3,737	5,140	186,382	(6,728)	179,654	43	
	<u>246,777,067</u>	<u>44,746,377</u>	<u>17,687,621</u>	<u>17,366,504</u>	<u>1,032,344</u>	<u>327,609,913</u>	<u>(1,676,417)</u>	<u>325,933,496</u>	<u>204,265,912</u>	
Securities at FVTOCI(*)	39,979,252	7,452,639	-	152,786	-	47,584,677	-	47,584,677	-	
Securities at amortized cost	19,693,141	1,605,335	-	36,290	-	21,334,766	(9,523)	21,325,243	-	
	<u>₩ 323,272,469</u>	<u>55,624,475</u>	<u>17,687,621</u>	<u>17,556,271</u>	<u>1,032,344</u>	<u>415,173,180</u>	<u>(1,702,270)</u>	<u>413,470,910</u>	<u>204,265,912</u>	

(*) Credit loss allowance recognized in other comprehensive income on securities at FVTOCI is ₩ 28,739 million.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

ii) Credit risk exposure per credit grade of off-balance sheet accounts as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantee contracts:					
Grade 1	₩	13,997,614	385,819	-	14,383,433
Grade 2		3,313,927	199,925	-	3,513,852
Impaired		-	-	98,413	98,413
		<u>17,311,541</u>	<u>585,744</u>	<u>98,413</u>	<u>17,995,698</u>
Loan commitment and other credit related liabilities:					
Grade 1		89,495,753	4,215,975	-	93,711,728
Grade 2		15,415,924	1,983,122	-	17,399,046
Impaired		-	-	-	-
		<u>104,911,677</u>	<u>6,199,097</u>	<u>-</u>	<u>111,110,774</u>
	₩	<u>122,223,218</u>	<u>6,784,841</u>	<u>98,413</u>	<u>129,106,472</u>
		December 31, 2021			
		12-month expected credit loss	Lifetime expected credit loss		Total
			Not impaired	Impaired	
Guarantee contracts:					
Grade 1	₩	12,464,065	335,874	-	12,799,939
Grade 2		3,450,461	203,917	-	3,654,378
Impaired		-	-	92,312	92,312
		<u>15,914,526</u>	<u>539,791</u>	<u>92,312</u>	<u>16,546,629</u>
Loan commitment and other credit related liabilities:					
Grade 1		76,765,871	3,836,834	-	80,602,705
Grade 2		20,835,466	1,719,578	-	22,555,044
Impaired		-	-	-	-
		<u>97,601,337</u>	<u>5,556,412</u>	<u>-</u>	<u>103,157,749</u>
	₩	<u>113,515,863</u>	<u>6,096,203</u>	<u>92,312</u>	<u>119,704,378</u>

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iii) Credit risk exposure per collateral of financial instruments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		12-month expected credit loss	Lifetime expected credit loss		
			Not impaired	Impaired	Total
Guarantees	₩	60,505,261	8,502,095	226,585	69,233,941
Deposits and savings		2,482,402	232,114	2,360	2,716,876
Property and equipment		1,541,842	391,621	11,523	1,944,986
Real estate		129,871,227	15,916,705	240,894	146,028,826
	₩	<u>194,400,732</u>	<u>25,042,535</u>	<u>481,362</u>	<u>219,924,629</u>

		December 31, 2021			
		12-month expected credit loss	Lifetime expected credit loss		
			Not impaired	Impaired	Total
Guarantees	₩	60,808,960	8,287,776	192,950	69,289,686
Deposits and savings		1,812,844	241,588	1,516	2,055,948
Property and equipment		1,557,438	402,858	20,162	1,980,458
Real estate		120,655,956	13,258,933	226,544	134,141,433
	₩	<u>184,835,198</u>	<u>22,191,155</u>	<u>441,172</u>	<u>207,467,525</u>

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(e) Credit risk exposure by credit risk grade (continued)

iv) Credit risk exposure per LTV of mortgage loans as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		LTV of mortgage loans					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Other	Total
Loans at amortized cost	₩	20,442,384	15,871,664	15,634,149	2,335,250	2,207,516	56,490,963
Less: allowance		(1,031)	(3,266)	(12,224)	(2,702)	(2,484)	(21,707)
	₩	<u>20,441,353</u>	<u>15,868,398</u>	<u>15,621,925</u>	<u>2,332,548</u>	<u>2,205,032</u>	<u>56,469,256</u>
		December 31, 2021					
		LTV of mortgage loans					
		40% or less	Above 40% ~ 60%	Above 60% ~ 80%	Above 80% ~ 100%	Other	Total
Loans at amortized cost	₩	19,148,888	15,403,119	16,807,463	2,563,101	1,328,955	55,251,526
Less: allowance		(634)	(1,854)	(13,265)	(2,861)	(2,014)	(20,628)
	₩	<u>19,148,254</u>	<u>15,401,265</u>	<u>16,794,198</u>	<u>2,560,240</u>	<u>1,326,941</u>	<u>55,230,898</u>

v) Credit qualities are classified based on the internal credit rating as follows:

Type of Borrower	Grade 1	Grade 2
Retail	Pool of retail loans with probability of default of less than 2.25%	Pool of retail loans with probability of default of 2.25% or more
Governments, Public sector, Central bank	OECD sovereign credit rating of 6 or above	OECD sovereign credit rating of below 6
Banks and Corporations	Internal credit rating of BBB+ or above	Internal credit rating of below BBB+

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(f) Nature and effect of modification in contractual cash flows

i) For the financial assets for which the loss allowances have been measured at amounts equal to the lifetime expected credit losses, and the contractual cash flows are modified for the years ended December 31, 2022 and 2021, the amortized costs before modification amounted to ₩50,916 million and ₩16,192 million, respectively, and the net losses resulting from the modification amounted to ₩16,297 million and ₩2,908 million, respectively.

ii) As of December 31, 2022 and 2021, the book value of financial asset, for which contractual cash flows have been modified while the loss allowance is measured at an amount equal to lifetime expected credit losses at initial recognition, and the loss allowance reverted to being measured at an amount equal to 12-month expected credit losses for the years ended December 31, 2022 and 2021 are ₩5,686 million and ₩54,904 million.

(g) The contractual amounts outstanding on financial assets that are written-off but are still subject to enforcement activity as of December 31, 2022 and 2021, are ₩5,594,676 million and ₩6,342,146 million, respectively.

(h) As of December 31, 2022 and 2021, there are no assets acquired by the execution of collateral.

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3. **Financial risk management (continued)**

3-1. **Credit risk (continued)**

(i) Concentration by geographic location

An analysis of concentration by geographic location for financial instruments excluding equity securities as of December 31, 2022 and 2021 is as follows:

Division(*)	December 31, 2022								
	Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Others	Total
Due from banks:									
Banks	₩ 915,724	2,105,351	520,636	447,278	434,080	589,131	934,504	740,629	6,687,333
Government/Public sector/Central bank/Etc	9,801,519	915,306	-	1,404,163	21,674	345,142	441,551	693,362	13,622,717
	<u>10,717,243</u>	<u>3,020,657</u>	<u>520,636</u>	<u>1,851,441</u>	<u>455,754</u>	<u>934,273</u>	<u>1,376,055</u>	<u>1,433,991</u>	<u>20,310,050</u>
Loans at amortized cost:									
Banks	1,516,985	4,773	25,270	431,744	241,290	971,869	2,901,828	2,763,943	8,857,702
Retail									
Residential real estate mortgage loan	48,677,828	293,915	4,641	4,326,107	1,663	671,907	1,190,622	1,302,573	56,469,256
Others	105,714,674	108,124	3,488	31,203	2,053	1,966,639	830,547	347,973	109,004,701
Government/Public sector/Central bank/Etc	670,050	-	-	-	405,073	-	-	2,858	1,077,981
Corporate									
Large enterprises	38,787,387	1,599,839	51,119	515,975	26,792	1,342,401	1,258,553	2,273,109	45,855,175
Small and medium-sized enterprises	101,148,206	978,308	95,019	3,799,641	70,005	1,643,809	1,436,034	2,796,756	111,967,778
Special finance	7,990,243	803,632	197,345	830,825	8,408	87,887	-	903,808	10,822,148
Others	75	12	-	-	-	-	-	16	103
Credit cards	10,840	963	91	65	32	230,770	104	1,230	244,095
	<u>304,516,288</u>	<u>3,789,566</u>	<u>376,973</u>	<u>9,935,560</u>	<u>755,316</u>	<u>6,915,282</u>	<u>7,617,688</u>	<u>10,392,266</u>	<u>344,298,939</u>
Loans at FVTPL									
Banks	109,099	-	-	-	-	-	-	-	109,099
Corporate									
Large enterprises	863,454	-	-	-	-	-	-	-	863,454
	<u>972,553</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>972,553</u>
Securities at FVTPL									
Debt securities	20,259,961	129,986	4,817	32,171	21,649	-	2,713	448,781	20,900,078
Gold/silver deposits	-	-	75,969	-	-	-	-	-	75,969
	<u>20,259,961</u>	<u>129,986</u>	<u>80,786</u>	<u>32,171</u>	<u>21,649</u>	<u>-</u>	<u>2,713</u>	<u>448,781</u>	<u>20,976,047</u>
Securities at FVTOCI	42,254,619	2,673,595	157,951	348,241	34,065	92,940	688,085	1,305,456	47,554,952
Securities at amortized cost	26,781,017	106,480	-	214,653	-	726,476	110,884	440,476	28,379,986
Off-balance accounts:									
Guarantee contracts	16,185,620	118,951	23,481	47,806	44,203	303,054	1,015,543	257,040	17,995,698
Loan commitments and other credit related liabilities	100,816,038	732,156	314,626	539,431	41,461	1,834,268	2,455,130	4,377,664	111,110,774
	<u>₩ 522,503,339</u>	<u>10,571,391</u>	<u>1,474,453</u>	<u>12,969,303</u>	<u>1,352,448</u>	<u>10,806,293</u>	<u>13,266,098</u>	<u>18,655,674</u>	<u>591,598,999</u>

(*) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(i) Concentration by geographic location (continued)

An analysis of concentration by geographic location for financial instruments excluding equity securities as of December 31, 2022 and 2021 is as follows (continued):

Division(*)	December 31, 2021								
	Korea	U.S.A	U.K	Japan	Germany	Vietnam	China	Others	Total
Due from banks:									
Banks	₩ 425,254	1,377,998	26,441	333,980	447,317	413,816	843,735	677,535	4,546,076
Government/Public sector/Central bank/Etc	10,653,635	796,405	-	1,279,012	217,773	248,301	462,308	423,984	14,081,418
	<u>11,078,889</u>	<u>2,174,403</u>	<u>26,441</u>	<u>1,612,992</u>	<u>665,090</u>	<u>662,117</u>	<u>1,306,043</u>	<u>1,101,519</u>	<u>18,627,494</u>
Loans at amortized cost:									
Banks	1,392,907	4,950	11,735	116,708	83,372	1,060,070	1,833,710	1,803,074	6,306,526
Retail									
Residential real estate mortgage loan	47,752,200	277,827	4,573	4,304,160	1,372	580,191	1,284,732	1,025,843	55,230,898
Others	110,941,240	112,757	3,026	34,106	1,740	1,407,110	650,636	310,894	113,461,509
Government/Public sector/Central bank/Etc	441,646	-	-	-	-	-	-	16,092	457,738
Corporate									
Large enterprises	30,225,627	1,702,446	84,477	510,934	43,479	1,459,418	1,341,534	2,093,618	37,461,533
Small and medium-sized enterprises	93,752,872	831,446	44,270	3,019,992	50,707	1,325,959	1,606,095	2,780,396	103,411,737
Special finance	6,737,081	787,296	83,208	833,510	-	112,578	-	869,966	9,423,639
Others	145	7	-	-	-	-	-	110	262
Credit cards	7,343	1,582	85	45	17	169,506	84	992	179,654
	<u>291,251,061</u>	<u>3,718,311</u>	<u>231,374</u>	<u>8,819,455</u>	<u>180,687</u>	<u>6,114,832</u>	<u>6,716,791</u>	<u>8,900,985</u>	<u>325,933,496</u>
Loans at FVTPL									
Corporate									
Large enterprises	830,605	-	-	-	-	-	-	1	830,606
Small and medium-sized enterprises	63,554	-	-	-	-	-	-	-	63,554
	<u>894,159</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>1</u>	<u>894,160</u>
Securities at FVTPL									
Debt securities	23,098,304	326,107	8,396	50,503	19,048	-	9,041	383,404	23,894,803
Gold/silver deposits	-	-	83,691	-	-	-	-	-	83,691
	<u>23,098,304</u>	<u>326,107</u>	<u>92,087</u>	<u>50,503</u>	<u>19,048</u>	<u>-</u>	<u>9,041</u>	<u>383,404</u>	<u>23,978,494</u>
Securities at FVTOCI	44,042,942	1,426,509	120,851	250,768	52,199	120,884	679,528	890,996	47,584,677
Securities at amortized cost	19,740,332	1,526	-	244,149	-	902,377	80,042	356,817	21,325,243
Off-balance accounts:									
Guarantee contracts	15,259,083	156,225	4,690	28,725	13,374	358,862	617,574	108,096	16,546,629
Loan commitments and other credit related liabilities	92,620,943	531,120	256,083	760,322	86,329	2,789,103	2,104,907	4,008,942	103,157,749
	<u>₩ 497,985,713</u>	<u>8,334,201</u>	<u>731,526</u>	<u>11,766,914</u>	<u>1,016,727</u>	<u>10,948,175</u>	<u>11,513,926</u>	<u>15,750,760</u>	<u>558,047,942</u>

(*) Geographical breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector

i) An analysis of concentration by industry sector for financial instruments excluding equity securities as of December 31, 2022 and 2021 are as follows:

Division(*)	December 31, 2022								
	Finance and insurance	Manu- facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:									
Banks	₩ 6,687,333	-	-	-	-	-	-	-	6,687,333
Government/Public sector/Central bank/Etc	13,622,717	-	-	-	-	-	-	-	13,622,717
	<u>20,310,050</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>-</u>	<u>20,310,050</u>
Loans at amortized cost:									
Banks	8,206,048	-	-	-	29,979	-	621,675	-	8,857,702
Retail									
Residential real estate mortgage loan	-	-	-	-	-	-	-	56,469,256	56,469,256
Others	-	-	-	-	-	-	-	109,004,701	109,004,701
Government/Public sector/Central bank/Etc	1,066,103	-	-	-	-	-	11,878	-	1,077,981
Corporate									
Large enterprises	6,721,331	21,426,796	4,502,482	2,566,132	863,862	532,425	9,242,147	-	45,855,175
Small and medium-sized enterprises	1,211,710	34,951,501	17,117,543	29,910,350	2,122,623	5,216,746	21,437,305	-	111,967,778
Special finance	2,347,474	9,299	19,657	4,579,303	354,216	120,974	3,391,225	-	10,822,148
Others	-	-	26	2	-	-	75	-	103
Credit cards	-	-	-	-	-	-	-	244,095	244,095
	<u>19,552,666</u>	<u>56,387,596</u>	<u>21,639,708</u>	<u>37,055,787</u>	<u>3,370,680</u>	<u>5,870,145</u>	<u>34,704,305</u>	<u>165,718,052</u>	<u>344,298,939</u>
Loans at FVTPL									
Banks	-	-	-	69,533	-	-	39,566	-	109,099
Corporate									
Large enterprises	247,197	504,572	89,651	-	-	-	22,034	-	863,454
Securities at FVTPL									
Debt securities	10,861,305	1,652,645	988,310	889,125	187,188	59,459	6,262,046	-	20,900,078
Gold/silver deposits	75,969	-	-	-	-	-	-	-	75,969
Securities at FVTOCI	21,057,528	1,989,003	417,514	547,578	562,659	28,371	22,952,299	-	47,554,952
Securities at amortized cost	10,238,931	9,931	-	158,196	218,861	-	17,754,067	-	28,379,986
Off-balance sheet accounts:									
Guarantee contracts	2,340,397	8,934,828	3,380,682	115,812	224,239	89,300	2,560,434	350,006	17,995,698
Loan commitments and other liabilities for credit	18,194,380	27,582,399	9,883,883	2,799,711	1,801,246	308,030	12,322,373	38,218,752	111,110,774
	<u>₩ 102,878,423</u>	<u>97,060,974</u>	<u>36,399,748</u>	<u>41,635,742</u>	<u>6,364,873</u>	<u>6,355,305</u>	<u>96,617,124</u>	<u>204,286,810</u>	<u>591,598,999</u>

(*) Industrial breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

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3. Financial risk management (continued)

3-1. Credit risk (continued)

(j) Concentration by industry sector (continued)

i) An analysis of concentration by industry sector for financial instruments excluding equity securities as of December 31, 2022 and 2021 is as follows (continued):

Division(*)	December 31, 2021								
	Finance and insurance	Manu- facturing	Retail and wholesale	Real estate and service	Construction	Lodging and Restaurant	Others	Retail customers	Total
Due from banks:									
Banks	₩ 4,546,076	-	-	-	-	-	-	-	4,546,076
Government/Public sector/Central bank/Etc	14,081,418	-	-	-	-	-	-	-	14,081,418
	18,627,494	-	-	-	-	-	-	-	18,627,494
Loans at amortized cost:									
Banks	5,587,847	-	-	-	-	-	718,679	-	6,306,526
Retail									
Residential real estate mortgage loan	-	-	-	-	-	-	-	55,230,898	55,230,898
Others	-	-	-	-	-	-	-	113,461,509	113,461,509
Government/Public sector/Central bank/Etc	451,406	-	-	-	-	-	6,332	-	457,738
Corporate									
Large enterprises	4,302,559	18,614,635	3,704,339	2,367,214	734,533	314,134	7,424,119	-	37,461,533
Small and medium-sized enterprises	1,341,148	33,450,100	15,887,968	27,226,697	1,916,715	5,356,593	18,232,516	-	103,411,737
Special finance	2,123,235	15,721	21,084	3,897,181	176,613	126,861	3,062,944	-	9,423,639
Others	-	48	24	1	-	3	186	-	262
Credit cards	-	-	-	-	-	-	-	179,654	179,654
	13,806,195	52,080,504	19,613,415	33,491,093	2,827,861	5,797,591	29,444,776	168,872,061	325,933,496
Loans at FVTPL									
Corporate									
Large enterprises	368,872	425,282	-	-	2,037	-	34,415	-	830,606
Small and medium-sized enterprises	-	36,470	9,516	2,002	500	-	15,066	-	63,554
Securities at FVTPL									
Debt securities	13,855,973	1,684,706	876,013	416,950	150,377	62,437	6,848,347	-	23,894,803
Gold/silver deposits	83,691	-	-	-	-	-	-	-	83,691
Securities at FVTOCI	23,199,365	2,244,465	345,180	439,424	758,642	18,142	20,579,459	-	47,584,677
Securities at amortized cost	6,597,989	-	-	143,741	140,163	-	14,443,350	-	21,325,243
Off-balance accounts:									
Guarantee contracts	2,188,778	8,086,189	3,452,903	342,634	207,491	151,613	2,115,484	1,537	16,546,629
Loan commitments and other liabilities for credit	15,122,198	24,522,205	8,174,162	2,383,586	1,886,648	308,978	17,035,457	33,724,515	103,157,749
	₩ 93,850,555	89,079,821	32,471,189	37,219,430	5,973,719	6,338,761	90,516,354	202,598,113	558,047,942

(*) Industrial breakdown is the book value, net of unamortized balances and allowance for doubtful accounts.

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3. **Financial risk management (continued)**

3-1. **Credit risk (continued)**

(j) Concentration by industry sector (continued)

ii) As of December 31, 2022 and 2021, the concentration by industry sector for corporate loans that could be affected by the prolonged COVID-19 among the financial instruments is as follows, and the industries that will be affected by the future economic conditions may change significantly:

		December 31, 2022							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	154,076	3,281,340	1,217,228	209,652	76,982	2,160,803	56,719	7,156,800
Securities at FVTOCI		123,875	18,416	211,000	-	-	14,776	-	368,067
Securities at amortized cost		59,997	-	-	-	-	-	-	59,997
Off-balance accounts		435,399	254,076	2,731,899	8,500	76,817	1,162,054	36,784	4,705,529
	₩	<u>773,347</u>	<u>3,553,832</u>	<u>4,160,127</u>	<u>218,152</u>	<u>153,799</u>	<u>3,337,633</u>	<u>93,503</u>	<u>12,290,393</u>

		December 31, 2021							
		Airlift passenger	Lodging	Oil/petroleum refinery	Art-related	Movie theater	Clothing manufacturing	Travel	Total
Loans at amortized cost	₩	164,904	3,314,684	937,385	219,859	86,241	2,082,545	92,152	6,897,770
Securities at FVTPL		-	-	29,911	-	-	-	2,737	32,648
Securities at FVTOCI		114,158	18,142	264,343	-	7,123	10,678	-	414,444
Off-balance accounts		364,351	323,638	2,650,311	20,196	91,622	982,026	37,941	4,470,085
	₩	<u>643,413</u>	<u>3,656,464</u>	<u>3,881,950</u>	<u>240,055</u>	<u>184,986</u>	<u>3,075,249</u>	<u>132,830</u>	<u>11,814,947</u>

iii) In the case of borrowers classified as normal and impaired among individual loans subject to lifetime expected credit losses as disclosed in Note 3-1. (e), the effect of COVID-19 may be relatively large. The impact is subject to change, depending on the future economic situation.

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3. Financial risk management (continued)

3-2. Market risk

Market risk is the risk that changes in market price such as interest rates, equity prices, and foreign exchange rates, etc. will affect the Group's income. The Group manages securities, foreign exchange positions, derivative financial instruments, etc. held for the purpose of obtaining short-term trading gains as trading positions. And the Group manages interest-sensitive assets consisting of loans, deposits, and debt securities excluding short-term trading gains, interest-sensitive debt consisting of receipts, loans, and bonds, and interest-sensitive derivatives used as hedging instruments.

The Group carries out decision-making functions such as policy establishment and setting limits on market risk management by the Risk Policy Committee, and the Risk Engineering Department provides comprehensive market risk management, market risk system management, and Middle Office functions for all operating departments and desks.

The basis of market risk management is limit management to keep the maximum possible loss due to market risk within a certain level. The Risk Policy Committee sets and operates the VaR limit, loss limit, sensitivity limit, investment limit and position limit, and stress loss limit for each operating department and desk. The Risk Engineering department monitors the operation status independently from the operating department. The Group regularly reports to the Risk Policy Committee and Risk Management Committee. In addition, the Fair Value Assurance Council and the Risk Engineering Department conduct a review of the fair value evaluation method and risk assessment before the launch (or transactions) of new products in each business unit. The Risk Review Council for derivatives and structured products supports rational decision-making such as checking risk factors and reviewing investment limits, so that objective analysis and review of risk factors can be conducted in advance.

(a) Market risk management of trading positions

Trading data for foreign exchange, stocks, bonds, and derivatives, which are subject to the measurement of market risks of trading positions, are managed by entering transactions in the front system, and are automatically interfaced with the market risk management system (Risk Watch) to perform daily risk measurement and limit management. In addition, in order to supplement the risk measurement by statistical method and to manage the impact and loss scale of rapid changes in the economic environment, stress testing is regularly conducted in parallel, and through this, the loss extent is managed within a certain range in case of crisis of the Group.

i) Measurement method on market risk arising from trading positions

The Group applies historical simulation VaR methodology to each market risk, such as interest rates, stock prices, and exchange rates exposed to trading positions to calculate market risk in a 99% confidence level. VaR is based on a statistical assessment of potential losses to current positions from an adverse market movement. This represents the maximum amount of losses that can be incurred at the level of 99% confidence. Therefore, there is a statistical probability (1.0%) that the actual loss may be greater than the VaR measurement.

The VaR model measures expected losses assuming that the daily position at the measurement point remains and that market movements for the past 10 days from each measurement point will continue in the future.

Limits for each type of market risk are the limits set on market risk within the Bank's total risk limit. It is calculated by multiplying the average 10 days VaR and Stressed VaR for the previous 60 days by the regulatory multiplier and used as a market risk management tool. The Group's VaR limit is set annually by the Risk Management Committee or the Risk Policy Committee, and compliance of each type of limit is monitored on a daily basis. In addition, when the set limit is exceeded, the manager of the operation department reports the excess details, reasons for the excess, and solutions to the group head in charge, and manages the set limit to be reduced to the limit within the next business day.

The quality of the VaR model is continuously monitored by post verification of VaR results, and all post verification results are reported to the Board of Directors.

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3. Financial risk management (continued)

3-2. Market risk (continued)

(a) Market risk management of trading positions (continued)

ii) VaR of trading positions

The Group manages VaR for trading portfolio based on financial statements. The minimum, maximum, average VaR and the VaR for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Average	Maximum	Minimum	Year-end
Interest rate risk	₩	44,719	64,628	24,322	53,777
Equity risk		20,303	24,879	13,443	21,659
Foreign currency risk(*)		191,013	262,319	161,760	252,453
Volatility risk		84	211	25	110
Commodity risk		13	193	-	27
Covariance		(33,760)	(77,335)	(10,872)	(62,957)
	₩	<u>222,372</u>	<u>274,895</u>	<u>188,678</u>	<u>265,069</u>

(*) The Group measured foreign currency risk arising from trading positions and non-trading positions.

		December 31, 2021			
		Average	Maximum	Minimum	Year-end
Interest rate risk	₩	28,749	55,773	17,537	28,030
Equity risk		11,583	21,340	3,850	19,618
Foreign currency risk(*)		159,165	185,514	136,936	161,978
Volatility risk		162	368	29	60
Commodity risk		11	151	-	8
Covariance		(25,023)	(52,611)	(13,207)	(17,470)
	₩	<u>174,646</u>	<u>210,534</u>	<u>145,147</u>	<u>192,222</u>

(*) The Group measured foreign currency risk arising from trading positions and non-trading positions.

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3. Financial risk management (continued)

3-2. Market risk (continued)

(b) Market risk management of non-trading positions

The most critical market risk that arises from non-trading position is the interest rate risk. Accordingly, the Group measures and manages market risk for non-trading position by taking into account effects of interest rate changes on both its net asset value and income.

The Group carries out decision-making functions such as establishing policies and setting detailed limits on interest rate risk management by the Risk Policy Committee, and within these principles and limits, management departments by account, such as overseas branches, subsidiaries, and finance departments, trust headquarters, and general finance departments, primarily recognize and manage interest rate risk. The Risk Management Department and the Risk Engineering Department support the Risk Policy Committee's decision on interest rate risk, monitor whether the interest rate risk limit is exceeded, and evaluate and manage the overall interest rate risk.

The Group measures and manages interest rate risk using various analysis methods such as interest rate gap, duration gap, and scenario-based NII (Net Interest Income) simulation through the Asset Liability Management (ALM) system. Interest rate VaR and interest rate EaR (Earnings at Risk) and interest rate gap ratios are set and monitored monthly. In addition, stress testing evaluates the impact on interest rate risk in various crisis situations.

i) Measurement method on market risk arising from non-trading positions

The Group calculates and manages the amount of change in economic value of equity (interest rate VaR) and the maximum expected interest loss (interest rate EaR) over the next year on the application of the IRRBB Standard Method interest rate scenario provided by the Bank for International Settlements ("BIS"). It also manages the risk of interest rate market risk by reflecting the customer behaviour ratio based on IRRBB standard method.

In order to calculate the interest rate risk, the Group uses the six scenarios defined by the Basel Committee, 1) Parallel shock increases, 2) Parallel shock decreases, 3) Shock stiffener, 4) Shock flattener, 5) short-term interest rate increases, and 6) short-term interest rate decreases. Based on the six scenarios, the changes in economic value of equity are measured to calculate the maximum loss (VaR: Value at Risk) and the changes in net interest income are measured to calculate the maximum expected changes of profit or loss (EaR: Earning at Risk) based on the two scenarios (parallel shock increases and decreases).

ii) Interest rate VaR and EaR for non-trading positions

Interest rate VaR (maximum expected loss among Δ EVE) and EaR (maximum expected changes in profit of loss among Δ NII) for non-trading positions which were measured by the IRRBB standard methodology provided by BIS as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Interest rate VaR	₩	1,046,136	774,352
Interest rate EaR		599,941	96,145

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3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk

The Group manages foreign currency risk based on general positions which includes all spot and future foreign currency positions, etc. The Risk Policy Committee oversees the Group's foreign exchange exposure for both trading and non-trading activities by establishing limits for the net foreign currencies open position. The Group's foreign exchange position is centralized at the S&T Center. Dealers in S&T Center manage the Group's overall position within the set limits through spot trading, forward contracts, currency options, futures and swaps and foreign exchange swaps. The Group's foreign exchange transactions are mainly conducted in the U.S. dollar (USD), Japanese yen (JPY), Euro (EUR) and Chinese yuan (CNY). Other foreign currencies are limitedly traded.

Foreign currency denominated assets and liabilities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	5,201,254	1,961,565	96,335	688,837	4,329,609	12,277,600
Securities at FVTPL		1,114,580	-	249,734	-	217,562	1,581,876
Derivative assets		588,838	337	6,632	53	7,437	603,297
Loans at amortized cost		28,607,384	10,608,558	1,704,749	5,021,722	9,842,180	55,784,593
Securities at FVTOCI		5,328,349	180,352	3,236	498,367	980,859	6,991,163
Securities at amortized cost		177,584	203,102	-	110,997	1,162,523	1,654,206
Other financial assets		2,850,535	597,067	556,962	344,126	1,498,527	5,847,217
		<u>43,868,524</u>	<u>13,550,981</u>	<u>2,617,648</u>	<u>6,664,102</u>	<u>18,038,697</u>	<u>84,739,952</u>
Liabilities							
Deposits		24,902,919	11,772,467	1,628,441	5,017,756	11,785,781	55,107,364
Financial liabilities at FVTPL		2,958	-	-	-	422,006	424,964
Derivative liabilities		698,396	-	27,933	155	50,918	777,402
Borrowings		8,672,448	1,347,623	182,926	85,862	820,957	11,109,816
Debt securities issued		6,218,177	352,677	675,600	108,864	1,180,452	8,535,770
Other financial liabilities		3,666,954	259,683	621,756	889,138	1,462,188	6,899,719
		<u>44,161,852</u>	<u>13,732,450</u>	<u>3,136,656</u>	<u>6,101,775</u>	<u>15,722,302</u>	<u>82,855,035</u>
Net assets (liabilities)		(293,328)	(181,469)	(519,008)	562,327	2,316,395	1,884,917
Off-balance sheet items							
Derivative exposures		1,652,732	782,057	199,034	(50,107)	(748,669)	1,835,047
Net position	₩	<u>1,359,404</u>	<u>600,588</u>	<u>(319,974)</u>	<u>512,220</u>	<u>1,567,726</u>	<u>3,719,964</u>

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3. Financial risk management (continued)

3-2. Market risk (continued)

(c) Foreign exchange risk (continued)

Foreign currency denominated assets and liabilities as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021					
		USD	JPY	EUR	CNY	Others	Total
Assets							
Cash and due from banks	₩	3,434,912	1,789,019	385,508	665,105	3,157,314	9,431,858
Securities at FVTPL		1,261,781	13,108	245,151	-	100,632	1,620,672
Derivative assets		244,776	1	3,861	314	29,771	278,723
Loans at amortized cost		23,816,176	9,901,710	975,680	5,090,928	9,469,792	49,254,286
Securities at FVTOCI		3,769,503	162,023	25,094	397,010	701,480	5,055,110
Securities at amortized cost		94,817	241,232	-	80,133	1,225,443	1,641,625
Other financial assets		3,758,677	242,919	322,078	173,906	881,139	5,378,719
		<u>36,380,642</u>	<u>12,350,012</u>	<u>1,957,372</u>	<u>6,407,396</u>	<u>15,565,571</u>	<u>72,660,993</u>
Liabilities							
Deposits		19,144,174	10,629,572	1,362,516	4,791,459	9,776,547	45,704,268
Financial liabilities at FVTPL		-	-	-	-	581,458	581,458
Derivative liabilities		142,589	356	6,825	44	11,418	161,232
Borrowings		6,159,456	938,816	181,027	463,098	702,980	8,445,377
Debt securities issued		5,113,057	137,022	671,170	-	687,112	6,608,361
Other financial liabilities		3,123,788	116,544	195,387	551,976	1,088,305	5,076,000
		<u>33,683,064</u>	<u>11,822,310</u>	<u>2,416,925</u>	<u>5,806,577</u>	<u>12,847,820</u>	<u>66,576,696</u>
Net assets (liabilities)		2,697,578	527,702	(459,553)	600,819	2,717,751	6,084,297
Off balance sheet items							
Derivative exposures		(2,054,852)	3,669	499,528	(93,505)	(1,028,457)	(2,673,617)
Net position	₩	<u>642,726</u>	<u>531,371</u>	<u>39,975</u>	<u>507,314</u>	<u>1,689,294</u>	<u>3,410,680</u>

(d) Interest rate risk management

The Group is closely monitoring the output and market of various industrial working groups that manage the transition to new interest rate indicators. It includes announcements made by LIBOR regulators.

Regulators have made it clear that they will not persuade or force banks to submit LIBOR by the end of 2021. In response to this announcement, the Group has established a LIBOR-related response plan consisting of job flows such as risk management, accounting, tax, law, computerization, and customer management. The plan is dedicated to the Chief Financial Officer (CFO) and important matters are reported to the Board of Directors. The purpose of the plan is to identify the impact and risks associated with reforming interest rate indicators within the business and prepare and implement action plans to facilitate the transition to alternative benchmark rates. The Group aims to close its response plan in accordance with the guidelines of the regulators.

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3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

The financial instruments that have not been converted to alternative benchmark rates among the LIBOR interest rates as of December 31, 2022 are as follows:

i) Non-derivative financial assets

Division(*1)	December 31, 2022			
	Book value to be converted to alternative benchmark rates			
	USD LIBOR(*2)	JPY LIBOR	EUR LIBOR	Other LIBORs
Due from banks and loans at amortized cost:				
Loans	₩ 2,453,854	-	-	-
Securities at fair value through other comprehensive income:				
Financial institution bonds	189,047	-	-	-
Corporate bonds and others	229,030	-	-	-
	₩ 418,077	-	-	-
Loan commitments and guarantee contracts	₩ 217,839	-	-	-

(*1) The assets are book value and the loan commitments and guarantee contracts are in nominal amount.

(*2) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR..

Division(*1)	December 31, 2021			
	Book value to be converted to alternative benchmark rates			
	USD LIBOR(*2)	JPY LIBOR	EUR LIBOR	Other LIBORs
Due from banks and loans at amortized cost:				
Loans	₩ 2,757,117	207,660	49,642	122,104
Securities at fair value through other comprehensive income:				
Financial institution bonds	167,167	-	-	-
Corporate bonds and others	281,949	-	-	-
	₩ 449,116	-	-	-
Loan commitments and guarantee contracts	₩ 203,167	39,148	5,530	13,853

(*1) The assets are book value and the loan commitments and guarantee contracts are in nominal amount.

(*2) The instruments that will be matured before the end of June 30, 2023 are excluded in terms of USD LIBOR.

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3. Financial risk management (continued)

3-2. Market risk (continued)

(d) Interest rate risk management (continued)

ii) *Non-derivative financial liabilities*

Division	December 31, 2022			
	Book value to be converted to alternative benchmark rates			
	USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Financial liabilities at amortized cost:				
Deposits	₩ 200,000	-	-	-
Borrowings	50,692	-	-	-
Debt securities issued	1,097,132	-	-	-
	₩ 1,347,824	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

Division	December 31, 2021			
	Book value to be converted to alternative benchmark rates			
	USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Financial liabilities at amortized cost:				
Deposits	₩ 200,000	-	-	-
Borrowings	347,420	-	-	-
Debt securities issued	745,680	-	-	-
	₩ 1,293,100	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

iii) *Derivative*

Division	December 31, 2022			
	Open interest to be converted to alternative benchmark rates			
	USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Trading:				
Interest rates related	₩ 9,978,194	-	-	-
Foreign currency related	11,718,419	-	-	-
	₩ 21,696,613	-	-	-
Hedge:				
Interest rates related	₩ 4,196,714	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

Division	December 31, 2021			
	Open interest to be converted to alternative benchmark rates			
	USD LIBOR(*)	JPY LIBOR	EUR LIBOR	Other LIBORs
Trading:				
Interest rates related	₩ 9,350,752	-	-	-
Foreign currency related	10,900,844	-	-	-
	₩ 20,251,597	-	-	-
Hedge:				
Interest rates related	₩ 4,150,155	-	-	-

(*) The instruments that will be matured before the end of June 2023 are excluded in terms of USD LIBOR.

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3. Financial risk management (continued)

3-3. Liquidity risk

Liquidity risk is the risk that the Group will encounter difficulty in meeting obligations associated with its financial liabilities that are settled by delivering cash or another financial asset. The Risk Policy Committee is responsible for establishing policies and setting the limits related to liquidity risk management. The Risk Management Department evaluates and manages the Group's overall liquidity risk and monitors compliance of all operating subsidiaries and foreign branches with limits on a daily basis.

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

- Raise funding in sufficient amounts at the optimal time and reasonable costs;
- Maintain risk at appropriate levels and preemptively manage them through a prescribed risk limit system and an early warning signal detection system;
- Secure stable sources of revenue and minimize actual losses by implementing an effective asset-liability management system based on diversified sources of funding with varying maturities;
- Monitor and manage daily and intra-daily liquidity positions and risk exposures as to timely payment and settlement due under both normal and crisis situations;
- Conduct periodic contingency analysis in anticipation of any potential liquidity crisis and establish and implement emergency plans in case of a crisis and
- Consider liquidity-related costs, benefits and risks in determining the price of products and services, employee performance evaluations and approval of launching new products and services.

The Group uses various analysis methods such as liquidity gap, liquidity ratio, loan-deposit ratio, and real liquidity gap reflecting the customer behaviour model through the ALM system, while managing its liquidity risks on won and foreign currency through various indices including risk limits, early warning index, and monitoring index. Demand deposits, in analysing the maturity structures of assets and liabilities, can be classified as short-term because they can be withdrawn whenever a customer requests; however, considering customers' behaviours that usually maintain an average balance of a certain percentage, non-core deposits are classified to be short-term.

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3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial instruments

Contractual maturities for financial assets and financial liabilities as of December 31, 2022 and 2021 are as follows:

	December 31, 2022						Total
	1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	
Assets							
Cash and due from banks	₩ 21,335,153	708,790	451,703	122,487	-	-	22,618,133
Securities at FVTPL	18,571,082	3,131	21,263	29,584	411,482	2,165,162	21,201,704
Derivative assets	4,824,149	2,336	3,466	7,204	50,984	24,583	4,912,722
Loans at amortized cost	25,466,474	39,254,939	52,878,562	84,692,694	114,421,259	78,255,311	394,969,239
Loans at FVTPL	139,540	781,525	29,454	-	22,034	-	972,553
Securities at FVTOCI	41,386,166	215,000	496,625	950,714	5,149,929	572,350	48,770,784
Securities at amortized cost	459,842	1,812,362	1,138,319	3,466,130	21,311,738	2,429,089	30,617,480
Other financial assets	12,634,824	-	-	91,777	-	1,190,143	13,916,744
	₩ 124,817,230	42,778,083	55,019,392	89,360,590	141,367,426	84,636,638	537,979,359
Liabilities							
Deposits	₩ 206,118,736	42,065,346	40,644,536	68,947,374	20,050,918	2,595,957	380,422,867
Financial liabilities at FVTPL	424,964	-	-	-	-	-	424,964
Derivative liabilities	4,896,437	25,005	36,447	62,289	269,131	52,538	5,341,847
Borrowings	6,837,358	3,642,929	3,727,586	4,697,388	4,643,514	1,311,573	24,860,348
Debt securities issued	1,824,687	5,938,290	6,229,650	9,165,966	8,830,476	3,154,340	35,143,409
Financial liabilities designated at FVTPL	-	-	2,090	-	54,180	-	56,270
Other financial liabilities	19,733,853	24,207	32,611	153,613	194,456	52,197	20,190,937
	₩ 239,836,035	51,695,777	50,672,920	83,026,630	34,042,675	7,166,605	466,440,642

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows were classified based on the earliest dates for obligated repayment. Financial assets at FVTPL that can be disposed of immediately and financial instruments at FVTOCI except for assets restricted for sale for certain periods were included in 1 month or less.

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3. Financial risk management (continued)

3-3. Liquidity risk (continued)

(a) Contractual maturities for financial assets (continued)

Contractual maturities for financial assets and financial liabilities as of December 31, 2022 and 2021 are as follows:
(continued)

		December 31, 2021						
		1 month or less	1 month~ 3 months or less	3 months~ 6 months or less	6 months~ 1 year or less	1 year~ 5 years or less	More than 5 years	Total
Assets								
Cash and due from banks	₩	21,773,819	619,144	219,595	164,920	21,691	-	22,799,169
Securities at FVTPL		24,173,996	-	-	-	-	-	24,173,996
Derivative assets		2,855,430	20,039	24,489	40,424	236,954	68,034	3,245,370
Loans at amortized cost		19,895,840	36,075,398	49,131,402	78,881,560	107,024,001	69,216,722	360,224,923
Loans at FVTPL		170,018	627,523	61,516	5,412	30,879	-	895,348
Securities at FVTOCI		45,694,452	152,534	91,467	629,642	1,235,743	570,509	48,374,347
Securities at amortized cost		457,818	2,390,619	1,771,729	2,488,410	13,823,888	1,958,275	22,890,739
Other financial assets		15,411,633	-	-	85,473	-	1,216,529	16,713,635
	₩	<u>130,433,006</u>	<u>39,885,257</u>	<u>51,300,198</u>	<u>82,295,841</u>	<u>122,373,156</u>	<u>73,030,069</u>	<u>499,317,527</u>
Liabilities								
Deposits	₩	207,119,058	35,114,100	39,843,687	57,220,414	16,498,694	2,558,925	358,354,878
Financial liabilities at FVTPL		583,662	-	-	-	-	-	583,662
Derivative liabilities		2,606,678	1,112	1,634	3,263	24,263	15,456	2,652,406
Borrowings		6,716,098	2,995,267	2,659,514	3,508,647	4,172,764	1,095,108	21,147,398
Debt securities issued		1,278,754	5,874,261	4,597,641	11,866,979	12,687,232	2,898,559	39,203,426
Other financial liabilities		18,573,525	29,332	39,412	152,636	205,852	46,052	19,046,809
	₩	<u>236,877,775</u>	<u>44,014,072</u>	<u>47,141,888</u>	<u>72,751,939</u>	<u>33,588,805</u>	<u>6,614,100</u>	<u>440,988,579</u>

These amounts include cash flows of principal and interest on financial assets and financial liabilities. The undiscounted cash flows are classified based on the earliest dates for obligated repayment. Financial assets at FVTPL that can be disposed of immediately and financial assets at FVTOCI except for assets restricted for sale for certain periods are included in 1 month or less.

(b) Contractual maturities for off-balance sheet items

Financial guarantees such as guarantee contracts, loan commitments and others provided by the Group are classified based on the earliest date at which the Group should fulfill the obligation under the guarantee when the counterparty requests for the payment.

Off-balance sheet accounts as of December 31, 2022 and 2021 are as follows:

		December 31, 2022	December 31, 2021
Guarantee contracts	₩	17,995,698	16,546,629
Loan commitments and others		111,110,774	103,157,749
	₩	<u>129,106,472</u>	<u>119,704,378</u>

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3. Financial risk management (continued)

3-4. Measurement of fair value

The fair value which the Group primarily uses for measurement of financial instruments are the published price quotations in an active market which are based on the dealer price quotations of financial assets traded in an active market where available, which is the best evidence of fair value.

If the market for financial instruments is not active, such as OTC (Over The Counter market) derivatives, fair value is established either by using a valuation technique or an independent third-party valuation agency.

The Group uses diverse valuation techniques under reasonable assumptions which are based on the inputs observable in markets at the end of each reporting period.

Valuation techniques include using the recent arm's length market transactions between knowledgeable, willing parties, if available, reference to the current fair value of another instrument that is substantially the same, discounted cash flow analysis and option pricing models. For example, the fair value for interest swaps is the present value of estimated future cash flows, and fair value for foreign exchange forwards contracts is measured by using the published forward exchange rate at the end of each reporting period.

The Group classifies and discloses fair value of the financial instruments into the following three-level hierarchy:

- (i) Level 1: financial instruments measured at quoted prices from active markets are classified as level 1.
- (ii) Level 2: financial instruments measured using valuation techniques where all significant inputs are observable market data are classified as level 2.
- (iii) Level 3: financial instruments measured using valuation techniques where one or more significant inputs are not based on observable market data are classified as level 3.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value

i) The table below analyzes financial instruments measured at the fair value as of December 31, 2022 and 2021 by the level in the fair value hierarchy into which the fair value measurement is categorized:

		December 31, 2022			
		Level 1	Level 2	Level 3	Total
Financial instruments					
Loans at FVTPL:					
Loans	₩	-	950,519	22,034	972,553
Securities at FVTPL:					
Debt securities		721,935	16,390,587	3,787,556	20,900,078
Equity securities		58,951	-	166,706	225,657
Gold/silver deposits		75,969	-	-	75,969
		<u>856,855</u>	<u>16,390,587</u>	<u>3,954,262</u>	<u>21,201,704</u>
Derivative assets:					
Trading		233	4,821,409	1,300	4,822,942
Hedging		-	81,154	-	81,154
		<u>233</u>	<u>4,902,563</u>	<u>1,300</u>	<u>4,904,096</u>
Securities at FVTOCI:					
Debt securities		18,027,749	29,527,203	-	47,554,952
Equity securities		691,227	-	524,605	1,215,832
		<u>18,718,976</u>	<u>29,527,203</u>	<u>524,605</u>	<u>48,770,784</u>
	₩	<u>19,576,064</u>	<u>51,770,872</u>	<u>4,502,201</u>	<u>75,849,137</u>
Financial liabilities					
Financial liabilities designated at FVTPL:					
Debt securities issued	₩	-	47,327	-	47,327
		<u>-</u>	<u>47,327</u>	<u>-</u>	<u>47,327</u>
Financial liabilities at FVTPL:					
Securities sold		2,958	-	-	2,958
Gold/silver deposits		422,006	-	-	422,006
		<u>424,964</u>	<u>-</u>	<u>-</u>	<u>424,964</u>
Derivative liabilities:					
Trading		2	4,883,364	110	4,883,476
Hedging		-	552,392	343,758	896,150
		<u>2</u>	<u>5,435,756</u>	<u>343,868</u>	<u>5,779,626</u>
	₩	<u>424,966</u>	<u>5,483,083</u>	<u>343,868</u>	<u>6,251,917</u>

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

i) The table below analyzes financial assets measured at the fair value as of December 31, 2022 and 2021 by the level in the fair value hierarchy into which the fair value measurement is categorized: (continued)

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Financial instruments				
Loans at FVTPL:				
Loans	₩ -	787,163	106,997	894,160
Securities at FVTPL:				
Debt securities	1,114,960	19,671,048	3,108,794	23,894,802
Equity securities	72,683	-	122,820	195,503
Gold/silver deposits	83,691	-	-	83,691
	<u>1,271,334</u>	<u>19,671,048</u>	<u>3,231,614</u>	<u>24,173,996</u>
Derivative assets:				
Trading	164	2,843,706	860	2,844,730
Hedging	-	156,710	-	156,710
	<u>164</u>	<u>3,000,416</u>	<u>860</u>	<u>3,001,440</u>
Securities at FVTOCI:				
Debt securities	17,038,663	30,546,014	-	47,584,677
Equity securities	257,914	-	458,229	716,143
	<u>17,296,577</u>	<u>30,546,014</u>	<u>458,229</u>	<u>48,300,820</u>
	<u>₩ 18,568,075</u>	<u>54,004,641</u>	<u>3,797,700</u>	<u>76,370,416</u>
Financial liabilities				
Financial liabilities at FVTPL:				
Securities sold	₩ 2,204	-	-	2,204
Gold/silver deposits	581,458	-	-	581,458
	<u>583,662</u>	<u>-</u>	<u>-</u>	<u>583,662</u>
Derivative liabilities:				
Trading	650	2,604,599	849	2,606,098
Hedging	-	63,667	182,748	246,415
	<u>650</u>	<u>2,668,266</u>	<u>183,597</u>	<u>2,852,513</u>
	<u>₩ 584,312</u>	<u>2,668,266</u>	<u>183,597</u>	<u>3,436,175</u>

ii) There were no transfers between level 1 and level 2 financial instruments measured at fair value for the years ended December 31, 2022 and 2021.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iii) Changes in level 3 of the fair value hierarchy

Changes in level 3 of the fair value hierarchy for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022					Total
		Loans at FVTPL	Securities at FVTPL	Securities at FVTOCI	Derivative assets	Derivative liabilities	
Beginning balance	₩	106,997	3,231,614	458,229	860	(183,597)	3,614,103
Total gain or loss:							
Recognized in profit or loss (*1)		(12,543)	(83,978)	-	793	(160,439)	(256,167)
Recognized in other comprehensive income		-	-	(8,044)	-	-	(8,044)
Purchases/issues		-	1,102,545	85,330	-	(298)	1,187,577
Settlements		(72,420)	(342,725)	(10,910)	(429)	466	(426,018)
Transfers into level 3(*2)		-	68,083	-	-	-	68,083
Transfers from level 3(*2)		-	(21,277)	-	76	-	(21,201)
Ending balance	₩	22,034	3,954,262	524,605	1,300	(343,868)	4,158,333

		December 31, 2021					Total
		Loans at FVTPL	Securities at FVTPL	Securities at FVTOCI	Derivative assets	Derivative liabilities	
Beginning balance	₩	136,358	2,517,407	461,556	3,022	(106,906)	3,011,437
Total gain or loss:							
Recognized in profit or loss (*1)		6,364	125,149	-	(1,448)	(79,562)	50,503
Recognized in other comprehensive income		-	-	(4,625)	-	-	(4,625)
Purchases/issues		25,000	1,198,102	1,538	400	(597)	1,224,443
Settlements		(60,725)	(674,198)	(240)	(1,070)	3,457	(732,776)
Transfers into level 3(*2)		-	139,467	-	33	-	139,500
Transfers from level 3(*2)		-	(74,313)	-	(77)	11	(74,379)
Ending balance	₩	106,997	3,231,614	458,229	860	(183,597)	3,614,103

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) Financial assets measured at fair value (continued)

(*1) Gains or losses among the changes in level 3 of the fair value hierarchy and gains or losses related to financial instruments that the Group held as of December 31, 2022 and 2021 are presented in the consolidated statements of comprehensive income as follows:

	December 31, 2022		December 31, 2021	
	Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instruments held at the end of the year	Gains or losses recognized in profit or loss	Gains or losses recognized in profit or loss for financial instruments held at the end of the year
Net gain on financial instruments at FVTPL	₩ (95,157)	(104,108)	131,227	123,645
Net other operating expenses	(161,010)	(161,010)	(80,724)	(83,669)
	₩ <u>(256,167)</u>	<u>(265,118)</u>	<u>50,503</u>	<u>39,976</u>

(*2) Changes in the availability of observable market data for the financial instruments have resulted in transfers between levels. The Group has recognized changes in levels at the end of the reporting period when events or situations that cause transfers between levels occur.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments

ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
Financial instruments		Type of financial instruments	Book value	Valuation techniques	Inputs
	Loans at FVTPL	₩	950,519	Discounted cash flow	Discount rate
	Securities at FVTPL	Debt securities	16,390,587	Discounted cash flow, Net asset value	Discount rate, Price of underlying assets; such as securities and bonds
	Derivative assets	Trading	4,821,409	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
		Hedging	81,154		
			<u>4,902,563</u>		
	Securities at FVTOCI	Debt securities	29,527,203	Discounted cash flow	Discount rate
		₩	<u>51,770,872</u>		

		December 31, 2022			
Financial liabilities		Type of financial liabilities	Book value	Valuation techniques	Inputs
	Financial liabilities designated at FVTPL	Debt securities	₩ 47,327	Option model	Discount rate, volatility
	Derivative liabilities	Trading	4,883,364	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
		Hedging	552,392		
			<u>5,435,756</u>		
		₩	<u>5,483,083</u>		

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) *Valuation techniques and inputs used in measuring fair value of financial instruments (continued)*

Ⓐ Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 as of December 31, 2022 and 2021 are as follows: (continued)

		December 31, 2021		
Type of financial instruments		Book value	Valuation techniques	Inputs
Financial instruments				
	Loans at FVTPL	₩ 787,163	Discounted cash flow	Discount rate
Securities at FVTPL	Debt securities	19,671,048	Discounted cash flow, Net asset value	Discount rate, Price of underlying assets; such as securities and bonds
Derivative assets	Trading	2,843,706	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging	156,710		
		<u>3,000,416</u>		
Securities at FVTOCI	Debt securities	₩ <u>30,546,014</u> <u>54,004,641</u>	Discounted cash flow	Discount rate
Financial liabilities				
Derivative liabilities	Trading	₩ 2,604,599	Option model, Discounted cash flow	Discount rate, foreign exchange rate, volatility, stock price, commodity index, etc.
	Hedging	63,667		
		₩ <u>2,668,266</u>		

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows:

		December 31, 2022					
	Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial instruments							
Loans at FVTPL	Option model (*1)	Loans	₩ 22,034	Volatility of underlying assets, Discount rate	Volatility of underlying assets	41.99%	The higher the volatility, the higher the volatility of fair value
Securities at FVTPL	Net asset value method, Option model (*1)(*2)	Debt securities	3,787,556	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Discount rate, Correlation coefficient	23.97%~35.54% 7.56%~15.15% 7.45%~66.90%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases, The effects of trading instruments and market conditions increase or decrease fair value with changes in correlation coefficients
	Discounted cash flow, Comparable company analysis	Equity securities	166,706	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	25.3% 5.59%~15.18%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			<u>3,954,262</u>				
Derivative assets	Option model (*2)	Equity and foreign exchange	1,300	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	4.89%~31.73%	The higher the volatility, the higher the volatility of fair value
Securities FVTOCI	Net asset value method, Discounted cash flow, Comparable company analysis, Option model (*1)	Equity securities	524,605	Volatility of underlying assets, Discount rate, Stock price	Volatility of underlying assets, Discount rate	28.62% 9.08%~19.14%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases
			₩ <u>4,502,201</u>				

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows (continued):

			December 31, 2022				
	Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities							
Derivative liabilities				Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets		The higher the volatility, the higher the volatility of fair value
	Option model (*2)	Equity related	₩ 110			4.89%~43.22%	
	Option model (*2)	Interest rates related	343,758	Volatility of underlying assets Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets Regression coefficient, Correlation coefficient	0.64%~1.02% 0.0026%~1.4568% 52.90%~90.34%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
			₩ <u>343,868</u>				

(*1) The Group uses Binomial Tree and LSMC option model.

(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments(continued)

㉞ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows (continued):

		December 31, 2021					
	Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial instruments							
Loans at FVTPL	Option model (*1)	Loans	₩ 106,997	Volatility of underlying assets, Discount rate	Volatility of underlying assets	17.89%~41.5%	The higher the volatility, the higher the volatility of fair value
Securities at FVTPL	Net asset value method, option model (*1)(*2)	Debt securities	3,108,794	Volatility of underlying assets, Discount rate, Correlation coefficient	Volatility of underlying assets, Correlation coefficient	19.48%~41.5% 23.17%~58.47%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in correlation coefficients
	Discounted cash flow, comparable company analysis	Equity securities	122,820	Discount rate, Terminal growth rate, Stock price	Discount rate, Terminal growth rate	5.45%~16.35% 1.00%	Fair value increases as discount rate decreases, Fair value increases as growth rate increases
			<u>3,231,614</u>				
Derivative assets							
	Option model (*2)	Equity and foreign exchange related	785	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	2.29%~21.7%	The higher the volatility, the higher the volatility of fair value
	Discounted cash flow	Interest rates related	75	Discount rate	Discount rate	1.11%~1.83%	Fair value increases as discount rate decreases
			<u>860</u>				
Securities at FVTOCI	Net asset value method, discounted cash flow, comparable company analysis, option model (*1)	Equity securities	458,229	Volatility of underlying assets, Discount rate, Terminal growth rate, Stock price	Volatility of underlying assets, Discount rate, Terminal growth rate	25.49% 9.8%~22.79% 0%~1.00%	The higher the volatility, the higher the volatility of fair value, Fair value increases as discount rate decreases, Fair value increases as growth rate increases
			₩ <u>3,797,700</u>				

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments (continued)

ⓑ The Group uses the valuation values of external independent and qualified evaluators or internal evaluation models to determine the fair value of group assets at the end of each reporting period. As of December 31, 2022 and 2021, the valuation technique and significant but not observable input variables used to measure the fair value of financial assets classified as fair value level 3 are as follows (continued):

December 31, 2021						
Valuation technique	Type of financial assets	Book value	Input	Significant unobservable input	Range of input	Relationship of unobservable inputs to fair value
Financial liabilities						
Derivative liabilities						
Option model (*2)	Equity and foreign exchange related	₩ 849	Volatility of underlying assets, Price of underlying assets, Foreign exchange rates	Volatility of underlying assets	2.29%~21.7%	The higher the volatility, the higher the volatility of fair value
Option model (*2)	Interest rates related	182,748	Volatility of underlying assets, Regression coefficient, Correlation coefficient, Interest rate	Volatility of underlying assets, Regression coefficient, Correlation coefficient	0.46%~0.78%, 0.0024%~0.539%, 38.06%~90.34%	The higher the volatility, the higher the volatility of fair value, The effects of trading instruments and market conditions increase or decrease fair value with changes in regression and correlation coefficients
		<u>₩ 183,597</u>				

(*1) The Group uses Binomial Tree and LSMC option model.

(*2) Option models that the Group uses in derivative valuation include Black-Scholes model, Hull-White model, depending on the type of product, methods such as Monte Carlo simulation.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(a) financial instruments measured at fair value (continued)

v) *Sensitivity to changes in unobservable inputs.*

For level 3 fair value measurement, changing one or more of the unobservable inputs used to reasonably possible alternative assumptions would have the following effect on profit (loss), and other comprehensive income (loss) as of December 31, 2022 and 2021 are as follows:

Type of financial instruments (*1)		December 31, 2022			
		Profit (loss) for the year		Other comprehensive income (loss) for the year	
		Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL(*2)		₩ 246	(251)	-	-
Securities at FVTPL	Debt securities(*2)	5,145	(4,763)	-	-
	Equity securities(*3)	6,271	(4,613)	-	-
Derivative assets(*2)	Equity and foreign exchange related	243	(242)	-	-
Securities at FVTOCI(*3)	Equity securities	-	-	13,431	(10,682)
		₩ 11,905	(9,869)	13,431	(10,682)
Derivative liabilities(*2)	Equity and foreign exchange related	₩ 17	(19)	-	-
	Interest rates related	4,960	(6,131)	-	-
		₩ 4,977	(6,150)	-	-

(*1) ₩3,893,450 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.

(*2) Based on 10% of increase or decrease in unobservable volatility of underlying assets or correlation coefficient.

(*3) Based on changes in unobservable growth rate (-1.0%p~1.0%) and discount rate (-1%p~1%p).

Type of financial instruments		December 31, 2021			
		Profit (loss) for the year		Other comprehensive income (loss) for the year	
		Favorable change	Unfavorable change	Favorable change	Unfavorable change
Loans at FVTPL(*1)		₩ 3,556	(3,238)	-	-
Securities at FVTPL	Debt securities(*2)	3,261	(2,922)	-	-
	Equity securities(*3)	3,462	(2,775)	-	-
Derivative assets(*2)	Equity and foreign exchange related	61	(61)	-	-
Securities at FVTOCI(*3)	Equity securities	-	-	15,359	(11,009)
		₩ 10,340	(8,996)	15,359	(11,009)
Derivative liabilities(*2)	Equity and foreign exchange related	₩ 71	(71)	-	-
	Interest rates related	7,154	(6,983)	-	-
		₩ 7,225	(7,054)	-	-

(*1) ₩3,372,388 million of financial instruments classified as level 3 are excluded from sensitivity analysis since calculation of sensitivity according to the fluctuation of input variables is impracticable.

(*2) Based on 10% of increase or decrease in unobservable volatility of underlying assets or correlation coefficient.

(*3) Based on changes in unobservable growth rate (-0.5%p~0.5%p) and discount rate (-1%p~1%p).

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost

i) The method of measuring the fair value of financial instruments measured at amortized cost is as follows:

Type	Measurement methods of fair value
Cash and due from banks	The book value and the fair value for cash are identical and most of deposits are floating interest rate deposits or next day deposits of a short-term instrument. Therefore, the book value for deposits approximates fair value.
Loans at amortized cost	The fair value of loans at amortized cost is measured by discounting the expected cash flows anticipated to be received at the market interest rate, credit risk of a borrower, etc.
Securities at amortized cost	An external professional evaluation agency is used to calculate the valuation amount using the market information. The agency calculates the fair value based on active market prices, and DCF model is used to calculate the fair value if there is no quoted price.
Deposits and borrowings	The book value and the fair value for demand deposits, cash management account deposits, call money and bonds sold under repurchase agreements as short-term instruments are identical. The fair value of others is measured by discounting the contractual cash flows at the market interest rate that takes into account the residual risk.
Debentures	An external professional evaluation agency is used to calculate the valuation amount using the market information, and the fair value is calculated using DCF model.
Other financial instruments and financial liabilities	The book value is used as a fair value for short-term and transitional accounts such as spot exchange, unpaid/uncollected domestic exchange settlements, and the fair value, the present value of the contractual cash flow discounted at the market interest rate taking the residual risk into account, is calculated for the rest of other financial instruments and liabilities.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Book value				
		Balance	Unamortized balance	Allowance	Total	Fair value
Assets						
Cash and due from banks:						
	Cash	₩ 2,259,832	-	-	2,259,832	2,259,832
	Due from banks	20,327,424	-	(17,374)	20,310,050	20,310,050
Loans at amortized cost:						
	Household loans	141,550,553	394,250	(420,977)	141,523,826	139,448,925
	Corporate loans	192,795,291	111,255	(1,471,833)	191,434,713	190,897,442
	Public and other loans	3,680,407	(1,024)	(21,237)	3,658,146	3,655,430
	Loans to bank	7,447,411	-	(9,252)	7,438,159	7,419,082
	Credit card receivables	251,850	-	(7,755)	244,095	251,406
Securities at amortized cost:						
	Government bonds	17,242,773	-	(1,720)	17,241,053	16,725,311
	Financial institutions bonds	5,367,661	-	(3,766)	5,363,895	5,327,714
	Corporate bonds and others	5,545,119	-	(4,216)	5,540,903	5,208,079
	Others	234,135	-	-	234,135	234,135
	Other financial assets	15,773,321	(36,887)	(273,165)	15,463,269	15,697,088
		₩ 412,475,777	467,594	(2,231,295)	410,712,076	407,434,494
Liabilities						
Deposits:						
	Demand deposits	₩ 156,340,586	-	-	156,340,586	156,340,586
	Time deposits	190,637,968	-	-	190,637,968	190,285,047
	Negotiable certificates of deposits	14,843,073	-	-	14,843,073	14,670,388
	Note discount deposits	6,631,858	-	-	6,631,858	6,631,276
	CMA	4,634,010	-	-	4,634,010	4,634,010
	Others	16,694	-	-	16,694	16,692
Borrowings:						
	Call money	1,199,600	-	-	1,199,600	1,199,601
	Bill sold	15,057	-	-	15,057	15,006
	Bonds sold under repurchase agreements	135,711	-	-	135,711	135,710
	Borrowings	22,865,012	(2,588)	-	22,862,424	22,714,236
Debt securities issued:						
	Debt securities issued in Korean won	24,692,498	(12,474)	-	24,680,024	24,359,200
	Debt securities issued in foreign currencies	8,535,770	(29,614)	-	8,506,156	8,468,816
	Other financial liabilities	22,888,291	(19,857)	-	22,868,434	22,595,576
		₩ 453,436,128	(64,533)	-	453,371,595	452,066,144

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) financial instruments measured at amortized cost (continued)

ii) The book value and the fair value of financial instruments measured at amortized cost as of December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021				
	Book value				Fair value
	Balance	Unamortized balance	Allowance	Total	
Assets					
Cash and due from banks:					
Cash	₩ 4,152,633	-	-	4,152,633	4,152,633
Due from banks	18,643,824	-	(16,330)	18,627,494	18,627,494
Loans at amortized cost:					
Household loans	145,292,774	429,557	(290,324)	145,432,007	145,561,105
Corporate loans	174,254,361	112,977	(1,354,024)	173,013,314	173,734,561
Public and other loans	3,387,086	1,553	(19,907)	3,368,732	3,386,347
Loans to bank	3,945,222	-	(5,434)	3,939,788	3,935,286
Credit card receivables	186,383	-	(6,728)	179,655	185,879
Securities at amortized cost:					
Government bonds	14,230,156	-	(1,924)	14,228,232	14,253,646
Financial institutions bonds	2,127,050	-	(3,135)	2,123,915	2,118,835
Corporate bonds and others	4,683,714	-	(4,464)	4,679,250	4,649,328
Others	293,846	-	-	293,846	293,847
Other financial assets	16,713,635	(23,111)	(160,976)	16,529,548	16,679,028
	₩ 387,910,684	520,976	(1,863,246)	386,568,414	387,577,989
Liabilities					
Deposits:					
Demand deposits	₩ 171,079,697	-	-	171,079,697	171,079,697
Time deposits	156,376,199	-	-	156,376,199	156,174,192
Negotiable certificates of deposits	16,399,604	-	-	16,399,604	16,429,973
Note discount deposits	5,818,001	-	-	5,818,001	5,817,844
CMA	5,246,478	-	-	5,246,478	5,246,478
Others	17,645	-	-	17,645	17,646
Borrowings:					
Call money	1,444,111	-	-	1,444,111	1,444,111
Bill sold	9,032	-	-	9,032	9,019
Bonds sold under repurchase agreements	82,578	-	-	82,578	82,578
Borrowings	19,426,611	(93)	-	19,426,518	19,387,203
Debt securities issued:					
Debt securities issued in Korean won	31,059,362	(14,726)	-	31,044,636	31,045,014
Debt securities issued in foreign currencies	6,608,361	(27,258)	-	6,581,103	6,760,657
Other financial liabilities	20,307,903	(10,889)	-	20,297,014	20,289,446
	₩ 433,875,582	(52,966)	-	433,822,616	433,783,858

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			
	Level 1	Level 2	Level 3	Total
Assets				
Cash and due from banks:				
Cash	₩ 2,259,832	-	-	2,259,832
Due from banks	-	20,310,050	-	20,310,050
Loans at amortized cost:				
Household loans	-	-	139,448,925	139,448,925
Corporate loans	-	-	190,897,442	190,897,442
Public and other loans	-	-	3,655,430	3,655,430
Loans to bank	-	5,911,562	1,507,520	7,419,082
Credit card receivables	-	-	251,406	251,406
Securities at amortized cost:				
Government bonds	5,620,012	11,105,299	-	16,725,311
Financial institutions bonds	1,898,457	3,429,257	-	5,327,714
Corporate bonds and others	-	5,208,079	-	5,208,079
Others	-	234,135	-	234,135
Other financial assets	-	11,946,279	3,750,809	15,697,088
	₩	9,778,301	58,144,661	339,511,532
Liabilities				
Deposits:				
Demand deposits	₩	-	156,340,586	-
Time deposits	-	-	-	190,285,047
Negotiable certificates of deposits	-	-	-	14,670,388
Note discount deposits	-	-	-	6,631,276
CMA	-	-	-	4,634,010
Others	-	-	-	16,692
Borrowings:				
Call money	-	-	-	1,199,601
Bill sold	-	-	-	15,006
Bonds sold under repurchase agreements	-	-	-	135,710
Borrowings	-	-	-	22,714,236
Debt securities issued:				
Debt securities issued in Korean won	-	-	-	23,387,638
Debt securities issued in foreign currencies	-	-	-	971,562
Other financial liabilities	-	-	-	8,468,816
	₩	8,487,115	14,108,461	22,595,576
	₩	202,517,766	249,548,378	452,066,144

SHINHAN BANK AND SUBSIDIARIES
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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iii) The fair value hierarchy of financial instruments which are not measured at fair value in the consolidated statement of financial position as of December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021			
	Level 1	Level 2	Level 3	Total
Assets				
Cash and due from banks:				
Cash	₩ 4,152,633	-	-	4,152,633
Due from banks	-	18,627,494	-	18,627,494
Loans at amortized cost:				
Household loans	-	-	145,561,105	145,561,105
Corporate loans	-	-	173,734,561	173,734,561
Public and other loans	-	-	3,386,347	3,386,347
Loans to bank	-	2,494,948	1,440,338	3,935,286
Credit card receivables	-	-	185,879	185,879
Securities at amortized cost:				
Government bonds	2,983,626	11,270,020	-	14,253,646
Financial institutions bonds	698,105	1,420,730	-	2,118,835
Corporate bonds and others	-	4,649,328	-	4,649,328
Others	-	293,847	-	293,847
Other financial assets	-	13,822,118	2,856,910	16,679,028
	₩ 7,834,364	52,578,485	327,165,140	387,577,989
Liabilities				
Deposits:				
Demand deposits	₩ -	171,079,697	-	171,079,697
Time deposits	-	-	156,174,192	156,174,192
Negotiable certificates of deposits	-	-	16,429,973	16,429,973
Note discount deposits	-	-	5,817,844	5,817,844
CMA	-	5,246,478	-	5,246,478
Others	-	-	17,646	17,646
Borrowings:				
Call money	-	1,444,111	-	1,444,111
Bill sold	-	-	9,019	9,019
Bonds sold under repurchase agreements	-	-	82,578	82,578
Borrowings	-	-	19,387,203	19,387,203
Debt securities issued:				
Debt securities issued in Korean won	-	29,876,372	1,168,642	31,045,014
Debt securities issued in foreign currencies	-	6,760,657	-	6,760,657
Other financial liabilities	-	8,982,082	11,307,364	20,289,446
	₩ -	223,389,397	210,394,461	433,783,858

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(b) Financial instruments measured at amortized cost (continued)

iv) Valuation techniques and inputs used in measuring fair value of financial instruments classified as level 2 or level 3 as of December 31, 2022 and 2021 are as follows:

December 31, 2022				
Level	Type of financial instruments	Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩ 19,976,770	Discounted cash flow	Discount rate
Level 3	Loans at amortized cost	335,760,723		Discount rate, Credit spread, Prepayment rate
	Other financial assets	3,750,809		Discount rate
		₩ <u>359,488,302</u>		
Level 2	Debt securities issued	₩ 31,856,454		Discount rate
	Deposits(*)	209,709,502	Discounted cash flow	Discount rate
	Borrowings(*)	14,779,693		Discount rate
Level 3	Debt securities issued	971,562		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities	14,108,461		Discount rate
		₩ <u>271,425,672</u>		

(*) There is no disclosure for valuation techniques and input variables related to items where the carrying amount is recognized as a reasonable approximation of fair value and the carrying amount is disclosed at fair value.

December 31, 2021				
Level	Type of financial instruments	Fair value (*)	Valuation technique	Inputs
Level 2	Securities at amortized cost	₩ 17,633,925	Discounted cash flow	Discount rate
Level 3	Loans at amortized cost	324,308,230		Discount rate, Credit spread, Prepayment rate
	Other financial assets	2,856,910		Discount rate
		₩ <u>344,799,065</u>		
Level 2	Debt securities issued	₩ 36,637,029		Discount rate
Level 3	Deposits(*)	176,572,020	Discounted cash flow	Discount rate
	Borrowings(*)	11,930,091		Discount rate
	Debt securities issued	1,168,642		Discount rate, Regression coefficient, Correlation coefficient
	Other financial liabilities	11,307,364		Discount rate
		₩ <u>237,615,146</u>		

(*) There is no disclosure for valuation techniques and input variables related to items where the carrying amount is recognized as a reasonable approximation of fair value and the carrying amount is disclosed at fair value.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(c) Deferred day one gain or loss for the year ended December 31, 2022 and the year ended December 31, 2021 is as follows:

		December 31, 2022			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(330)	-	330	-
Equity options		92	261	(193)	160
	₩	<u>(238)</u>	<u>261</u>	<u>137</u>	<u>160</u>
		December 31, 2021			
		Beginning balance	New transaction	Profit and loss recognition	Ending balance
Loans at FVTPL	₩	(2,253)	-	1,923	(330)
Equity options		36	137	(81)	92
	₩	<u>(2,217)</u>	<u>137</u>	<u>1,842</u>	<u>(238)</u>

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments

Financial assets and liabilities were measured at fair value or amortized cost. The carrying amounts of each category of financial assets as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets designated at FVTOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	20,310,050	-	20,310,050
Securities at FVTPL		21,201,704	-	-	-	-	21,201,704
Derivative assets		4,822,942	-	-	-	81,154	4,904,096
Loans at FVTPL		972,553	-	-	-	-	972,553
Loans at amortized cost		-	-	-	344,298,939	-	344,298,939
Securities at FVTOCI		-	47,554,951	1,215,833	-	-	48,770,784
Securities at amortized cost		-	-	-	28,379,986	-	28,379,986
Other financial assets		-	-	-	15,463,269	-	15,463,269
	₩	<u>26,997,199</u>	<u>47,554,951</u>	<u>1,215,833</u>	<u>408,452,244</u>	<u>81,154</u>	<u>484,301,381</u>

		Financial instruments at FVTPL		Financial liabilities at amortized cost	Derivatives held for hedging	Total
		Financial liabilities at FVTPL	Financial liabilities designated at FVTPL			
Liabilities						
Deposits	₩	-	-	373,104,189	-	373,104,189
Financial liabilities at FVTPL		424,964	-	-	-	424,964
Financial liabilities designated at FVTPL		-	47,327	-	-	47,327
Derivative liabilities		4,883,475	-	-	896,151	5,779,626
Borrowings		-	-	24,212,792	-	24,212,792
Debt securities issued		-	-	33,186,180	-	33,186,180
Other financial liabilities		-	-	22,868,434	-	22,868,434
	₩	<u>5,308,439</u>	<u>47,327</u>	<u>453,371,595</u>	<u>896,151</u>	<u>459,623,512</u>

SHINHAN BANK AND SUBSIDIARIES
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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(d) Classification by category of financial instruments (continued)

Financial assets and liabilities were measured at fair value or amortized cost. The carrying amounts of each category of financial assets as of December 31, 2022 and 2021 are as follows (continued):

		December 31, 2021					
		Financial assets at FVTPL	Financial assets at FVTOCI	Financial assets designated at FVTOCI	Financial assets at amortized cost	Derivatives held for hedging	Total
Assets							
Due from banks	₩	-	-	-	18,627,494	-	18,627,494
Securities at FVTPL		24,173,996	-	-	-	-	24,173,996
Derivative assets		2,844,730	-	-	-	156,710	3,001,440
Loans at FVTPL		894,160	-	-	-	-	894,160
Loans at amortized cost		-	-	-	325,933,496	-	325,933,496
Securities at FVTOCI		-	47,584,677	716,143	-	-	48,300,820
Securities at amortized cost		-	-	-	21,325,243	-	21,325,243
Other financial assets		-	-	-	16,529,548	-	16,529,548
	₩	<u>27,912,886</u>	<u>47,584,677</u>	<u>716,143</u>	<u>382,415,781</u>	<u>156,710</u>	<u>458,786,197</u>
		Financial liabilities at FVTPL	Financial liabilities at amortized cost	Derivatives held for hedging			Total
Liabilities							
Deposits	₩	-	354,937,624	-	-	-	354,937,624
Financial liabilities at FVTPL		583,662	-	-	-	-	583,662
Derivative liabilities		2,606,098	-	-	246,415	-	2,852,513
Borrowings		-	20,962,239	-	-	-	20,962,239
Debt securities issued		-	37,625,739	-	-	-	37,625,739
Other financial liabilities		-	20,297,014	-	-	-	20,297,014
	₩	<u>3,189,760</u>	<u>433,822,616</u>	<u>246,415</u>	<u>246,415</u>	<u>246,415</u>	<u>437,258,791</u>

There are no financial instruments that are reclassified between categories of financial assets as of December 31, 2022 and 2021.

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3. Financial risk management (continued)

3-4. Measurement of fair value (continued)

(e) Financial income and costs by category for the year ended December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (Provision for) credit loss allowance	Others	Total	Other comprehensive loss
Deposits	₩	149,225	-	(607)	-	148,618	-
Securities at FVTPL		388,236	14,000	-	47,778	450,014	-
Securities at FVTOCI		822,079	10,205	3,372	(57,622)	778,034	(1,115,966)
Securities at amortized cost		590,960	-	(463)	(60)	590,437	-
Loans at FVTPL		13,496	-	-	(312)	13,184	-
Loans at amortized cost		12,064,439	102,685	(578,730)	13,035	11,601,429	-
Other financial assets		57,380	148,440	(3,401)	2,203	204,622	-
Financial liabilities at FVTPL		-	(225)	-	(33,846)	(34,071)	-
Financial liabilities designated at FVTPL		(1,296)	-	-	2,673	1,377	-
Financial liabilities at amortized cost		(5,879,317)	(63)	-	775,708	(5,103,672)	(29,116)
Net derivatives held for hedging		-	-	-	(737,257)	(737,257)	3,324
Allowance for off-balance sheet items		-	-	(18,460)	-	(18,460)	-
	₩	<u>8,205,202</u>	<u>275,042</u>	<u>(598,289)</u>	<u>12,300</u>	<u>7,894,255</u>	<u>(1,141,758)</u>
		December 31, 2021					
		Interest income (expense)	Fees and commission income (expense)	Reversal of (provision for) credit loss allowance	Others	Total	Other Comprehensive loss
Deposits	₩	34,922	-	(5,703)	-	29,219	-
Securities at FVTPL		209,463	11,623	-	337,461	558,547	-
Securities at FVTOCI		539,489	7,024	(17,364)	72,142	601,291	(419,772)
Securities at amortized cost		444,047	-	(2,366)	(310)	441,371	-
Loans at FVTPL		8,362	-	-	20,521	28,883	-
Loans at amortized cost		8,167,087	85,966	(346,132)	13,940	7,920,861	-
Other financial assets		42,101	133,097	(673)	1	174,526	-
Financial liabilities at FVTPL		-	101	-	(21,370)	(21,269)	-
Financial liabilities at amortized cost		(2,833,713)	(116)	-	281,818	(2,552,011)	(61,672)
Net derivatives held for hedging		-	-	-	(280,240)	(280,240)	(12,853)
Allowance for off-balance sheet items		-	-	19,492	-	19,492	-
	₩	<u>6,611,758</u>	<u>237,695</u>	<u>(352,746)</u>	<u>423,963</u>	<u>6,920,670</u>	<u>(494,297)</u>

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3. Financial risk management (continued)

3-5. Capital risk management

In response to the increased risk of financial institutions following financial deregulation in the 1980s, Capital regulations applicable to banks are adopted in 1988, which focused primarily on capital adequacy and asset soundness as a measure of risk. Building upon the initial Basel Capital Accord of 1988, capital regulations are developed to reflect additional risks as well. To improve risk management and increasing capital adequacy of banks, capital adequacy standards based on the new Basel Capital Accord (Basel III) is implemented by the Financial Services Commission regulations beginning on December 1, 2013. Under these regulations, all domestic banks including the Group are required to maintain a certain ratio or higher of the common stock capital ratio, basic capital ratio, and total equity capital ratio step by step from the effective date and report whether the Group meet the capital adequacy ratio to the Financial Services Commission according to 'Banking-related Legislation'.

Under *the Banking Act*, the capital of a bank is divided into two categories.

(a) Tier 1 capital (Common equity Tier 1 capital + Additional Tier 1 capital)

i) Ordinary shares Tier 1 capital: Common equity Tier 1 capital that can be compensated first and last at the time of bank liquidation and is not repaid except at the time of liquidation, including common stock, capital surplus, other comprehensive income accumulated, other capital surplus, capital adjustment, and part of the non-controlling shareholding of the bank's subsidiary.

ii) Other Tier 1 capital: Additional Tier 1 capital consists of equity instrument that meet certain criteria for perpetual nature of the equity instrument, any related capital surplus, instruments issued by consolidated subsidiaries of the Bank and held by third parties that meet certain criteria.

(b) Tier 2 capital (Supplementary capital)

The Group includes capital securities that meet the recognition requirements to compensate for the Group's losses upon liquidation. This includes some of the associated capital surplus and the amount of external investors' holdings of supplementary capital issued by subsidiaries. Also, it includes the provisions that meet Basel III requirements.

The Group calculates the ratio of equity capital by dividing the equity capital (the amount deducted from the sum of the above basic capital and supplementary capital) into risk-weighted assets. Risk weighted assets are calculated by applying higher weights to reflect the actual risk of the Group. It comprises the sum of credit risk weighted assets, operational risk weighted assets, market risk weighted assets and additional risk assets.

The Group evaluates and manages the capital adequacy ratio pursuant to internally developed standards. It means that the Group assesses whether the level on ratio of available capital to economic capital is sufficient, or not. The Group manages the economic adequacy by the amount of each risk type including credit, market, operation, interest rate, liquidity, concentration, and foreign currency settlement risk, as well as the total amounts of all of those risk types.

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3. Financial risk management (continued)

3-5. Capital risk management (continued)

Details of capital categories and the capital adequacy ratio of the Group as of December 31, 2022 and 2021 are as follows:

Category	December 31, 2022	December 31, 2021
Capital:		
Common equity Tier 1 capital	₩ 26,729,156	26,069,127
Additional Tier 1 capital	1,788,975	1,497,029
Tier 1 capital	28,518,131	27,566,156
Tier 2 capital	5,241,681	4,630,525
	₩ 33,759,812	32,196,681
Risk-weighted assets: (*)		
Credit risk-weighted assets	₩ 165,459,759	154,332,487
Market risk-weighted assets	12,959,292	12,020,063
Operating risk-weighted assets	11,560,955	10,745,434
	₩ 189,980,006	177,097,984
Capital adequacy ratio:		
Common equity Tier 1 capital ratio	14.07%	14.72%
Tier 1 capital ratio	15.01%	15.57%
Tier 2 capital ratio	2.76%	2.61%
Total capital ratio	17.77%	18.18%

(*) The additional risk weighted assets resulting from the insufficient capital under capital floor is included in credit risk-weighted assets.

The criteria for capital adequacy to be complied with by the Bank are 8.0% or more of the total equity capital ratio, 6.0% or higher of the basic capital ratio, and 4.5% or more of the common stock capital ratio. In addition, the minimum regulatory BIS capital ratio required to be observed by 2019 has been raised to up to 14% as the capital regulation based on the Basel III standard is enforced from 2016. This is based on the addition of capital conservation capital (2.5%p) and domestic system-critical banks (D-SIB) capital (1.0%p) and economic response capital (2.5%p) to the existing lowest common equity capital ratio, the capital conservation capital and D-SIB capital will be raised by 2.5% and 1.0% each year by applying the transitional criteria by 2019, and economic response capital can be charged up to 2.5%p during credit expansion period. As of December 31, 2022, the minimum regulatory BIS capital ratio to be observed is 11.5%, which is the standard for applying capital conservation capital (2.5%p), D-SIB capital (1.0%p), and economic response capital (0%p).

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3. Financial risk management (continued)

3-6. Transaction as a transfer of financial instrument

(a) Transfers financial assets that are not derecognized

i) Bonds sold under repurchase agreements at a fixed price as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Transferred assets:		
Securities at amortized cost	258,579	210,490
	₩ <u>258,579</u>	<u>210,490</u>
Associated liabilities:		
Bonds sold under repurchase agreements	₩ 135,710	82,578

ii) When the Group's securities are transferred, the Group transfers the ownership of the securities, but upon termination, the Group will have to return the securities. As a result, securities loaned as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>Lender</u>
Securities at FVTOCI:			
Government bonds	₩ 2,830,091	2,177,012	Korea Securities Finance Corp., Korea Securities Depository
Financial institutions bonds	267,702	209,594	Korea Securities Finance Corp., Korea Securities Depository
Securities at amortized cost:			
Government bonds	898,347	23,872	Korea Securities Finance Corp., Korea Securities Depository NH investment & securities co., Ltd.
Financial institutions bonds	89,665	-	Korea Securities Finance Corp., Korea Securities Depository
	₩ <u>4,085,805</u>	<u>2,410,478</u>	

iii) Securitization of financial assets

The Group uses the securitization of financial assets as a means of financing and to transfer risk. Generally, these securitization transactions result in the transfer of contractual cash flows to the debt securities holders issued from the financial asset portfolio. The Group recognizes debt securities issued without derecognition of assets under individual agreements, partially recognizes assets to the extent of the Group's level of involvement in assets, or recognizes rights and obligations arising from the derecognition and transfer of assets as separate assets and liabilities. The Group derecognizes the entire asset only if it transfers contractual rights to the cash flows of financial assets or if it holds contractual rights but bears contractual obligations to pay cash flows to the other party without significant delays or reinvestment and transfers most of the risks and benefits of ownership (e.g., credit risk, interest rate risk, prepayment risk, etc.). For the years ended December 31, 2022 and 2021, the carrying amounts of financial assets related to securitization transactions that have neither been transferred nor derecognized are ₩4,765,561 million and ₩4,270,618 million; the carrying amounts of related liabilities are ₩2,102,965 million and ₩2,677,423 million, respectively.

(b) Financial instruments that are qualified for derecognition but under continuing involvement.

There are no financial instrument that meets the conditions of derecognition and in which the Group has continuing involvement as of December 31, 2022 and 2021.

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3. Financial risk management (continued)

3-7. Offsetting financial assets and financial liabilities

Details of financial assets and financial liabilities subject to offsetting, enforceable master netting agreements and similar agreements as of December 31, 2022 and 2021 are as follows:

		December 31, 2022					
		Gross amounts of recognized financial assets and liabilities	Gross amounts of recognized financial assets and liabilities set off in the statement of financial position	Net amounts of financial assets and liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		
					Financial instruments	Cash collateral received	Net amount
Financial assets							
Derivative assets (*1)	₩	4,884,335	-	4,884,335	10,043,722	74,895	1,783,544
Other financial assets (*1)		7,017,826	-	7,017,826			
Bonds sold under repurchase agreements related collateral of securities (*2)		258,579	-	258,579	132,217	-	126,362
Bonds purchased under resale agreement (Loans) (*2)		3,083,597	-	3,083,597	3,083,597	-	-
Securities lent (*2)		4,085,806	-	4,085,806	4,085,806	-	-
Domestic exchange settlements receivables (*3)		44,745,207	39,051,457	5,693,750	-	-	5,693,750
Receivable from disposal of securities, etc. (*4)		18,901	3,245	15,656	-	-	15,656
	₩	<u>64,094,251</u>	<u>39,054,702</u>	<u>25,039,549</u>	<u>17,345,342</u>	<u>74,895</u>	<u>7,619,312</u>
Financial liabilities							
Derivative liabilities (*1)	₩	5,648,398	-	5,648,398	9,825,349	-	1,633,012
Other financial liabilities (*1)		5,809,963	-	5,809,963			
Bonds sold under repurchase agreements (Borrowings) (*2)		135,710	-	135,710	132,217	-	3,493
Securities sold		2,958	-	2,958	2,958	-	-
Domestic exchange settlement payables (*3)		41,282,964	39,051,457	2,231,507	2,231,507	-	-
Payable from purchase of securities, etc. (*4)		4,235	3,245	990	990	-	-
	₩	<u>52,884,228</u>	<u>39,054,702</u>	<u>13,829,526</u>	<u>12,193,021</u>	<u>-</u>	<u>1,636,505</u>

(*1) The Group has certain derivative transactions subject to the ISDA (International Swaps and Derivatives Association) agreement. According to the ISDA agreement, when credit events (e.g. default) of counterparties occur, the net amount after offsetting the amounts obligated by each party is settled.

(*2) Resale and repurchase agreement, securities borrowing and lending agreement are also similar to ISDA agreement with respect to enforceable netting agreements.

(*3) The Group has legally enforceable right to set off and settles financial assets and liabilities on a net basis. Therefore, domestic exchanges settlement receivables (payables) are recorded on a net basis in the consolidated statements of financial position.

(*4) Receivables and payables related to settlement of purchase and disposition of enlisted securities are offset and the net amount is presented in the consolidated statement of financial position because the Group currently has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The effect of offsetting due to the establishment of 'Central Counter Party ("CCP")' system is included in the amount.

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3. Financial risk management (continued)

3-7. Offsetting financial assets and financial liabilities (continued)

Details of financial assets and financial liabilities subject to offsetting, enforceable master netting agreements and similar agreements as of December 31, 2022 and 2021 are as follows (continued):

	December 31, 2021					
	Gross amounts of recognized financial assets and liabilities	Gross amounts of recognized financial assets and liabilities set off in the statement of financial position	Net amounts of financial assets and liabilities presented in the statement of financial position	Related amounts not set off in the statement of financial position		Net amount
				Financial instruments	Cash collateral received	
Financial assets						
Derivative assets (*1)	₩ 2,973,656	-	2,973,656			1,594,579
Other financial assets (*1)	7,506,542	-	7,506,542	8,885,619	-	
Bonds sold under repurchase agreements related collateral of securities (*2)	210,490	-	210,490	81,849	-	128,641
Bonds purchased under resale agreement (Loans) (*2)	1,814,157	-	1,814,157	1,814,157	-	-
Securities lent (*2)	2,410,477	-	2,410,477	2,410,477	-	-
Domestic exchange settlements receivables (*3)	44,599,946	37,953,026	6,646,920	-	-	6,646,920
Receivable from disposal of securities, etc. (*4)	27,762	2,464	25,298	-	-	25,298
	₩ <u>59,543,030</u>	<u>37,955,490</u>	<u>21,587,540</u>	<u>13,192,102</u>	<u>-</u>	<u>8,395,438</u>
Financial liabilities						
Derivative liabilities (*1)	₩ 2,833,062	-	2,833,062			
Other financial liabilities (*1)	6,413,960	-	6,413,960	8,734,105	-	512,917
Bonds sold under repurchase agreements (Borrowings) (*2)	82,578	-	82,578	81,849	-	729
Securities sold	2,203	-	2,203	2,203	-	-
Domestic exchange settlement payables (*3)	39,762,753	37,953,026	1,809,727	1,809,727	-	-
Payable from purchase of securities, etc. (*4)	5,095	2,464	2,631	701	-	1,930
	₩ <u>49,099,651</u>	<u>37,955,490</u>	<u>11,144,161</u>	<u>10,628,585</u>	<u>-</u>	<u>515,576</u>

(*1) The Group has certain derivative transactions subject to the ISDA (International Swaps and Derivatives Association) agreement. According to the ISDA agreement, when credit events (e.g. default) of counterparties occur, the net amount after offsetting the amounts obligated by each party is settled.

(*2) Resale and repurchase agreement, securities borrowing and lending agreement are also similar to ISDA agreement with respect to enforceable netting agreements.

(*3) The Group has legally enforceable right to set off and settles financial assets and liabilities on a net basis. Therefore, domestic exchanges settlement receivables (payables) are recorded on a net basis in the consolidated statements of financial position.

(*4) Receivables and payables related to settlement of purchase and disposition of enlisted securities are offset and the net amount is presented in the consolidated statement of financial position because the Group currently has a legally enforceable right to set off the recognized amounts and intends to settle on a net basis. The effect of offsetting due to the establishment of 'Central Counter Party ("CCP")' system is included in the amount.

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4. Significant estimates and judgments

The preparation of consolidated financial statements requires the application of certain critical estimates and judgments relative to the future. Management's estimated outcomes may differ from actual outcomes. The change in an accounting estimate is recognized prospectively in profit or loss in the period of the change, if the change affects that period only, or the period of the change and future periods, if the change affects both.

(a) Income taxes

The Group is subject to tax laws from various countries. In the normal course of business, there are various types of transactions and different accounting methods that may add uncertainties to the decision of the final income taxes. The Group has recognized current and deferred taxes that reflect tax consequences based on the best estimates in which the Group expects, at the end of the reporting period, to recover or settle the carrying amount of its assets and liabilities. However, actual income taxes in the future may not be identical to the recognized deferred tax assets and liabilities, and this difference can affect current and deferred tax at the period when the final tax effect is determined.

(b) Fair value of financial instruments

The fair values of financial instruments which are not actively traded in the market are determined by using valuation techniques. The Group determines valuation techniques and assumptions based on significant market conditions at the end of each reporting period. Diverse valuation techniques are used to determine the fair value of financial instruments, from generic valuation techniques to internally developed valuation models that incorporate various types of assumptions and variables.

(c) Allowances for loan losses, guarantees and unused loan commitments

The Group determines and recognizes allowances for losses on debt securities, loans and other receivables measured at amortized cost or FVTOCI, and recognizes provisions for guarantees and unused loan commitments through impairment testing. The accuracy of allowances for credit losses is determined by the estimation of expected cash flows for individually assessed allowances, and methodology and assumptions used for collectively assessed allowances and provisions for groups of loans, guarantees and unused loan commitments.

(d) Defined benefit obligation

The present value of a defined benefit obligation that is measured by actuarial valuation methods uses various assumptions which can change according to various elements. The rate used to discount post-employment benefit obligations is determined by reference to market yields at the end of the reporting period on high quality corporate bonds. The currency and term of the corporate bonds are consistent with the currency and estimated term of the post-employment benefit obligations. Actuarial gains and losses including experience adjustments and the effects of changes in actuarial assumptions are recognized in other comprehensive income. Other significant assumptions related to defined benefit obligations are based on current market situations.

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5. Operating segment

(a) The general descriptions of the Group's operating segments

The Group has four reportable segments which are strategic business units. Each of these segments is providing different services and managed separately.

Description	Area of business
Retail banking	Loans to or deposits from individual customers, wealth management customers, and institutions such as hospitals, airports and schools.
Corporate banking	Loans to or deposits from corporations, including small or medium sized companies and businesses related to investment banking.
International group	Supervision of overseas subsidiaries and branch operations and other international businesses.
Others	Fund management, investment in securities, others and various support businesses

(b) The following table provides information of financial performance of each reportable segment for the years ended December 31, 2022 and 2021.

	December 31, 2022					
	Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Categories						
Net interest income (expense)	₩ 4,574,304	3,420,604	1,063,425	(856,903)	3,772	8,205,202
Net fees and commission income (expense)	340,473	470,522	119,878	32,643	(8,206)	955,310
Net other income (expense)(*)	(2,253,168)	(714,261)	(503,923)	(1,603,483)	77,073	(4,997,762)
Operating income (expense)	2,661,609	3,176,865	679,380	(2,427,743)	72,639	4,162,750
Net non-operating income (expenses)	(36,930)	(24,006)	8,911	(23,802)	(1,598)	(77,425)
Share of profit of associates	-	-	-	-	22,301	22,301
Profit (loss) before income tax	2,624,679	3,152,859	688,291	(2,451,545)	93,342	4,107,626
Income tax expense	(688,346)	(826,866)	(163,636)	615,069	1,885	(1,061,894)
Profit (loss) for the year	₩ 1,936,333	2,325,993	524,655	(1,836,476)	95,227	3,045,732
Attributable to:						
Equity holder of the Bank	1,936,333	2,325,993	524,655	(1,836,476)	94,507	3,045,012
Non-controlling interests	₩ -	-	-	-	720	720

(*) Profit or loss effect of hedging on net investments in foreign operations was included.

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5. Operating segment (continued)

(b) The following table provides information of financial performance of each reportable segment for for the years ended December 31, 2022 and 2021 (continued).

Categories	December 31, 2021					
	Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
Net interest income	₩ 2,672,827	2,515,122	865,333	550,010	8,466	6,611,758
Net fees and commission income (expense)	381,839	492,880	103,051	6,626	(6,591)	977,805
Net other income (expense)(*)	(1,998,175)	(606,134)	(434,684)	(968,478)	4,625	(4,002,846)
Operating income (expense)	1,056,491	2,401,868	533,700	(411,842)	6,500	3,586,717
Net non-operating income (expense)	(38,971)	(18,285)	(3,187)	(211,283)	7,505	(264,221)
Share of loss of associates	-	-	-	-	25,400	25,400
Profit (loss) before income tax	1,017,520	2,383,583	530,513	(623,125)	39,405	3,347,896
Income tax expense	(263,715)	(617,764)	(127,964)	168,554	(12,113)	(853,002)
Profit (loss) for the year	₩ 753,805	1,765,819	402,549	(454,571)	27,292	2,494,894
Attributable to:						
Equity holder of the Bank	753,805	1,765,819	402,549	(454,571)	26,773	2,494,375
Non-controlling interests	₩ -	-	-	-	519	519

(*) Profit or loss effect of hedging on net investments in foreign operations was included.

(c) The following table provides information of net interest income of each reportable operating segment from external consumers and net interest income (expenses) between operating segments for the years ended December 31, 2022 and 2021.

Net interest income (expense) from:	December 31, 2022					
	Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
External customers	₩ 2,442,269	3,881,809	1,126,161	754,963	-	8,205,202
Internal transactions	2,132,035	(461,205)	(62,736)	(1,611,866)	3,772	-
	₩ 4,574,304	3,420,604	1,063,425	(856,903)	3,772	8,205,202

Net interest income (expense) from:	December 31, 2021					
	Retail banking	Corporate banking	International group	Others	Consolidation adjustments	Total
External customers	₩ 2,170,699	2,950,247	891,481	599,331	-	6,611,758
Internal transactions	502,128	(435,125)	(26,148)	(49,321)	8,466	-
	₩ 2,672,827	2,515,122	865,333	550,010	8,466	6,611,758

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5. **Operating segment (continued)**

(d) Financial information of geographical area

i) The following table provides information of operating income from external consumers by geographical area for the years ended December 31, 2022 and 2021.

	<u>Operating revenue</u>		<u>Operating expenses</u>		<u>Operating income</u>	
	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Domestic	₩ 32,933,062	21,700,833	29,575,056	18,649,066	3,358,006	3,051,767
Overseas	2,581,399	1,839,514	1,776,655	1,304,564	804,744	534,950
	₩ <u>35,514,461</u>	<u>23,540,347</u>	<u>31,351,711</u>	<u>19,953,630</u>	<u>4,162,750</u>	<u>3,586,717</u>

ii) The following table provides information of non-current assets by geographical area as of December 31, 2022 and 2021.

<u>Classification(*)</u>		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Domestic	₩	3,459,593	3,330,987
Overseas		319,316	305,801
	₩	<u>3,778,909</u>	<u>3,636,788</u>

(*) Non-current assets include property and equipment, intangible assets and investment properties.

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6. Cash and due from banks

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

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Cash	₩	2,259,832	4,152,634
Deposits in Korean won:			
Reserve deposits		8,477,472	9,624,230
Others		53,986	11,172
		<u>8,531,458</u>	<u>9,635,402</u>
Deposits in foreign currencies:			
Deposits		8,506,913	6,718,502
Time deposits		2,836,102	1,933,980
Others		452,951	355,939
		<u>11,795,966</u>	<u>9,008,421</u>
Allowance for impairment		(17,374)	(16,330)
	₩	<u>22,569,882</u>	<u>22,780,127</u>

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

<u>Classification</u>		<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>The laws of evidence, etc.</u>
Deposits in Korean won:				
Reserve deposits	₩	8,477,472	9,624,230	Article 55 of the Bank of Korea Act
Others		547	292	Article 387 of Capital Market Act of Korea Act, etc.
		<u>8,478,019</u>	<u>9,624,522</u>	
Deposits in foreign currencies:				
Deposits		1,675,889	1,785,206	Article 55 of the Bank of Korea Act, etc.
Time deposits		66,533	50,384	New York State, etc.
Others		44,257	35,892	Banking Law
		<u>1,786,679</u>	<u>1,871,482</u>	Derivative contract
	₩	<u>10,264,698</u>	<u>11,496,004</u>	

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7. **Securities at fair value through profit or loss**

Securities at FVTPL as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Debt securities:		
Government bonds	₩ 760,724	1,108,350
Financial institution bonds	3,353,917	3,396,087
Corporate bonds	2,357,745	3,312,683
Bills bought	4,110,319	5,040,896
CMA	3,850,613	3,591,822
Beneficiary certificates	4,664,866	5,933,295
Others	1,801,894	1,511,669
	<u>20,900,078</u>	<u>23,894,802</u>
Equity securities:		
Stocks	225,657	195,503
Gold/silver deposits	75,969	83,691
	<u>₩ 21,201,704</u>	<u>24,173,996</u>

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8. Derivatives

(a) The notional amounts of derivatives as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Foreign currency related		
Over the counter:		
Currency forwards	₩ 113,580,287	131,593,190
Currency swaps	40,947,512	37,226,456
Currency options	1,327,752	2,274,151
Exchange traded:		
Currency futures	38,019	35,565
	<u>155,893,570</u>	<u>171,129,362</u>
Interest rates related		
Over the counter:		
Interest rate swaps	30,748,577	30,232,188
Interest rate options	145,424	168,460
Exchange traded:		
Interest rate futures	159,744	520,863
Interest rate swaps(*)	38,396,230	31,454,900
	<u>69,449,975</u>	<u>62,376,411</u>
Equity related		
Over the counter:		
Equity options	217,834	132,403
Exchange traded:		
Equity futures	25,132	65,424
Equity options	-	28,125
	<u>242,966</u>	<u>225,952</u>
Commodity related		
Over the counter:		
Commodity swap and forwards	241,494	355,116
Commodity options	8,000	11,500
	<u>249,494</u>	<u>366,616</u>
Hedge		
Fair value hedge:		
Interest rate swaps	13,530,243	7,079,469
Net investment hedge:		
Currency forwards	253,460	237,100
	<u>13,783,703</u>	<u>7,316,569</u>
	<u>₩ 239,619,708</u>	<u>241,414,910</u>

(*) The notional amount of derivatives which is settled in the 'Central Counter Party ("CCP")' system.

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8. Derivatives (continued)

(b) Fair values of derivatives as of December 31, 2022 and 2021 are as follows:

	December 31, 2022		December 31, 2021	
	Assets	Liabilities	Assets	Liabilities
Foreign currency related				
Over the counter:				
Currency forwards	₩ 2,667,464	2,445,020	2,038,432	1,631,637
Currency swaps	1,589,098	1,833,258	654,717	759,455
Currency options	14,776	13,603	12,225	11,592
	<u>4,271,338</u>	<u>4,291,881</u>	<u>2,705,374</u>	<u>2,402,684</u>
Interest rates related				
Over the counter:				
Interest rate swaps	536,144	588,793	131,239	193,010
Interest rate options	3,203	-	1,895	-
Exchange traded:				
Interest rate futures	-	-	99	143
	<u>539,347</u>	<u>588,793</u>	<u>133,233</u>	<u>193,153</u>
Equity related				
Over the counter:				
Equity options	1,258	1,279	785	1,347
Exchange traded:				
Equity futures	233	2	21	507
Equity options	-	-	43	-
	<u>1,491</u>	<u>1,281</u>	<u>849</u>	<u>1,854</u>
Commodity related				
Over the counter:				
Commodity swap and forwards	10,766	4	5,274	-
Commodity options	-	1,516	-	8,406
	<u>10,766</u>	<u>1,520</u>	<u>5,274</u>	<u>8,406</u>
Hedge				
Fair value hedge:				
Interest rate swaps	77,757	895,005	156,710	236,758
Net investment hedge:				
Currency forwards	3,397	1,146	-	9,658
	<u>81,154</u>	<u>896,151</u>	<u>156,710</u>	<u>246,416</u>
₩	<u>4,904,096</u>	<u>5,779,626</u>	<u>3,001,440</u>	<u>2,852,513</u>

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8. Derivatives (continued)

(c) Gain or loss on valuation of derivatives for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022		December 31, 2021	
	Gain	Loss	Gain	Loss
Foreign currency related				
Over the counter:				
Currency forwards	₩ 2,407,263	2,397,550	1,994,598	1,683,442
Currency swaps	1,210,590	1,408,598	1,081,867	1,320,816
Currency options	12,138	7,890	23,412	21,418
	<u>3,629,991</u>	<u>3,814,038</u>	<u>3,099,877</u>	<u>3,025,676</u>
Interest rates related				
Over the counter:				
Interest rate swaps	541,025	545,698	159,298	258,253
Interest rate options	1,898	36	736	-
Exchange traded:				
Interest rate futures	-	-	100	143
	<u>542,923</u>	<u>545,734</u>	<u>160,134</u>	<u>258,396</u>
Equity related				
Over the counter:				
Equity options	4,416	271	1,470	419
Exchange traded:				
Equity futures	233	2	21	507
Equity options	-	-	-	58
	<u>4,649</u>	<u>273</u>	<u>1,491</u>	<u>984</u>
Commodity related				
Over the counter:				
Commodity swap and forwards	10,766	4	5,274	-
Commodity options	5,840	-	-	4,956
	<u>16,606</u>	<u>4</u>	<u>5,274</u>	<u>4,956</u>
Hedge				
Fair value hedge:				
Interest rate swaps	67,614	807,803	7,456	284,906
Net investment hedge:				
Currency forwards	5,886	8,708	-	2,029
	<u>73,500</u>	<u>816,511</u>	<u>7,456</u>	<u>286,935</u>
₩	<u>4,267,669</u>	<u>5,176,560</u>	<u>3,274,232</u>	<u>3,576,947</u>

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8. Derivatives (continued)

(d) Hedge accounting

i) Purpose and strategy of hedge accounting

The Group trades derivative financial instruments to hedge the interest rate risk and foreign exchange risk arising from the group's assets and liabilities. The Group applies fair value risk hedge accounting using interest rate swaps to avoid the risk of changes in fair value due to changes in market interest rates on structured bonds in won, foreign currency issued financial bonds, structured deposits in won and foreign currency investment bonds. In addition, to avoid the risk of foreign currency exchange rate fluctuations at foreign operations, the Group applies net investment risk hedge accounting for foreign operations that utilize currency forwards and non-derivative financial instruments.

ii) Nominal amounts and average hedge ratios for hedging instruments as of December 31, 2022 and 2021 are as follows:

		December 31, 2022						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	4,553,650	2,540,240	143,969	1,337,001	586,760	4,368,623	13,530,243
Average price conditions(*1)		0.42%	0.48%	0.73%	0.84%	0.71%	0.60%	0.55%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations(*2)								
Currency forwards		253,460	-	-	-	-	-	253,460
Borrowings in foreign currencies		239,044	-	-	-	-	-	239,044
Debt securities issued in foreign currencies		359,079	64,858	113,450	510,608	-	-	1,047,995
	₩	851,583	64,858	113,450	510,608	-	-	1,540,499
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, USD SOFR, 3M USD Libor, 3M Euribor and 3M AUD Bond.

(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,217.73, EUR/KRW 1,298.11, JPY/KRW 10.13, CAD/KRW 948.79, CNY/KRW 190.96, AUD/KRW 877.18.

		December 31, 2021						
		1 year or less	1 year ~ 2 years or less	2 years ~ 3 years or less	3 years ~ 4 years or less	4 years ~ 5 years or less	More than 5 years	Total
Fair value hedges								
Interest rate swaps	₩	643,057	597,492	268,468	140,689	1,273,227	4,156,536	7,079,469
Average price conditions (*1)		0.80%	0.75%	0.75%	0.82%	0.65%	0.57%	0.63%
Average hedge ratio		100%	100%	100%	100%	100%	100%	100%
Hedge of net investments in foreign operations (*2)								
Currency forwards		237,100	-	-	-	-	-	237,100
Borrowings in foreign currencies		60,490	192,655	-	-	-	-	253,145
Debt securities issued in foreign currencies		563,160	342,831	64,432	34,356	-	-	1,004,779
	₩	860,750	535,486	64,432	34,356	-	-	1,495,024
Average hedge ratio		100%	100%	100%	100%	-	-	100%

(*1) Interest rate swaps consist of 3M CD, 3M USD Libor, 3M Euribor and 3M AUD Bond.

(*2) The average exchange rates of net investment hedge instruments are USD/KRW 1,143.63, EUR/KRW 1,298.11, JPY/KRW 10.53, CAD/KRW 868.95, CNY/KRW 174.4, AUD/KRW 877.18.

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8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements

i) Impact on hedging instruments in the consolidated statement of financial position, as of December 31, 2022 and 2021, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the year ended are as follows:

		December 31, 2022						
		Notional amounts	Consolidated statement of financial position			Debt securities issued	Consolidated statement of comprehensive income	Changes in fair value for the year
			Derivative assets	Derivative liabilities	Borrowings		Other comprehensive income (loss) for the year	
Fair value hedges								
Interest rate risk	Interest rate swaps	₩ 13,530,243	77,757	895,005	-	-	-	(740,189)
Hedge of net investments in foreign operations:								
	Currency forwards	253,460	3,397	1,146	-	-	3,324	(772)
	Borrowings in foreign currencies	239,044	-	-	239,044	-	14,100	14,100
Foreign exchange Risk	Debt securities issued in foreign currencies	1,047,995	-	-	-	1,043,317	(43,216)	(43,216)
		1,540,499	3,397	1,146	239,044	1,043,317	(25,792)	(29,888)
		₩ 15,070,742	81,154	896,151	239,044	1,043,317	(25,792)	(770,077)

		December 31, 2021						
		Notional amounts	Consolidated statement of financial position			Debt securities issued	Consolidated statement of comprehensive income	Changes in fair value for the year
			Derivative assets	Derivative liabilities	Borrowings		Other comprehensive loss for the year	
Fair value hedges								
Interest rate risk	Interest rate swaps	₩ 7,079,469	156,710	236,758	-	-	-	(277,450)
Hedge of net investments in foreign operations:								
	Currency forwards	237,100	-	9,658	-	-	(12,853)	(14,947)
	Borrowings in foreign currencies	253,145	-	-	253,145	-	(729)	(729)
Foreign exchange Risk	Debt securities issued in foreign currencies	1,004,779	-	-	-	1,003,097	(60,942)	(60,942)
		1,495,024	-	9,658	253,145	1,003,097	(74,524)	(76,618)
		₩ 8,574,493	156,710	246,416	253,145	1,003,097	(74,524)	(354,068)

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8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

ii) Impact on hedged items in the consolidated statement of financial position, as of December 31, 2022 and 2021, and consolidated statement of comprehensive income and consolidated statement of changes in equity for the year ended are as follows:

December 31, 2022							
Hedging instruments	Consolidated statement of financial position			Consolidated statement of comprehensive income	Fair value hedges Adjusted accumulated amount	Changes in fair value for the year	Reserve of exchange differences on translation
	Securities at FVTOCI	Deposits	Debt securities issued	Other comprehensive income for the year			
Fair value hedges:							
Debt securities issued	₩ -	-	12,169,122	-	(673,601)	679,835	-
Interest rate risk							
Investment bonds	505,668	-	-	-	69,687	(65,158)	-
Time deposits	-	542,473	-	-	(187,527)	93,762	-
	<u>505,668</u>	<u>542,473</u>	<u>12,169,122</u>	<u>-</u>	<u>(791,441)</u>	<u>708,439</u>	<u>-</u>
Hedge of net investments in foreign operations:							
Foreign exchange risk							
Net investments in foreign operations	-	-	-	25,792	-	25,792	(40,834)
	<u>₩ 505,668</u>	<u>542,473</u>	<u>12,169,122</u>	<u>25,792</u>	<u>(791,441)</u>	<u>734,231</u>	<u>(40,834)</u>
December 31, 2021							
Hedging instruments	Consolidated statement of financial position			Consolidated statement of comprehensive income	Fair value hedges Adjusted accumulated amount	Changes in fair value for the year	Reserve of exchange differences on translation
	Securities at FVTOCI	Deposits	Debt securities issued	Other comprehensive income for the year			
Fair value hedges:							
Debt securities issued	₩ -	-	5,734,095	-	8,324	231,503	-
Interest rate risk							
Investment bonds	580,552	-	-	-	6,207	(7,283)	-
Time deposits	-	636,235	-	-	(93,765)	46,941	-
	<u>580,552</u>	<u>636,235</u>	<u>5,734,095</u>	<u>-</u>	<u>(79,234)</u>	<u>271,161</u>	<u>-</u>
Hedge of net investments in foreign operations:							
Foreign exchange risk							
Net investments in foreign operations	-	-	-	74,524	-	74,524	(66,626)
	<u>₩ 580,552</u>	<u>636,235</u>	<u>5,734,095</u>	<u>74,524</u>	<u>(79,234)</u>	<u>345,685</u>	<u>(66,626)</u>

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8. Derivatives (continued)

(e) Impact of hedge accounting on the consolidated financial statements (continued)

iii) The amounts recognized as gains or losses due to an ineffective portion of hedge for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Gains on fair value hedges (hedged items)	Losses on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	708,439	(740,189)	(31,750)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		25,792	(29,888)	(4,096)	-
	₩	<u>734,231</u>	<u>(770,077)</u>	<u>(35,846)</u>	<u>-</u>

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

		December 31, 2021			
		Gains on fair value hedges (hedged items)	Losses on fair value hedges (hedging instruments)	Hedge ineffectiveness recognized in profit or loss (*)	Reclassified as profit or loss from foreign currency translation reserve recognized in other operating income
Fair value hedges					
Interest rate swaps	₩	271,161	(277,450)	(6,289)	-
Hedge of net investments in foreign operations					
Foreign exchange risk		74,524	(76,618)	(2,094)	-
	₩	<u>345,685</u>	<u>(354,068)</u>	<u>(8,383)</u>	<u>-</u>

(*) Recognized hedge ineffectiveness is included in other operating income and expenses in the consolidated statement of comprehensive income.

(f) The effects of quantifying the credit risk of derivatives mitigated by collateral held as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Deposits, securities, and etc	₩ 1,486,480	603,833

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8. Derivatives (continued)

(g) Hedge relationships affected by an interest rate benchmark reform

The revised Standard requires that exceptions be applied when analysing future information in relation to the application of risk hedge accounting, while uncertainties arising from the interest rate benchmark reform movement exist. The exception assumes that when assessing whether the expected cash flows that comply with existing interest rate benchmarks are highly probable, whether there is an economic relationship between the hedged item and the hedging instrument, and whether there is a high hedge effectiveness between the hedged item and the hedging instrument, the interest rate benchmark on which the hedged item and the hedging instrument is not altered as a result of the interest rate benchmark reform.

The carrying amount of hedged items and nominal amount of the hedging instruments related to the interest rate benchmark exposed to the hedging relationship due to the Group's interest rate benchmark reform as of December 31, 2022 and 2021 are as follows:

Interest rate index	December 31, 2022		
	Nominal amount of hedging instruments(*)	Carrying amount of hedged assets	Carrying amount of hedged liabilities
KRW 3M CD	7,700,000	-	7,557,687
USD 3M LIBOR(*)	4,196,714	283,014	3,785,641
EURLIBOR 3M	274,294	3,236	269,826

Interest rate index	December 31, 2021		
	Nominal amount of hedging instruments(*)	Carrying amount of hedged assets	Carrying amount of hedged liabilities
KRW 3M CD	1,520,000	-	1,449,653
USD 3M LIBOR(*)	4,150,155	504,935	3,589,452
EURLIBOR 3M	293,972	25,094	267,830

(*) The instruments that will be matured before the end of June 30, 2023 are excluded when LIBOR interest rate calculation is discontinued.

The USD LIBOR interest rate will be replaced by a SOFR (Secured Overnight Financing Rate) based on actual transactions. In Korea, the "Korea Overnight Financing Repo Rate (KOFRR)" was finally selected as the risk-free index interest rate. The Group has assumed that in this hedging relationship, the spread changed on the basis of SOFR, KOFRR would be similar to the spread included in the interest rate swap used as the hedging instrument after LIBOR rate is suspended. The Group does not assume any changes in other conditions.

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9. **Loans**

(a) Details of loans as of December 31, 2022 and 2021 are as follows:

	December 31, 2022		December 31, 2021	
	Loans at amortized cost	Loans at FVTPL	Loans at amortized cost	Loans at FVTPL
Household loans	₩ 141,550,553	-	145,292,774	-
Corporate loans	192,795,291	863,454	174,254,361	894,160
Public and other loans	3,680,407	109,099	3,387,086	-
Loans to banks	7,447,411	-	3,945,222	-
Credit card receivables	251,850	-	186,383	-
	<u>345,725,512</u>	<u>972,553</u>	<u>327,065,826</u>	<u>894,160</u>
Deferred loan origination costs and fees	504,481	-	544,087	-
	<u>346,229,993</u>	<u>972,553</u>	<u>327,609,913</u>	<u>894,160</u>
Less: Allowance for impairment	(1,931,054)	-	(1,676,417)	-
	<u>₩ 344,298,939</u>	<u>972,553</u>	<u>325,933,496</u>	<u>894,160</u>

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9. **Loans (continued)**

(b) Changes in allowance for impairment and book value

i) Changes in allowance for impairment of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022																						
		Loans at amortized cost																						
		Due from banks			Household						Corporate			Credit card			Others			Other assets				
		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses			
			Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		
Beginning balance	₩	16,151	179	-	97,560	64,357	128,407	443,168	628,563	282,293	1,935	713	4,081	10,589	9,257	5,494	155,928	2,519	2,529	1,853,723				
Transfer to 12 month expected credit losses		-	-	-	15,102	(14,288)	(814)	75,533	(73,892)	(1,641)	166	(117)	(49)	403	(403)	-	234	(194)	(40)	-				
Transfer to lifetime expected credit losses		-	-	-	(7,463)	23,835	(16,372)	(43,665)	45,444	(1,779)	(51)	57	(6)	(122)	122	-	(104)	125	(21)	-				
Transfer to credit-impaired financial assets		-	-	-	(2,164)	(6,762)	8,926	(1,218)	(14,084)	15,302	(194)	(153)	347	(1)	(5)	6	(18)	(152)	170	-				
Provision for (reversal of) allowance (*1)		689	(82)	-	53,591	52,482	161,060	(5,773)	148,433	156,858	1,380	579	3,781	3,706	246	2,387	458	1,878	1,064	582,737				
Write-offs		-	-	-	-	-	(206,920)	-	-	(199,806)	-	-	(5,253)	-	-	(1,121)	-	-	(1,364)	(414,464)				
Effect of discounting		-	-	-	-	-	(5,568)	-	-	(11,169)	-	-	-	-	-	-	-	-	-	(16,737)				
Disposal of loans		-	-	-	-	(28)	(3,340)	-	(5)	(10,676)	-	-	-	-	-	(217)	-	-	(61)	(14,327)				
Recoveries		-	-	-	-	-	79,410	-	-	39,898	-	-	536	-	-	145	-	-	122	120,111				
Others(*2)		433	4	-	(26)	(5)	(3)	25	67	(43)	1	-	3	2	-	-	110,092	-	-	110,550				
Ending balance	₩	17,273	101	-	156,600	119,591	144,786	468,070	734,526	269,237	3,237	1,079	3,440	14,577	9,217	6,694	266,590	4,176	2,399	2,221,593				

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2022, to cope with prolonged COVID-19 and internal and external economic uncertainty. As of December 31, 2022, the Group has set aside an additional provision of ₩172,679 million (including provisions for debt securities, provisions for off-balance accounts, etc.) through the re-estimation of the forecast default rate that reflected the updated forward-looking information considering worst scenario for the year ended December 31, 2022 and an additional provision of ₩112,467 million through the additional selection and adjustment of cash flows for loans subject to individual assessment, and additional provision of ₩133,638 million was set aside by reflecting additional expected losses on loans in moratorium of interest payments and moratorium of repayment including mature-extended loans and estimated loss loans and mature-extended loans.

(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

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9. Loans (continued)

(b) Changes in allowance for impairment and book value (continued)

i) Changes in allowance for impairment of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows: (continued)

	December 31, 2021																			Total	
	Due from banks			Loans at amortized cost									Other assets								
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Household			Corporate			Credit card			Others			12-month expected credit losses	Lifetime expected credit losses			
		Not impaired	Impaired		Not impaired	Impaired	Not impaired	Impaired	Not impaired	Impaired	Not impaired	Impaired	Not impaired	Impaired	Not impaired			Impaired			
Beginning balance	₩ 9,153	577	-	94,541	69,961	140,979	460,156	570,659	319,999	1,656	575	2,586	11,435	9,600	6,417	16,862	2,703	2,909	1,720,768		
Transfer to 12 month expected credit losses	-	-	-	18,163	(17,688)	(475)	72,638	(67,766)	(4,872)	41	(35)	(6)	200	(200)	-	183	(178)	(5)	-		
Transfer to lifetime expected credit losses	(2)	2	-	(7,736)	19,886	(12,150)	(49,703)	57,972	(8,269)	(41)	41	-	(359)	359	-	(114)	118	(4)	-		
Transfer to credit-impaired financial assets	-	-	-	(1,989)	(5,514)	7,503	(1,462)	(22,266)	23,728	(211)	(84)	295	(7)	-	7	(18)	(215)	233	-		
Provision for (reversal of) allowance (*1)	6,127	(424)	-	(6,125)	(2,340)	131,249	(43,408)	82,249	184,985	382	178	1,011	(949)	(503)	(598)	(4)	91	586	352,507		
Write-offs	-	-	-	-	-	(206,482)	-	-	(238,265)	-	-	-	-	-	(1,218)	-	-	(1,701)	(447,666)		
Effect of discounting	-	-	-	-	-	(4,437)	-	-	(11,460)	-	-	-	-	-	-	-	-	-	(15,897)		
Disposal of loans	-	-	-	-	(1)	(5,455)	-	-	(14,410)	-	-	-	-	-	(1)	-	-	(40)	(19,907)		
Recoveries	-	-	-	-	-	77,087	-	-	56,405	-	-	-	-	-	887	-	-	551	134,930		
Others(*2)	873	24	-	706	53	588	4,947	7,715	(25,548)	108	38	195	269	1	-	139,019	-	-	128,988		
Ending balance	₩ 16,151	179	-	97,560	64,357	128,407	443,168	628,563	282,293	1,935	713	4,081	10,589	9,257	5,494	155,928	2,519	2,529	1,853,723		

(*1) Additional provision for credit loan allowance is recognized for the year ended December 31, 2021, to cope with the economic recession caused by the spread of the COVID-19. As of December 31, 2021, the Group has set aside an additional provision of ₩63,422 million through the additional selection and adjustment of cash flows for loans subject to individual assessment, and additional provision of ₩83,029 million through reflecting additional expected losses on loans in moratorium of interest payments and moratorium of repayment.

(*2) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

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9. **Loans (continued)**

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022																		Total
	Due from banks			Loans at amortized cost												Other assets			
				Household			Corporate			Credit card			Others						
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses					
	Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		
Beginning balance	₩ 18,643,132	691	-	137,475,936	7,900,137	346,257	147,222,368	26,481,650	663,321	178,938	2,304	5,140	6,647,449	668,661	17,752	16,628,947	56,926	4,651	362,944,260
Transfer to 12 month expected credit losses	-	-	-	3,331,001	(3,323,000)	(8,001)	7,263,929	(7,257,084)	(6,845)	413	(350)	(63)	55,767	(55,767)	-	15,483	(15,393)	(90)	-
Transfer to lifetime expected credit losses	-	-	-	(4,107,377)	4,140,904	(33,527)	(9,867,090)	9,877,091	(10,001)	(1,605)	1,612	(7)	(52,028)	52,030	(2)	(19,831)	19,939	(108)	-
Transfer to credit-impaired financial assets	-	-	-	(135,798)	(138,470)	274,268	(164,674)	(297,966)	462,640	(3,184)	(327)	3,511	(18)	(12)	30	(688)	(1,807)	2,495	-
Origination, recoveries, and others(*1)	1,683,559	42	-	(2,940,267)	(635,031)	56,021	18,793,449	195,483	(131,114)	69,852	(128)	997	3,795,855	766	180	(993,235)	41,644	(266)	19,937,807
Write-offs	-	-	-	-	-	(206,920)	-	-	(199,806)	-	-	(5,253)	-	-	(1,121)	-	-	(1,364)	(414,464)
Disposal of loans	-	-	-	-	(1,151)	(50,179)	-	(1,333)	(117,472)	-	-	-	-	-	(2,748)	-	-	(869)	(173,752)
Ending balance	₩ 20,326,691	733	-	133,623,495	7,943,389	377,919	163,247,982	28,997,841	660,723	244,414	3,111	4,325	10,447,025	665,678	14,091	15,630,676	101,309	4,449	382,293,851

(*1) Other changes were due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

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9. **Loans (continued)**

(b) Changes in allowance for impairment and book value (continued)

ii) Changes in book value of due from banks, loans at amortized cost and other assets for the years ended December 31, 2022 and 2021 are as follows (continued):

	December 31, 2021																		Total
	Due from banks			Loans at amortized cost									Other assets						
				Household			Corporate			Credit card							Others		
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses					
	Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired		Not impaired	Impaired					
Beginning balance	₩ 25,842,746	2,152	-	125,961,826	7,946,103	372,210	130,850,324	23,888,538	771,610	159,503	2,049	3,219	8,454,605	664,875	18,043	11,115,576	54,846	5,219	336,113,444
Transfer to 12 month expected credit losses	-	-	-	3,118,171	(3,111,597)	(6,574)	5,973,996	(5,903,368)	(70,628)	246	(238)	(8)	43,342	(43,342)	-	11,962	(11,941)	(21)	-
Transfer to lifetime expected credit losses	(626)	626	-	(3,386,377)	3,419,483	(33,106)	(8,774,580)	8,796,098	(21,518)	(1,202)	1,202	-	(94,269)	94,271	(2)	(16,772)	16,794	(22)	-
Transfer to credit-impaired financial assets	-	-	-	(118,685)	(118,857)	237,542	(186,599)	(272,019)	458,618	(3,969)	(203)	4,172	(896)	(2)	898	(599)	(1,733)	2,332	-
Origination, recoveries, and others(*1)	(7,198,988)	(2,087)	-	11,901,001	(234,271)	26,149	19,359,227	(27,419)	(117,282)	24,360	(506)	(2,243)	(1,755,333)	(47,141)	75	5,518,780	(1,039)	(301)	27,442,982
Write-offs	-	-	-	-	-	(206,482)	-	-	(238,265)	-	-	-	-	-	(1,218)	-	-	(1,701)	(447,666)
Disposal of loans	-	-	-	-	(724)	(43,482)	-	(180)	(119,214)	-	-	-	-	-	(44)	-	(1)	(855)	(164,500)
Ending balance	₩ 18,643,132	691	-	137,475,936	7,900,137	346,257	147,222,368	26,481,650	663,321	178,938	2,304	5,140	6,647,449	668,661	17,752	16,628,947	56,926	4,651	362,944,260

(*1) Other changes are due to debt restructuring, debt-equity swap and foreign exchange rate, etc.

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9. Loans (continued)

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

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Beginning balance	₩	544,087	500,391
Loan origination		215,314	307,668
Amortization		(254,920)	(263,972)
Ending balance	₩	<u>504,481</u>	<u>544,087</u>

10. Securities at fair value through other comprehensive income and securities at amortized cost

(a) Details of securities at FVTOCI and securities at amortized cost as of December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Securities at FVTOCI:			
Debt securities:			
Government bonds	₩	20,705,591	17,873,765
Financial institutions bonds		16,904,523	17,958,703
Corporate bonds		9,895,483	11,752,208
Others		49,355	-
		<u>47,554,952</u>	<u>47,584,676</u>
Equity securities:			
Stocks		1,173,962	663,311
Equity investments		3,075	2,958
Others		38,795	49,875
		<u>1,215,832</u>	<u>716,144</u>
	₩	<u>48,770,784</u>	<u>48,300,820</u>
Securities at amortized cost:			
Debt securities:			
Government bonds	₩	17,242,773	14,230,156
Financial institutions bonds		5,367,661	2,127,050
Corporate bonds		5,545,119	4,683,714
Others		234,135	293,846
		<u>28,389,688</u>	<u>21,334,766</u>
Allowance for impairment		(9,702)	(9,523)
	₩	<u>28,379,986</u>	<u>21,325,243</u>

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10. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(a) Details of securities at FVTOCI and securities at amortized cost as of December 31, 2022 and 2021 are as follows (continued):

Details of equity instruments designated at FVTOCI as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Marketable securities	₩ 691,629	258,291
Non-marketable securities	482,333	405,020
Others	41,870	52,833
	<u>₩ 1,215,832</u>	<u>716,144</u>

Above equity securities are equity securities designated as FVTOCI, and for the retention required by the policy, the option of measuring FVTOCI is exercised.

Cumulative net gains or losses reclassified in equity upon disposition of equity securities for the years ended December 31, 2022 and 2021 are ₩2,943 million and ₩(-)45,518 million and there are no cumulated gains or losses replaced by the reclassification of the account for the years ended December 31, 2022 and 2021, respectively.

(b) Gains and losses on sale of securities at FVTOCI for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Gain on sale of securities at FVTOCI	₩ 9,393	73,830
Loss on sale of securities at FVTOCI	(10,602)	(6,765)
	<u>₩ (1,209)</u>	<u>67,065</u>

The Group disposed equity instruments that are measured at FVTOCI for debt-equity swap. At the time of disposal, fair value of equity instruments for the years ended December 31, 2022 and 2021 are ₩48,525 million and ₩79,386 million, and cumulative net gains or losses for the years ended December 31, 2022 and 2021 are ₩2,943 million and ₩(-)45,518 million, respectively.

(c) Gains and losses on sale of securities at amortized cost

Gains and losses on sale of securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Gain on disposal of securities at amortized cost	₩ 5	24
Loss on disposal of securities at amortized cost	(65)	(334)
	<u>₩ (60)</u>	<u>(310)</u>

Securities at amortized cost are sold due to the partial redemption of payables.

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10. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVTOCI and securities at amortized cost.

i) Changes in allowance for credit loss of securities at FVTOCI and securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022							
	Securities at FVTOCI				Securities at amortized cost			
	Lifetime expected credit losses				Lifetime expected credit losses			
	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩ 28,137	602	-	28,739	9,060	463	-	9,523
Transfer to 12-month expected credit losses	166	(166)	-	-	203	(203)	-	-
Transfer to lifetime expected credit losses	(20)	20	-	-	-	-	-	-
Transfer to impaired financial assets	-	-	-	-	-	-	-	-
Reversal	(3,016)	(355)	-	(3,371)	557	(94)	-	463
Disposals and Others(*)	(633)	11	-	(622)	(275)	(9)	-	(284)
Ending balance	₩ 24,634	112	-	24,746	9,545	157	-	9,702

(*) Other changes are due to foreign exchange rate changes, etc.

	December 31, 2021							
	Securities at FVTOCI				Securities at amortized cost			
	Lifetime expected credit losses				Lifetime expected credit losses			
	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩ 16,300	677	-	16,977	6,000	-	-	6,000
Transfer to 12-month expected credit losses	33	(33)	-	-	-	-	-	-
Transfer to lifetime expected credit losses	(63)	63	-	-	(216)	216	-	-
Transfer to impaired financial assets	-	-	-	-	-	-	-	-
Provision(reversal)	17,389	(25)	-	17,364	2,127	240	-	2,367
Disposals and Others(*)	(5,522)	(80)	-	(5,602)	1,149	7	-	1,156
Ending balance	₩ 28,137	602	-	28,739	9,060	463	-	9,523

(*) Other changes are due to foreign exchange rate changes, etc.

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10. Securities at fair value through other comprehensive income and securities at amortized cost (continued)

(d) Changes in allowance for credit loss and total carrying amount of securities at FVTOCI and securities at amortized cost (continued).

ii) Changes in carrying amount of securities at FVTOCI and securities at amortized cost for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022							
		Securities at FVTOCI				Securities at amortized cost			
		Lifetime expected credit losses			Total	Lifetime expected credit losses			Total
		12-month expected credit losses	Not impaired financial assets			12-month expected credit losses	Credit unimpaired financial assets		
			Impaired financial assets	Impaired financial assets	Impaired financial assets		Impaired financial assets	Impaired financial assets	
Beginning balance	₩	47,431,890	152,786	-	47,584,676	21,298,476	36,290	-	21,334,766
Transfer to 12-month expected credit losses		61,740	(61,740)	-	-	18,544	(18,544)	-	-
Transfer to lifetime expected credit losses		(23,619)	23,619	-	-	-	-	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase (decrease) in balance		17,741	(47,465)	-	(29,724)	7,062,151	(7,229)	-	7,054,922
Ending balance	₩	47,487,752	67,200	-	47,554,952	28,379,171	10,517	-	28,389,688

		December 31, 2021							
		Securities at FVTOCI				Securities at amortized cost			
		Lifetime expected credit losses			Total	Lifetime expected credit losses			Total
		12-month expected credit losses	Not impaired financial assets			12-month expected credit losses	Credit unimpaired financial asset		
			Impaired financial assets	Impaired financial assets	Impaired financial assets		Impaired financial assets	Impaired financial assets	
Beginning balance	₩	38,459,361	267,135	-	38,726,496	20,184,443	-	-	20,184,443
Transfer to 12-month expected credit losses		51,055	(51,055)	-	-	-	-	-	-
Transfer to lifetime expected credit losses		(35,665)	35,665	-	-	(35,505)	35,505	-	-
Transfer to impaired financial asset		-	-	-	-	-	-	-	-
Net increase (decrease) in balance		8,957,139	(98,959)	-	8,858,180	1,149,538	785	-	1,150,323
Ending balance	₩	47,431,890	152,786	-	47,584,676	21,298,476	36,290	-	21,334,766

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11. Property and equipment

(a) Details of property and equipment as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Carrying amount
Land	₩	1,317,048	-	1,317,048
Buildings(*)		905,103	(431,256)	473,847
Right-of-use assets		864,469	(462,887)	401,582
Others		1,576,295	(1,231,290)	345,005
	₩	<u>4,662,915</u>	<u>(2,125,433)</u>	<u>2,537,482</u>

(*) ₩65 million of government subsidy is deducted from book value.

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Carrying amount
Land	₩	1,305,608	-	1,305,608
Buildings(*)		883,323	(395,257)	488,066
Right-of-use assets		930,605	(514,067)	416,538
Others		1,464,906	(1,187,733)	277,173
	₩	<u>4,584,442</u>	<u>(2,097,057)</u>	<u>2,487,385</u>

(*) ₩129 million of government subsidy is deducted from book value.

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

		December 31, 2022				
		Land	Buildings	Right-of-use assets	Others	Total
Beginning balance	₩	1,305,608	488,066	416,538	277,173	2,487,385
Acquisitions (*1)(*2)		631	49,071	256,705	176,239	482,646
Disposals and write-offs (*3)		(209)	(405)	(67,717)	(1,646)	(69,977)
Depreciation		-	(45,190)	(208,222)	(107,471)	(360,883)
Amounts transferred to investment properties		12,703	(15,830)	-	-	(3,127)
Amounts transferred to non-current assets held for sale		(1,666)	(1,395)	-	-	(3,061)
Effects of foreign currency movements		(19)	(470)	4,278	710	4,499
Ending balance	₩	<u>1,317,048</u>	<u>473,847</u>	<u>401,582</u>	<u>345,005</u>	<u>2,537,482</u>

(*1) ₩33,983 million transferred from construction-in progress is included.

(*2) ₩6,276 million of provision for the asset retirement related to newly acquired assets is included.

(*3) ₩1,821 million of write-off is included.

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11. Property and equipment (continued)

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

	December 31, 2021				
	Land	Buildings	Right-of-use assets	Others	Total
Beginning balance	₩ 1,301,446	505,926	444,812	197,681	2,449,865
Acquisitions (*1)(*2)	126	30,469	190,465	157,454	378,514
Disposals and write-offs (*3)	(288)	(188)	(6,445)	(1,440)	(8,361)
Depreciation	-	(43,204)	(229,384)	(80,004)	(352,592)
Amounts transferred to investment properties	4,177	(4,209)	-	-	(32)
Amounts transferred to non-current assets held for sale	(169)	(853)	-	-	(1,022)
Effects of foreign currency movements	316	125	17,090	3,482	21,013
Ending balance	₩ <u>1,305,608</u>	<u>488,066</u>	<u>416,538</u>	<u>277,173</u>	<u>2,487,385</u>

(*1) ₩18,748 million transferred from construction-in progress is included.

(*2) ₩3,614 million of provision for the asset retirement related to newly acquired assets is included.

(*3) ₩1,361 million of write-off is included.

(c) Insured assets and liability insurances as of December 31, 2022 are follows:

Type of insurance	Insured assets	Amount covered	Insurance company
Comprehensive insurance for financial institutions	Cash & securities	₩ 20,000	Samsung Fire & Marine Insurance Co., Ltd. and 4 other insurance companies
Property insurance	Real estate & movable properties for business purpose	874,386	Samsung Fire & Marine Insurance Co., Ltd., etc. and 4 other insurance companies
Burglary insurance	Cash & securities	60,000	Samsung Fire & Marine Insurance Co., Ltd., etc and 3 other insurance companies
Compensation liability insurance for officers	-	50,000	Meritz Fire & Marine Insurance Co., Ltd., etc. and 6 other insurance companies
Compensation liability insurance for gas accident	Real estate	500	Meritz Fire & Marine Insurance Co., Ltd.
Compensation liability insurance for personal information protection	-	10,000	DB Insurance Co., Ltd.
Compensation liability insurance for electronic financial transaction	-	3,000	Lotte Insurance Co., Ltd., etc.
Compensation liability insurance for casualty	Real estate	1,000	Samsung Fire & Marine Insurance Co., Ltd.
Compensation liability insurance for elevator accidents	-	80	Samsung Fire & Marine Insurance Co., Ltd.
		₩ <u>1,018,966</u>	

Besides the insurances listed above, the Group also has automobile liability insurance, medical insurance for employees, and casualty insurance for protecting property and employees.

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12. Leases

(a) Details of lease right-of-use assets by class of underlying asset of the lessee as of December 31, 2022 and 2021 are as follows:

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Book value
Real property	₩	787,846	(412,616)	375,230
Vehicle		44,974	(28,814)	16,160
Others		31,649	(21,457)	10,192
	₩	<u>864,469</u>	<u>(462,887)</u>	<u>401,582</u>

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Real property	₩	860,893	(472,235)	388,658
Vehicle		40,083	(24,043)	16,040
Others		29,629	(17,789)	11,840
	₩	<u>930,605</u>	<u>(514,067)</u>	<u>416,538</u>

(b) Changes in underlying assets for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Real property	Vehicle	Others	Total
Beginning balance	₩	388,658	16,040	11,840	416,538
Acquisitions		242,593	10,511	3,601	256,705
Disposals		(65,506)	(1,375)	(836)	(67,717)
Depreciation		(194,744)	(9,067)	(4,411)	(208,222)
Effects of foreign currency movements		4,229	51	(2)	4,278
Ending balance	₩	<u>375,230</u>	<u>16,160</u>	<u>10,192</u>	<u>401,582</u>

		December 31, 2021			
		Real property	Vehicle	Others	Total
Beginning balance	₩	416,661	15,349	12,803	444,813
Acquisitions		172,601	13,693	4,171	190,465
Disposals		(3,279)	(3,135)	(30)	(6,444)
Depreciation		(214,232)	(10,048)	(5,104)	(229,384)
Effects of foreign currency movements		16,907	181	-	17,088
Ending balance	₩	<u>388,658</u>	<u>16,040</u>	<u>11,840</u>	<u>416,538</u>

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12. Leases (continued)

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

		December 31, 2022						
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Assets								
Real property	₩	19,470	22,290	29,712	49,620	184,247	58,127	363,466
Vehicle		6,463	1,376	1,872	3,372	9,965	-	23,048
Others		439	541	1,079	2,076	6,592	10	10,737
	₩	<u>26,372</u>	<u>24,207</u>	<u>32,663</u>	<u>55,068</u>	<u>200,804</u>	<u>58,137</u>	<u>397,251</u>
		December 31, 2021						
		1 month or less	1 month ~ 3 months or less	3 months ~ 6 months or less	6 months ~ 1 year or less	1 year ~ 5 years or less	More than 5 years	Total
Assets								
Real property	₩	19,006	27,208	36,418	62,657	188,722	46,023	380,034
Vehicle		5,988	1,505	1,918	3,559	9,149	-	22,119
Others		449	619	1,077	2,112	7,981	26	12,264
	₩	<u>25,443</u>	<u>29,332</u>	<u>39,413</u>	<u>68,328</u>	<u>205,852</u>	<u>46,048</u>	<u>414,416</u>

The abovementioned amounts shown above are classified by the earliest maturity dates on which the Group's payment obligation arises based on undiscounted cash flows.

(d) For the years ended December 31, 2022 and 2021, the lease payment for low value assets is ₩4,194 million and ₩4,206 million. Short-term lease payment does not exist.

(e) The Group applied a practical simplified method that does not evaluate whether it is a lease change for real estate rental fee discounts that have occurred as a direct result of the COVID-19. For the years ended December 31, 2022 and 2021, the amount recognized in profit or loss to reflect changes in lease payments arising from the rent discount is ₩22,308 million and ₩47,589 million, respectively.

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13. Intangible assets

(a) Details of intangible assets as of December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Goodwill	₩	32,082	28,199
Software		149,661	104,475
Development cost		144,191	78,159
Memberships		46,897	48,379
Others		263,656	283,914
	₩	<u>636,487</u>	<u>543,126</u>

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

		<u>December 31, 2022</u>					
		<u>Goodwill</u>	<u>Software</u>	<u>Development cost</u>	<u>Membership</u>	<u>Others</u>	<u>Total</u>
Beginning balance	₩	28,199	104,475	78,159	48,379	283,914	543,126
Acquisitions		-	84,235	98,249	1,814	95,402	279,700
Disposal		-	-	-	(3,299)	(67)	(3,366)
Amortization(*1)		-	(39,810)	(32,217)	-	(115,811)	(187,838)
Effects of foreign currency movements		3,883	761	-	3	218	4,865
Ending balance(*2)	₩	<u>32,082</u>	<u>149,661</u>	<u>144,191</u>	<u>46,897</u>	<u>263,656</u>	<u>636,487</u>

(*1) ₩111,945 million among amortization cost of other intangible assets is included in other operating expenses.

(*2) ₩44,100 million of other intangible assets is accounted for as account payables.

		<u>December 31, 2021</u>					
		<u>Goodwill</u>	<u>Software</u>	<u>Development cost</u>	<u>Membership</u>	<u>Others</u>	<u>Total</u>
Beginning balance	₩	59,139	90,082	60,000	48,240	282,380	539,841
Acquisitions		-	45,412	41,297	-	114,879	201,588
Disposal		-	(1,998)	-	(16)	-	(2,014)
Impairment		(30,940)	-	-	-	(1,124)	(32,064)
Amortization(*1)		-	(31,013)	(23,138)	-	(113,154)	(167,305)
Effects of foreign currency movements		-	1,992	-	155	933	3,080
Ending balance(*2)	₩	<u>28,199</u>	<u>104,475</u>	<u>78,159</u>	<u>48,379</u>	<u>283,914</u>	<u>543,126</u>

(*1) ₩108,802 million among amortization cost of other intangible assets is included in other operating expenses.

(*2) ₩161,843 million of other intangible assets is accounted for as account payables.

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13. Intangible assets (continued)

(c) Goodwill

i) The carrying amounts of goodwill allocated to each Cash-Generating Unit (“CGU”) as of December 31, 2022 and 2021 are as follows:

CGU	December 31, 2022	December 31, 2021
Shinhan Bank Vietnam Co., Ltd.	₩ 32,082	28,199

ii) Impairment test

The recoverable amount of all cash-generating units required for impairment testing is based on value in use. The recoverable amounts of CGUs are determined on the basis of value-in-use calculations using discounted cash flow (DCF) model.

① Measurement date and projection period

The recoverable amounts are measured as of June 30, 2022. The projection period used in value-in-use calculations is 5.5 years (July 2022 through December 2027) considering synergy effect of business combinations and the value-in-use after projection period is estimated on the assumption that the future cash flows will increase by perpetual growth rate for every year.

② Significant assumptions

The expected future cash flows from the cash-generating unit are based on the CPI growth rate, market size and the market share of the Group. Major unobservable assumptions applied during the forecast period are as follows:

(Unit: %)

Cash-generating units	Net interest income growth rate	Net commission income growth rate	General administrative expenses growth rate	Growth rate
Shinhan Bank Vietnam Co., Ltd.	6.46	2.10	6.68	5.69

The cost of equity capital is calculated by taking into account the systematic risk of the entity in the market risk premium paid in return for risk free rate. Permanent growth rate is estimated based on inflation and did not exceed the projected long-term average growth rate of the relevant industry report.

(Unit: %)

Cash-generating units	Discount rate	Permanent growth rate
Shinhan Bank Vietnam Co., Ltd.	14.20	2.00

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13. Intangible assets (continued)

(c) Goodwill (continued)

ii) Impairment test (continued)

© The recoverable amounts and carrying amounts

The recoverable amounts and carrying amounts of the CGUs to which goodwill has been allocated as of valuation date are as follows:

		Shinhan Bank Vietnam Co., Ltd.
Recoverable amount	₩	1,545,793
Carrying amount		1,288,007
Recoverable amount in excess of carrying amount amount	₩	<u>257,786</u>

The carrying amount of Shinhan Bank Vietnam's cash-generating unit does not exceed the recoverable amount.

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14. Investments in associates

(a) Investments in associates as of December 31, 2022 and 2021 are as follows:

Investees	Location	Reporting date	Industry sector	Ownership (%)	
				December 31, 2022	December 31, 2021
BNP Paribas Cardif Life Insurance Co., Ltd.(*1)(*2)	Korea	September 30	Insurance	14.99	14.99
KOREA FINANCE SECURITY(*1)(*5)	Korea	September 30	Others	14.91	14.91
DOODOO LOGITECH(*3)(*4)	Korea	December 31	Others	27.96	27.96
One Shinhan Future's Fund 1(*1)	Korea	September 30	Investment	27.78	27.78
KST-SH Laboratory Investment Fund No.1(*1)	Korea	December 31	Investment	20.00	20.00
One Shinhan Future's Fund 2(*1)	Korea	September 30	Investment	29.70	29.70
One Shinhan Future's Fund 3(*1)(*6)	Korea	September 30	Investment	29.90	-
One-Shinhan Connect New Technology Investment Fund 1(*1)	Korea	November 30	Investment	30.00	30.00
One-Shinhan Connect New Technology Investment Fund 2(*1)(*6)	Korea	November 30	Investment	33.33	-
Neoplux Technology Valuation Investment Fund(*1)	Korea	November 30	Investment	33.33	33.33
Partners 4th Growth Investment Fund(*1)	Korea	November 30	Investment	25.00	25.00
KTB Newlake Global Healthcare PEF(*8)	Korea	-	Investment	-	20.00
Newlake Growth Capital Partners2 PEF(*1)	Korea	November 30	Investment	23.01	23.01
Songrim Co., Ltd.(*9)	Korea	-	Retail	-	35.34
MIEL Co., Ltd.(*3)(*4)	Korea	December 31	Others	28.77	28.77
MSTEEL Co., Ltd.(*3)(*4)	Korea	December 31	Others	29.45	29.45
JB AIR(*9)	Korea	-	Others	-	28.77
BACK DOO Co., Ltd.(*3)(*4)	Korea	December 31	Retail	25.90	25.90
Chungwon assets(*3)(*4)	Korea	December 31	Manufacturing	22.53	22.53
Jinmyung Plus(*3)(*4)	Korea	December 31	Manufacturing	22.20	22.20
SEOKWANG T&I (*3)	Korea	-	Manufacturing	28.55	-
Korea Credit Bureau(*1)(*5)	Korea	September 30	Credit	4.50	4.50
Goduck Gangil1 PFV Co., Ltd.(*1)(*5)	Korea	September 30	Real estate	1.04	1.04
Goduck Gangil10 PFV Co., Ltd.(*1)(*5)	Korea	September 30	Real estate	14.00	14.00

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14. Investments in associates (continued)

(a) Investments in associates as of December 31, 2022 and 2021 are as follows: (continued)

Investees	Location	Reporting date	Industry sector	Ownership (%)	
				December 31, 2022	December 31, 2021
SBC PFV Co., Ltd.(*1)(*5)(*7)	Korea	September 30	Real estate	12.50	12.50
DDI LVC Master Real Estate Investment Trust Co., Ltd.(*1)(*5)(*6)	Korea	September 30	Real estate	15.00	-
Logisvalley Shinhan REIT Co., Ltd.(*1)(*5)(*6)	Korea	September 30	Real estate	14.95	-
ICSF (The Korea's Information Center for Savings & Finance) (*4)	Korea	December 31	Service	32.26	32.26
Shinhan-Albatross Technology Investment Fund(*1)	Korea	November 30	Investment	33.33	33.33
Shinhan-Neoplux Energy Newbiz Fund	Korea	December 31	Investment	23.33	23.33
Stassets-DA Value Healthcare Fund I(*1)	Korea	September 30	Investment	24.10	24.10
Shinhan SKS Corporate Recovery Private Equity Fund(*1)	Korea	November 30	Investment	23.99	23.99
BTS 2nd Private Equity Fund(*1)(*6)	Korea	November 30	Investment	20.00	-
Shinhan global flagship venture fund 1(*1)(*6)	Korea	November 30	Investment	45.00	-
Korea Digital Asset Custody(*1)(*5)	Korea	September 30	Service	14.09	14.98
Shinhan VC tomorrow venture fund 1	Korea	December 31	Investment	21.74	21.74

(*1) Financial statements as of September 30, 2022 and November 30, 2022 are used for the equity method accounting since the financial statements as of December 31, 2022 are not available. Significant trades and events occurred within the period are properly reflected.

(*2) The Group classified investments in associates as the Group has significant influence over the investee through significant operating transactions.

(*3) In the course of the rehabilitation process, the shares were acquired through debt-equity swap. Although voting rights cannot be exercised during the rehabilitation process, normal voting rights are exercised because the rehabilitation process was completed before December 31, 2022. Also, it has been reclassified to the investments in associates.

(*4) The latest financial statements available are used for the equity method accounting since the financial statements as of December 31, 2022 are not available. Significant trades and events occurred within the period are properly reflected.

(*5) Although it holds less than 20% of shares, the equity method is applied for evaluation since it has significant impact on the investee, such as participation in their decision making.

(*6) It is newly acquired or newly incorporated as investments in associates for the year ended December 31, 2022.

(*7) The percentage of voting rights held is 4.65%.

(*8) It is excluded from associates due to partial repayment for the year ended December 31, 2022.

(*9) It is excluded from associates due to disposal for the year ended December 31, 2022.

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14. Investments in associates (continued)

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

Associates	December 31, 2022								
	Acqui- sition cost	Begin- ning balance	Acqui- sition (redem- ption)	Gain from disposal	Share of profit (loss) of associates	Share of other compre- hensive income (loss) of associates	Dividends received	Others (*1)	Ending balance
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 42,204	44,028	-	-	(1,776)	(12,079)	-	-	30,173
KOREA FINANCE SECURITY	3,448	2,994	-	-	(583)	-	-	-	2,411
DOODOO LOGITECH	-	1	-	-	-	-	-	-	1
One-Shinhan Future's New Technology Investment Fund 1	2,206	2,845	(794)	-	516	-	-	-	2,567
KST-SH Laboratory Investment Fund No.1	2,000	1,408	500	-	(19)	-	-	-	1,889
One-Shinhan Future's New Technology Investment Fund 2	2,970	2,892	-	-	371	-	-	-	3,263
One-Shinhan Future's New Technology Investment Fund 3	598	-	598	-	(33)	-	-	-	565
One-Shinhan Connect New Technology Investment Fund 1	70,937	70,940	(1,063)	-	7,632	-	-	-	77,509
One-Shinhan Connect New Technology Investment Fund 2	15,000	-	15,000	-	(682)	-	-	-	14,318
Neoplux Technology Valuation Investment Fund	2,278	9,055	-	-	1,988	-	(598)	-	10,445
Partners 4th Growth Investment Fund	9,219	13,033	(582)	-	6,916	(4,694)	(1,132)	-	13,541
KTB Newlake Global Healthcare PEF	-	6,275	(488)	495	-	-	-	(6,282)	-
Newlake Growth Capital Partners2 PEF	10,000	9,939	-	-	(191)	-	(136)	-	9,612
Songrim Partners Co., Ltd.	-	-	-	-	-	-	-	-	-
MIEL Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
MSTEEL Co., Ltd.(*2)	-	1,538	-	-	(1,538)	-	-	-	-
JB AIR	-	22	-	-	(22)	-	-	-	-
BAEK DOO Co., Ltd.	-	152	-	-	(35)	-	-	-	117
Chungwon assets	-	239	-	-	165	144	-	-	548
Jinmyung Plus	-	26	-	-	(5)	-	-	-	21
SEOKWANG T&I	-	-	-	-	-	-	-	-	-
Korea Credit Bureau	2,250	3,847	-	-	(1,327)	-	-	-	2,520
Goduck Gangil1 PFV Co., Ltd.	50	-	-	-	60	-	-	-	60
Goduck Gangil10 PFV Co., Ltd.	700	-	-	-	2,277	-	-	-	2,277
SBC PFV Co., Ltd.	16,250	14,790	-	-	(559)	-	-	-	14,231
DDI LVC Master Real Estate Investment Trust Co., Ltd.	6,625	-	6,625	-	(220)	-	-	-	6,405
Logisvalley Shinhan REIT Co., Ltd.	2,925	-	2,925	-	(44)	(45)	-	-	2,836
ICSF (The Korea's Information Center for Savings & Finance)	300	167	-	-	8	-	-	-	175
Shinhan-Albatross Technology Investment Fund	1,900	7,020	(1,200)	-	3,476	(128)	-	-	9,168
Shinhan-Neoplux Energy Newbiz Fund	10,651	10,598	(288)	-	5,044	-	-	-	15,354
Stassets-DA Value Healthcare Fund I	508	739	(107)	-	1,747	-	-	-	2,379
Shinhan SKS Corporate Recovery Private Equity Fund	8,980	3,928	4,965	-	81	-	-	-	8,974
BTS 2nd Private Equity Fund	3,026	-	3,026	-	(125)	-	-	-	2,901
Shinhan global flagship venture fund 1	18,000	-	18,000	-	(412)	-	-	-	17,588
Korea Digital Asset Custody	505	435	-	-	(179)	16	-	-	272
Shinhan VC tomorrow venture fund 1	15,000	5,000	10,000	-	(227)	-	-	-	14,773
	₩ 248,530	211,911	57,117	495	22,304	(16,786)	(1,866)	(6,282)	266,893

(*1) No cash flow is involved as acquired from another account as reclassification.

(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

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14. Investments in associates (continued)

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

Associates	December 31, 2021								
	Acqui- sition cost	Beginn- ing balance	Acqui- sition (redem- ption)	Gain from disposal	Share of profit (loss) of associates	Share of other compre- hensive income (loss) of associates	Dividends received	Others	Ending balance
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 42,204	50,606	-	-	(660)	(5,918)	-	-	44,028
KOREA FINANCE SECURITY	3,448	3,055	-	-	(61)	-	-	-	2,994
DAEGY Electrical Construction Co., Ltd.	-	69	-	(66)	-	(3)	-	-	-
DOODOO LOGITECH	-	1	-	-	-	-	-	-	1
One Shinhan Future's Fund 1	3,000	2,921	-	-	(76)	-	-	-	2,845
KST-Shinhan Fund 1	1,500	920	500	-	(12)	-	-	-	1,408
One Shinhan Future's Fund 2	2,970	1,783	1,170	-	(61)	-	-	-	2,892
One-Shinhan Connect New Technology Investment Fund 1	72,000	-	72,000	-	(1,060)	-	-	-	70,940
Neoplux Technology Valuation Investment Fund	2,278	9,083	(7,824)	-	10,869	-	(3,073)	-	9,055
Partners 4th Growth Investment Fund	9,801	11,958	(3,753)	-	12,525	4,694	(12,390)	-	13,034
KTB Newlake Global Healthcare PEF	6,770	6,269	-	-	6	-	-	-	6,275
Newlake Growth Capital Partners2 PEF	10,000	-	10,000	-	(61)	-	-	-	9,939
DAEKWANG SEMICON DUCTOR Co., Ltd.	-	3,631	(2,020)	(1,721)	113	(3)	-	-	-
Songrim Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
Multimedia Tech Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
Hyungje art printing(*2)	-	-	-	-	-	-	-	-	-
MIEL Co., Ltd.(*2)	-	-	-	-	-	-	-	-	-
COSPEC BIM tech	-	95	(89)	(86)	80	-	-	-	-
WON JIN HOME PLAN Co., Ltd.	-	189	(102)	(87)	-	-	-	-	-
MSTEEL Co., Ltd.(*1)	-	-	-	-	-	-	-	1,538	1,538
JB AIR(*1)	-	-	-	-	-	-	-	22	22
Real Spin	-	-	(4)	(74)	-	-	-	78	-
BAEK DOO Co., Ltd.(*1)	-	-	-	-	-	-	-	152	152
Chungwon Assets(*1)	-	-	-	-	-	-	-	239	239
Jinmyung Plus(*1)	-	-	-	-	-	-	-	26	26
Korea Credit Bureau	2,250	3,488	-	-	404	-	(45)	-	3,847
Goduck Gangil1 PFV Co., Ltd.(*2)	50	-	-	-	-	-	-	-	-
Goduck Gangil10 PFV Co., Ltd.(*2)	700	23	-	-	(23)	-	-	-	-
SBC PFV Co., Ltd	16,250	9,104	6,250	-	(563)	-	-	-	14,791
ICSF (The Korea's Information Center for Savings & Finance)	300	159	-	-	8	-	-	-	167
Shinhan-Albatross Technology Investment Fund	3,100	8,772	(6,000)	-	4,248	-	-	-	7,020
Shinhan-Neoplux Energy Newbiz Fund	10,940	10,355	350	-	(107)	-	-	-	10,598
Stassets-DA Value Healthcare Fund I	614	753	-	-	(13)	-	-	-	740
Shinhan SKS Corporate Recovery Private Equity Fund	4,015	-	4,015	-	(87)	-	-	-	3,928
Korea Digital Asset Custody	505	-	505	-	(70)	-	-	-	435
Shinhan VC tomorrow venture fund 1	5,000	-	5,000	-	-	-	-	-	5,000
	₩ 197,695	123,234	79,998	(2,034)	25,399	(1,230)	(15,508)	2,055	211,914

(*1) No cash flow is involved as acquired from another account as reclassification.

(*2) This item has a book value of zero due to cumulative unrealized losses since its initial acquisition.

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14. Investments in associates (continued)

(c) Condensed financial statements of associates as of December 31, 2022 and 2021 are as follows:

Associates	December 31, 2022					
	Assets	Liabilities	Operating revenue	Profit (loss) for the year	Other comprehensive loss	Total comprehensive income (loss)
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 2,528,558	2,327,352	47,631	(11,901)	(80,527)	(92,428)
KOREA FINANCE SECURITY	29,060	12,892	54,341	(3,909)	-	(3,909)
DOODOO LOGITECH	3	-	-	(1)	-	(1)
One-Shinhan Future's New Technology Investment Fund 1	9,245	-	2,177	1,859	-	1,859
KST-SH Laboratory Investment Fund No.1	9,445	-	100	(96)	-	(96)
One-Shinhan Future's New Technology Investment Fund 2	10,984	-	5	1,248	-	1,248
One-Shinhan Future's New Technology Investment Fund 3	1,891	-	-	(109)	-	(109)
One-Shinhan Connect New Technology Investment Fund 1	258,363	-	28,891	25,439	-	25,439
One-Shinhan Connect New Technology Investment Fund 2	42,953	-	-	(2,047)	-	(2,047)
Neoplux Technology Valuation Investment Fund	31,820	487	3,864	5,964	-	5,964
Partners 4th Growth Investment Fund	54,661	496	14,432	27,663	(18,774)	8,889
Newlake Growth Capital Partners2 PEF	42,358	592	-	(829)	-	(829)
MIEL Co., Ltd.	422	565	36	(1)	-	(1)
MSTEEL Co., Ltd.	773	2,032	27,238	(6,481)	-	(6,481)
BAEK DOO Co., Ltd.	777	328	1,333	(137)	-	(137)
Chungwon assets	3,360	929	4,023	731	-	731
Jinmyung Plus	592	495	209	(21)	-	(21)
SEOKWANG T&I	-	-	-	-	-	-
Korea Credit Bureau	144,765	88,766	141,445	(29,498)	-	(29,498)
Goduck Gangil1 PFV Co., Ltd.	212,608	206,893	187,295	21,478	-	21,478
Goduck Gangil10 PFV Co., Ltd.	179,923	163,660	210,961	24,625	-	24,625
SBC PFV Co., Ltd.	444,206	290,391	-	(4,471)	-	(4,471)
DDI LVC Master Real Estate Investment Trust Co., Ltd.	42,665	43	-	(1,466)	-	(1,466)
Logisvalley Shinhan REIT Co., Ltd.	81,182	55,619	1,000	(296)	-	(296)
ICSF (The Korea's Information Center for Savings & Finance)	544	1	100	24	-	24
Shinhan-Albatross	27,870	363	1,469	10,429	(383)	10,046
Shinhan-Neoplux Energy Newbiz Fund	66,779	978	3,371	21,618	-	21,618
Stassets-DA Value Healthcare Fund I	9,877	-	335	7,250	-	7,250
Shinhan SKS Corporate Recovery Private Equity Fund	37,555	145	1,457	337	-	337
BTS 2nd Private Equity Fund	15,018	513	1	(625)	-	(625)
Shinhan Global Flagship Venture Fund 1	39,083	-	187	(917)	-	(917)
Korea Digital Asset Custody	400	60	-	(1,273)	-	(1,273)
Shinhan VC Tomorrow Venture Fund 1	68,808	850	163	(1,042)	-	(1,042)
	₩ <u>4,396,548</u>	<u>3,154,450</u>	<u>732,064</u>	<u>83,545</u>	<u>(99,684)</u>	<u>(16,139)</u>

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14. Investments in associates (continued)

(c) Condensed financial statements of associates as of December 31, 2022 and 2021 are as follows: (continued)

Associates	December 31, 2021					
	Assets	Liabilities	Operating revenue	Profit (loss) for the year	Other comprehensive income (loss)	Total comprehensive income (loss)
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 3,268,153	2,974,519	48,207	(4,499)	(39,454)	(43,953)
KOREA FINANCE SECURITY	35,044	14,966	63,693	(412)	-	(412)
DOODOO LOGITECH	4	-	-	(1)	-	(1)
One-Shinhan Future's New Technology Investment Fund 1	10,244	-	3	(272)	-	(272)
KST-SH Laboratory Investment Fund No.1	7,043	2	-	(56)	-	(56)
One-Shinhan Future's New Technology Investment Fund 2	9,736	-	-	(205)	-	(205)
One-Shinhan Connect New Technology Investment Fund 1	236,479	11	39	(3,532)	-	(3,532)
Neoplux Technology Valuation Investment Fund	30,463	3,298	33,345	32,607	-	32,607
Partners 4th Growth Investment Fund	60,073	7,939	52,019	50,100	18,774	68,874
KTB Newlake Global Healthcare PEF	30,969	161	552	27	-	27
Newlake Growth Capital Partners2 PEF	43,187	-	290	(263)	-	(263)
Songrim Partners Co., Ltd.	1,003	1,065	548	-	-	-
MIEL Co., Ltd.	491	632	36	(56)	-	(56)
MSTEEL Co., Ltd.	9,635	4,412	3,126	-	-	-
JB AIR	386	310	319	-	-	-
BAEK DOO Co., Ltd.	1,711	1,125	1,278	-	-	-
Chungwon assets	3,358	2,296	2,445	-	-	-
Jinmyung Plus	624	506	205	-	-	-
Korea Credit Bureau	129,478	43,981	121,982	8,988	-	8,988
Goduck Gangil1 PFV Co., Ltd.	301,513	317,276	88,085	(1,835)	-	(1,835)
Goduck Gangil10 PFV Co., Ltd.	253,607	261,969	-	(8,526)	-	(8,526)
SBC PFV Co., Ltd.	334,262	175,976	-	(4,462)	-	(4,462)
ICSF (The Korea's Information Center for Savings & Finance)	539	21	100	28	-	28
Shinhan-Albatross	21,552	491	14,217	12,745	-	12,745
Shinhan-Neoplux Energy Newbiz Fund	46,175	755	1,808	(460)	-	(460)
Stassets-DA Value Healthcare Fund I	3,131	62	-	(55)	-	(55)
Shinhan SKS Corporate Recovery Private Equity Fund	16,604	230	314	(364)	-	(364)
Korea Digital Asset Custody	693	17	-	(470)	-	(470)
Shinhan VC tomorrow venture fund 1	23,000	-	-	-	-	-
	₩ 4,879,157	3,812,020	432,611	79,027	(20,680)	58,347

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14. Investments in associates (continued)

(d) Reconciliation of associates' financial information presented to the carrying amount of the Group's interest in the associates as of December 31, 2022 and 2021 are as follows:

December 31, 2022						
Associates	Net assets (A)	Proportion of ownership interest (B)	Equity amount of net asset (A) x (B)	Unrealized income and expenses	Other adjustments	Carrying amount
BNP Paribas Cardif Life Insurance Co., Ltd.	₩ 201,205	14.99%	30,181	(8)	-	30,173
KOREA FINANCE SECURITY DOODOO LOGITECH	16,168	14.91%	2,411	-	-	2,411
One-Shinhan Future's New Technology Investment Fund 1	3	27.96%	1	-	-	1
KST-SH Laboratory Investment Fund No.1	9,245	27.78%	2,568	-	-	2,568
One-Shinhan Future's New Technology Investment Fund 2	9,445	20.00%	1,889	-	-	1,889
One-Shinhan Future's New Technology Investment Fund 3	10,984	29.70%	3,262	-	-	3,262
One-Shinhan Connect New Technology Investment Fund 1	1,891	29.90%	565	-	-	565
One-Shinhan Connect New Technology Investment Fund 2	258,363	30.00%	77,509	-	-	77,509
One-Shinhan Connect New Neoplux Technology Valuation Investment Fund	42,953	33.33%	14,318	-	-	14,318
Partners 4th Growth Investment Fund	31,333	33.33%	10,445	-	-	10,445
Newlake Growth Capital Partners2 PEF	54,165	25.00%	13,541	-	-	13,541
MIEL Co., Ltd. (*2)	41,767	23.01%	9,611	-	-	9,611
MSTEEL Co., Ltd. (*2)	(142)	28.77%	(41)	-	41	-
BAEK DOO Co., Ltd.	(1,259)	29.45%	(371)	-	371	-
Chungwon Assets	449	25.90%	116	-	-	116
Jinmyung Plus	2,430	22.53%	547	-	-	547
SEOKWANG T&I	97	22.20%	22	-	-	22
Korea Credit Bureau	-	28.55%	-	-	-	-
Goduck Gangil1 PFV Co., Ltd.	55,999	4.50%	2,520	-	-	2,520
Goduck Gangil10 PFV Co., Ltd.	5,715	1.04%	59	-	-	59
SBC PFV Co., Ltd.(*3)	16,263	14.00%	2,277	-	-	2,277
DDI LVC Master Real Estate Investment Trust Co., Ltd.(*1)	153,815	12.50%	19,227	-	(4,995)	14,232
Logisvalley Shinhan REIT Co., Ltd.(*1)	42,621	15.00%	6,393	-	12	6,405
ICSF (The Korea's Information Center for Savings & Finance)	25,564	14.95%	3,822	-	(986)	2,836
Shinhan-Albatross	543	32.26%	175	-	-	175
Shinhan-Neoplux Energy Newbiz Fund	27,507	33.33%	9,168	-	-	9,168
Stassets-DA Value Healthcare Fund I	65,802	23.33%	15,354	-	-	15,354
Shinhan SKS Corporate Recovery Private Equity Fund	9,877	24.10%	2,380	-	-	2,380
BTS 2nd Private Equity Fund	37,410	23.99%	8,975	-	-	8,975
Shinhan global flagship venture fund 1	14,505	20.00%	2,901	-	-	2,901
Korea Digital Asset Custody (*1)	39,083	45.00%	17,587	-	-	17,587
Shinhan VC tomorrow venture fund 1	341	14.09%	48	-	224	272
	67,958	21.74%	14,774	-	-	14,774
	₩ 1,242,100		272,234	(8)	(5,333)	266,893

(*1) Other is the fair value adjustment amount incurred during acquisition.

(*2) Other adjustments represent the unrecognized share of accumulated losses resulting from the Group's discontinuing the use of equity method since its interest is reduced to zero by the accumulated losses of the investee.

(*3) It is the amount of adjustment that does not use of the equity method for preferred shares without voting rights issued by the investee.

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14. Investments in associates (continued)

(d) Reconciliation of associates' financial information presented to the carrying amount of the Group's interest in the associates as of December 31, 2022 and 2021 are as follows: (continued)

December 31, 2021						
Associates	Net assets (A)	Proportion of ownership interest (B)	Equity amount of net asset (A) x (B)	Unrealized income and expenses	Other adjustments	Carrying amount
BNP Paribas Cardif Life Insurance Co., Ltd.	293,633	14.99%	44,045	(17)	-	44,028
KOREA FINANCE SECURITY DOODOO LOGITECH	20,077	14.91%	2,994	-	-	2,994
One-Shinhan Future's New Technology Investment Fund 1	4	27.96%	1	-	-	1
KST-SH Laboratory Investment Fund No.1	10,243	27.78%	2,845	-	-	2,845
One-Shinhan Future's New Technology Investment Fund 2	7,041	20%	1,408	-	-	1,408
One-Shinhan Connect New Technology Investment Fund 1	9,736	29.70%	2,892	-	-	2,892
Neoplux Technology Valuation Investment Fund	236,468	30%	70,940	-	-	70,940
Partners 4th Growth Investment Fund	27,164	33.33%	9,055	-	-	9,055
KTB Newlake Global Healthcare PEF(*1)	52,134	25%	13,034	-	-	13,034
Newlake Growth Capital Partners2 PEF	30,807	20%	6,162	-	113	6,275
Songrim Partners Co., Ltd. (*2)	43,187	23.01%	9,939	-	-	9,939
MIEL Co., Ltd. (*2)	(62)	35.34%	(22)	-	22	-
MSTEEL Co., Ltd.	(141)	28.77%	(41)	-	41	-
JB AIR	5,223	29.45%	1,538	-	-	1,538
BAEK DOO Co., Ltd.	76	28.77%	22	-	-	22
Chungwon Assets	586	25.90%	152	-	-	152
Jinmyung Plus	1,062	22.53%	239	-	-	239
Korea Credit Bureau	118	22.20%	26	-	-	26
Goduck Gangil1 PFV Co., Ltd. (*2)	85,497	4.50%	3,847	-	-	3,847
Goduck Gangil10 PFV Co., Ltd. (*2)	(15,763)	1.04%	(164)	-	164	-
SBC PFV Co., Ltd. (*3)	(8,362)	14%	(1,171)	-	1,171	-
ICSF (The Korea's Information Center for Savings & Finance)	158,286	12.50%	19,786	-	(4,995)	14,791
Shinhan-Albatross	518	32.26%	167	-	-	167
Shinhan-Neoplux Energy Newbiz Fund	21,061	33.33%	7,020	-	-	7,020
Stassets-DA Value Healthcare Fund I	45,420	23.33%	10,598	-	-	10,598
Shinhan SKS Corporate Recovery Private Equity Fund	3,069	24.10%	740	-	-	740
Korea Digital Asset Custody (*1)	16,374	23.99%	3,928	-	-	3,928
Shinhan VC Tomorrow Venture Fund 1	676	14.98%	101	-	334	435
	23,000	21.74%	5,000	-	-	5,000
	<u>1,067,132</u>		<u>215,081</u>	<u>(17)</u>	<u>(3,150)</u>	<u>211,914</u>

(*1) Other is the fair value adjustment amount incurred during acquisition.

(*2) Other adjustments represent the unrecognized share of accumulated losses resulting from the Group's discontinuing the use of equity method since its interest is reduced to zero by the accumulated losses of the investee.

(*3) It is the amount of adjustment that does not use of the equity method for preferred shares without voting rights issued by the investee.

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14. Investments in associates (continued)

(e) The unrecognized equity method losses and accumulated unrecognized equity losses for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022	
		Unrecognized equity method loss	Accumulated unrecognized equity method loss
MSTEEL Co., Ltd.	₩	(371)	(371)
MIEL Co., Ltd.		-	(41)
	₩	(371)	(371)
		December 31, 2021	
		Unrecognized equity method loss	Accumulated unrecognized equity method loss
Songrim Co., Ltd.	₩	-	(22)
MIEL Co., Ltd.		(16)	(41)
Goduck Gangil1 PFV Co., Ltd.		(19)	(164)
Goduck Gangil10 PFV Co., Ltd.		(1,171)	(1,171)
	₩	(1,206)	(1,398)

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15. Investment properties

(a) Investment properties as of December 31, 2022 and 2021 are as follows:

		December 31, 2021		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	442,102	-	442,102
Buildings		289,101	(126,263)	162,838
	₩	<u>731,203</u>	<u>(126,263)</u>	<u>604,940</u>

		December 31, 2022		
		Acquisition cost	Accumulated depreciation	Book value
Land	₩	455,753	-	455,753
Buildings		257,432	(106,908)	150,524
	₩	<u>713,185</u>	<u>(106,908)</u>	<u>606,277</u>

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

		December 31, 2022		
		Land	Buildings	Total
Beginning balance	₩	455,753	150,524	606,277
Acquisition		-	10,091	10,091
Depreciation		-	(12,465)	(12,465)
Amounts transferred from (to) property and equipment		(12,703)	15,830	3,127
Amounts transferred to assets held for sale		(948)	(1,142)	(2,090)
Ending balance	₩	<u>442,102</u>	<u>162,838</u>	<u>604,940</u>

		December 31, 2021		
		Land	Buildings	Total
Beginning balance	₩	454,486	155,753	610,239
Acquisition		3,442	4,849	8,291
Disposal		-	(2,279)	(2,279)
Depreciation		-	(12,255)	(12,255)
Amounts transferred from (to) property and equipment		(4,177)	4,209	32
Amounts transferred to assets held for sale		2,002	237	2,239
Foreign currency adjustment		-	10	10
Ending balance	₩	<u>455,753</u>	<u>150,524</u>	<u>606,277</u>

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15. Investment properties (continued)

(c) Fair value of investment properties as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Investment properties (*)	₩ 740,387	706,509

(*) Fair value of investment properties is estimated based on the recent market transactions and certain significant unobservable inputs. Accordingly, fair value of investment properties is classified as level 3.

(d) Income and expenses on investment properties for the years ended December 31, 2022 and 2021 are as follows

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Rental income	₩ 26,737	24,244
Direct operating expenses for investment properties that generate rental income	6,325	4,985

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16. Other assets

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

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Accounts receivable	₩ 6,947,041	7,397,838
Domestic exchange settlement receivables	5,693,750	6,646,920
Guarantee deposits	806,502	919,410
Accrued income	1,942,419	1,452,347
Prepaid expense	123,307	102,432
Suspense payments	376,719	292,145
Sundry assets	221,751	120,432
Others	7,148	10,494
Present value discount	(36,887)	(23,111)
Allowance for impairment	(273,165)	(160,976)
	<u>₩ 15,808,585</u>	<u>16,757,931</u>

17. Non-current assets held for sale

(a) Non-current assets held for sale as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Property and equipment	₩ 29,211	30,706

The Group has classified property and equipment which are highly expected to be sold within one year from December 31, 2022, as non-current assets held for sale.

(b) The cumulative income or loss recognized in other comprehensive income

There are no cumulative income or loss recognized in other comprehensive income relating to non-current assets held for sale as of December 31, 2022 and 2021.

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18. Pledged assets

(a) Assets pledged as collateral as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>Reasons for collateral</u>
Securities (*1):			
Securities at FVTOCI	₩ 6,800,795	2,338,898	Borrowings, Settlement security for Bank of Korea, Borrowing securities, etc
Securities at amortized cost	14,638,624	15,897,633	Borrowings, Settlement security for Bank of Korea, Customer RP, etc
	<u>21,439,419</u>	<u>18,236,531</u>	
Property and equipment (*2)	4,246	4,041	Establishment of the right to pledge, etc
	<u>₩ 21,443,665</u>	<u>18,240,572</u>	

(*1) The carrying amounts of assets pledged as collateral that the third party had the right to sell or repledge regardless of the Group's default as of December 31, 2022 and 2021 are ₩ 965,951 million and ₩ 606,432 million, respectively.

(*2) The amounts are based on the notification amount of pledge.

(b) The fair value of collateral held that the Group has the right to sell or repledge regardless of pledger's default as of December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>		<u>December 31, 2021</u>	
		<u>Collateral held</u>	<u>Collateral sold or repledged</u>	<u>Collateral held</u>	<u>Collateral sold or repledged</u>
Securities	₩	3,750,199	-	2,163,744	-

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19. Financial liabilities designated at FVTPL

(a) Financial liabilities designated at FVTPL as of December 31, 2022 and 2021 are as follows:

<u>Classification(*1)</u>	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Debt securities issued(*2)	₩ 47,327	-

(*1) In accordance with K-IFRS No. 1109 'Financial instruments', the Group has designated debt securities issued that are permitted to designate financial liabilities at FVTPL.

(*2) The carrying amount of financial liabilities designated at FVTPL was calculated based on the option valuation model.

(b) The difference between the carrying amount of financial liabilities designated at FVTPL and the amount required to be paid at contractual maturity as of December 31, 2022 are as follows and there is no amount for the year ended December 31, 2021.

		<u>December 31, 2022</u>		
		<u>Redemption amount on a contractual maturity</u>	<u>Carrying amounts</u>	<u>Difference</u>
Debt securities issued	₩	50,000	47,327	2,673

(c) The details of net gain or loss (excluding interest income and interest expenses) related to financial liabilities designated at FVTPL for the year ended December 31, 2022 are as follows and there is no amount for the year ended December 31, 2021.

		<u>December 31, 2022</u>		
		<u>Gain or loss on valuation</u>	<u>Gain or loss on sale</u>	<u>Total</u>
Debt securities issued	₩	2,673	-	2,673

20. Deposits

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

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Demand deposits:		
Korean won	₩ 130,929,126	150,303,143
Foreign currencies	25,411,460	20,776,554
	<u>156,340,586</u>	<u>171,079,697</u>
Time deposits:		
Korean won	165,865,497	135,611,024
Foreign currencies	24,959,998	20,858,940
Gain on fair value hedge	(187,527)	(93,765)
	<u>190,637,968</u>	<u>156,376,199</u>
Negotiable certificates of deposits	14,843,073	16,399,604
Note discount deposits	6,631,858	5,818,001
CMA	4,634,010	5,246,478
Others	16,694	17,645
	<u>₩ 373,104,189</u>	<u>354,937,624</u>

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21. Financial liabilities at fair value through profit or loss

(a) Financial liabilities at FVTPL as of December 31, 2022 and 2021 are as follows:

	<u>Interest rate (%)</u>	<u>Amount</u>	<u>Interest rate (%)</u>	<u>Amount</u>
Securities sold:				
Equity securities	-	₩ 2,958	-	₩ 2,203
Gold/silver deposits	-	422,006	-	581,459
		₩ <u>424,964</u>		₩ <u>583,662</u>

(b) Net gain (loss) on financial liabilities at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Securities sold:		
Gain on sale	₩ 1,430	-
Loss on sale	(794)	-
Gain on valuation	-	30
Loss on valuation	(44)	(27)
Gold/silver deposits:		
Gain on sale	3,535	3,937
Loss on sale	(810)	(446)
Loss on valuation	(38,997)	(26,224)
	₩ <u>(35,680)</u>	₩ <u>(22,730)</u>

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22. Borrowings

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

	December 31, 2022		December 31, 2021	
	Interest rate (%)	Amount	Interest rate (%)	Amount
Call money:				
Foreign currencies	0.05~6.30	₩ 1,199,600	(-)0.30~0.68	₩ 1,444,111
		<u>1,199,600</u>		<u>1,444,111</u>
Bill sold	0.00~3.95	15,057	0.00~1.47	9,032
Bonds sold under repurchase agreements:				
Korean won	0.00~3.21	1,264	0.00~1.12	1,176
Foreign currencies	5.15~6.80	134,447	5.15	81,402
		<u>135,711</u>		<u>82,578</u>
Borrowings in Korean won:				
Borrowings from Bank of Korea	0.25~1.75	4,999,051	0.25	5,150,101
Others	0.00~3.70	8,090,193	0.00~3.70	7,356,645
		<u>13,089,244</u>		<u>12,506,746</u>
Borrowings in foreign currencies:				
Overdraft due to banks	0.00~0.30	48,072	0.00~0.30	42,434
Borrowings from banks	0.00~5.75	7,575,602	(-)0.49~5.50	5,147,868
Sub-lease	0.00~2.28	8,719	0.00	9,994
Others	0.00~22.65	2,143,375	0.00~11.25	1,719,569
		<u>9,775,768</u>		<u>6,919,865</u>
Deferred origination fees		(2,588)		(93)
		<u>₩ 24,212,792</u>		<u>₩ 20,962,239</u>

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23. Debt securities issued

Debt securities issued as of December 31, 2022 and 2021 are as follows:

	December 31, 2022		December 31, 2021	
	Interest rate (%)	Amount	Interest rate (%)	Amount
Debt securities issued in Korean won:				
Debt securities issued	0.05~4.59	₩ 22,581,073	0.79~8.00	₩ 27,321,306
Subordinated debt securities issued	2.20~3.98	2,460,125	2.20~4.60	3,860,125
Loss on fair value hedges		(348,700)		(122,069)
Discount on debt securities issued		(12,474)		(14,726)
		<u>24,680,024</u>		<u>31,044,636</u>
Debt securities issued in foreign currencies:				
Debt securities issued	0.25~6.02	5,792,612	0.25~3.88	4,178,338
Subordinated debt securities issued	3.75~5.00	3,068,059	3.75~5.00	2,299,631
Gain(loss) on fair value hedges		(324,901)		130,392
Discount on debt securities issued		(29,614)		(27,258)
		<u>8,506,156</u>		<u>6,581,103</u>
		<u>₩ 33,186,180</u>		<u>₩ 37,625,739</u>

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24. Defined benefit liabilities

The Group operates a defined benefit pension system based on employees' length of service. The Group also trusts plan assets in trust companies, fund companies and other similar companies.

(a) Defined benefit plan assets and liabilities

Defined benefit plan assets and liabilities as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Present value of defined benefit obligations	₩ 1,395,869	1,594,573
Fair value of plan assets	(1,919,023)	(1,703,164)
Net defined benefit assets	<u>₩ 523,154</u>	<u>108,591</u>

(b) Changes in the present value of defined benefit obligations for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Beginning balance	₩ 1,594,573	1,583,133
Current service cost	123,323	127,003
Interest expense	52,907	48,209
Remeasurements(*1)(*2)	(295,701)	(73,902)
Effects of foreign currency movements	(453)	249
Benefits paid by the plan	(83,570)	(96,374)
Others	4,790	5,055
Past service cost	-	1,200
Ending balance	<u>₩ 1,395,869</u>	<u>1,594,573</u>

(*1) Remeasurements for the year ended December 31, 2022 consist of ₩328,199 million of actuarial gain arising from changes in financial assumptions, ₩32,691 million of actuarial loss arising from changes in experience adjustments and ₩193 million of actuarial gain arising from changes in demographic assumptions.

(*2) Remeasurements for year ended December 31, 2022 consist of ₩65,846 million of actuarial gain arising from changes in financial assumptions, ₩8,056 million of actuarial gain arising from changes in experience adjustments.

(c) Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Beginning balance	₩ 1,703,164	1,590,977
Interest income	58,657	49,551
Remeasurements	(26,111)	(27,024)
Contributions paid into the plan	261,000	177,000
Benefits paid by the plan	(77,687)	(87,340)
Ending balance	<u>₩ 1,919,023</u>	<u>1,703,164</u>

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24. Defined benefit liabilities (continued)

(d) The amount of major categories of the fair value of plan assets as of December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Deposits	₩	1,719,109	1,532,588
Others		199,914	170,576
	₩	<u>1,919,023</u>	<u>1,703,164</u>

(e) Actuarial assumptions as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>	<u>Descriptions</u>
Discount rate	5.83%	3.48%	AA0 Corporate bond yields
Future salary increasing rate	2.36% + Promotion rate	2.29% + Promotion rate	Average for last 5 years

(f) Sensitivity analysis

Sensitivity analysis of the present value fluctuations of defined benefit obligations as of December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>	
		Change in present value when the factor rises by 100 basis points	Change in present value when the factor falls by 100 basis points
Discount rate	₩	(113,751)	130,445
Future salary increasing rate		133,804	(118,430)
		<u>December 31, 2021</u>	
		Change in present value when the factor rises by 100 basis points	Change in present value when the factor falls by 100 basis points
Discount rate	₩	(146,684)	170,311
Future salary increasing rate		170,628	(149,607)

(g) The maturity analysis of undiscounted retirement benefit payments for the years ended December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>					
		1 year or less	1 year~ 2 years or less	2 years~ 5 years or less	5 years~ 10 years or less	More than 10 years	Total
Salary payment amount	₩	37,569	67,201	364,249	506,729	1,588,437	2,564,185
		<u>December 31, 2021</u>					
		1 year or less	1 year~ 2 years or less	2 years~ 5 years or less	5 years~ 10 years or less	More than 10 years	Total
Salary payment amount	₩	37,458	61,657	303,266	492,996	1,449,762	2,345,139

(h) The weighted average durations of defined benefit obligations as of December 31, 2022 and 2021 are 9.3 years and 10.3 years, respectively.

(i) The Group's estimated contribution will be ₩ 106,000 million as of December 31, 2022.

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25. Provisions

(a) Changes in provision for unused credit commitments and guarantee contracts issued for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022						
	Loan commitments and other liabilities for credit			Guarantee contracts			Total
	12-month expected credit losses	Lifetime expected credit losses		12-month expected credit losses	Lifetime expected credit losses		
		Not impaired financial assets	Impaired financial assets		Not impaired financial assets	Impaired financial assets	
Beginning balance	₩ 69,281	20,427	-	47,825	6,562	27	144,122
Transfer to 12-month expected credit losses	4,068	(4,068)	-	2,680	(2,680)	-	-
Transfer to lifetime expected credit losses	(2,882)	2,882	-	(3,714)	3,714	-	-
Transfer to impaired financial asset	(45)	(48)	93	-	-	-	-
Provision(reversal)	15,284	3,171	(93)	(552)	648	5	18,463
Foreign exchange movements	(2,068)	131	-	909	118	-	(910)
Others(*)	-	-	-	(5,536)	(712)	(5)	(6,253)
Ending balance	₩ 83,638	22,495	-	41,612	7,650	27	155,422

(*) These include the new occurrence of guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

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25. Provisions (continued)

(a) Changes in provision for unused credit commitments and guarantee contracts issued for the years ended December 31, 2022 and 2021 are as follows:(continued)

		December 31, 2021						
		Loan commitments and other liabilities for credit			Guarantee contracts			
		Lifetime expected credit losses			Lifetime expected credit losses			
		12-month expected credit losses	Not impaired financial assets	Impaired financial assets	12-month expected credit losses	Not impaired financial assets	Impaired financial assets	Total
Beginning balance	₩	83,726	21,858	-	50,375	7,282	9	163,250
Transfer to 12-month expected credit losses		4,671	(4,671)	-	2,892	(2,892)	-	-
Transfer to lifetime expected credit losses		(3,266)	3,266	-	(3,621)	3,621	-	-
Transfer to impaired financial asset		(56)	(75)	131	-	-	-	-
Provision(reversal)		(17,758)	(1,028)	(131)	(268)	(312)	5	(19,492)
Foreign exchange movements		1,964	1,077	-	1,910	534	-	5,485
Others(*)		-	-	-	(3,463)	(1,671)	13	(5,121)
Ending balance	₩	<u>69,281</u>	<u>20,427</u>	<u>-</u>	<u>47,825</u>	<u>6,562</u>	<u>27</u>	<u>144,122</u>

(*) These include the new occurrence of guarantee contracts, which are evaluated at the initial fair value, and the effects of changes due to the arrival of maturity and changes in discount rates.

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25. Provisions (continued)

(b) Changes in other provisions for the years ended December 31, 2022 and 2021 are as follows:

		December 31, 2022				
		Asset retirement	Litigation	Non- guarantee contracts	Others	Total
Beginning balance	₩	48,862	3,113	26,823	182,121	260,919
Provision(reversal)		5,826	1,134	(410)	(46,637)	(40,087)
Provision used		(6,468)	-	-	(6,993)	(13,461)
Foreign exchange movements		-	-	1,351	353	1,704
Others(*)		6,276	-	(181)	(1,391)	4,704
Ending balance	₩	<u>54,496</u>	<u>4,247</u>	<u>27,583</u>	<u>127,453</u>	<u>213,779</u>

(*) This is the effect of changing the discount rate.

		December 31, 2021				
		Asset retirement	Litigation	Non- guarantee contracts	Others	Total
Beginning balance	₩	40,884	8,892	21,958	111,311	183,045
Provision(reversal)		6,779	(672)	3,701	79,421	89,229
Provision used		(2,415)	(5,107)	-	(8,382)	(15,904)
Foreign exchange movements		-	-	1,264	(540)	724
Others(*)		3,614	-	(100)	311	3,825
Ending balance	₩	<u>48,862</u>	<u>3,113</u>	<u>26,823</u>	<u>182,121</u>	<u>260,919</u>

(*) This is the effect of changing the discount rate.

(c) Asset retirement obligation liabilities

Asset retirement obligation liabilities represent the estimated cost to restore the existing leased properties which are discounted to the present value using the appropriate discount rate at the end of the reporting period. Disbursements of such costs are expected to incur at the end of the lease contract. Such costs are reasonably estimated using the average lease period and the average restoration expenses. The average lease period is calculated based on the past ten-year historical data of the expired leases. The average restoration expense is calculated based on the actual costs incurred for the past three years using the three-year average inflation rate.

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26. Other liabilities

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

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Account payable	₩ 7,077,295	7,584,144
Borrowing from trust account	6,563,116	5,189,455
Accrued expenses	3,333,172	2,238,814
Liability incurred by agency relationship	1,384,311	1,191,097
Domestic exchange settlement payable	2,231,507	1,809,727
Lease liabilities(*)	397,251	414,416
Agency business income	711,510	877,381
Guarantee deposits received	751,949	558,239
Foreign exchange settlement payables	359,394	221,521
Suspense payable	38,104	45,037
Unearned income	111,382	74,664
Withholding value-added tax and other taxes	194,723	137,535
Dividends payable	965	-
Sundry liabilities	55,040	171,855
Present value discount	(19,857)	(10,889)
	₩ <u>23,189,862</u>	<u>20,502,996</u>

(*) For the year ended December 31, 2022, expenses for the variable lease payments that are not included in the measurement of lease liabilities amount to ₩12,337 million, the cash outflows from lease liabilities amount to ₩201,775 million, and interest expense on lease liabilities amount to ₩8,134 million. Expenses for variable lease payments not included in the measurement of lease liabilities for the year ended December 31, 2021 amount to ₩79 million, cash outflows from lease liabilities amount to ₩217,795 million, and interest expense on lease liability amounts to ₩6,852 million.

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27. **Equity**

(a) Equity as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Capital stock:		
Common stock	₩ 7,928,078	7,928,078
Other equity instruments:		
Hybrid bonds	2,088,542	1,586,662
Capital surplus:		
Share premium	398,080	398,080
Others	5,084	5,084
	<u>403,164</u>	<u>403,164</u>
Capital adjustments:		
Stock options	1,744	3,702
Others	771	(960)
	<u>2,515</u>	<u>2,742</u>
Accumulated other comprehensive income (loss):		
Net change in fair value of financial instruments at FVTOCI	(1,029,853)	(210,617)
Share of other comprehensive income of associates	(7,933)	2,254
Foreign currency translation differences for foreign operations	(162,244)	(142,654)
Remeasurements of defined benefit plans	(60,799)	(256,023)
Credit risk adjustment of financial liabilities	1	-
	<u>(1,260,828)</u>	<u>(607,040)</u>
Retained earnings:		
Legal reserve(*1)	2,652,548	2,437,255
Voluntary reserve(*2)	14,448,364	13,518,553
Other reserve(*3)	175,898	156,327
Unappropriated retained earnings(*4)	4,720,628	3,802,425
	<u>21,997,438</u>	<u>19,914,560</u>
Non-controlling interests	8,351	7,472
	<u>₩ 31,167,260</u>	<u>29,235,638</u>

(*1) According to the Article 40 of the Banking Act, the Group is required to appropriate an amount equal to a minimum of 10% of cash dividends paid for each accounting period as a legal reserve, until such reserve equals 100% of issued capital. The legal reserve is only available to be used to reduce accumulated deficit or transfer to capital stock.

(*2) The amounts include regulatory reserve for loan loss based on separate financial statements of ₩2,559,855 million and ₩2,276,212 million as of December 31, 2022 and 2021, respectively. The amounts also include asset revaluation surplus of ₩355,898 million as of both December 31, 2022 and 2021.

(*3) Other reserve was established according to the laws applicable to some oversea branches and it may be used only to reduce their deficit.

(*4) As of December 31, 2022, the difference between the expected reversal of regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩ 10,330 million, and this includes the expected reversal of regulatory reserve of loan loss based on consolidated statements amounting ₩ 131,349 million.

As of December 31, 2021, the difference between the expected provision for regulatory reserve of loan loss based on the separate financial statements and consolidated financial statements is ₩ 6,277 million, and this includes the expected provision for regulatory reserve of loan loss based on consolidated statements amounting ₩ 289,920 million.

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27. Equity (continued)

(b) Capital stock

Capital stock of the Group as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Number of authorized shares	2,000,000,000 shares	2,000,000,000 shares
Par value per share in won	₩5,000	₩5,000
Number of issued shares outstanding	1,585,615,506 shares	1,585,615,506 shares

(c) Hybrid bonds

Hybrid bonds as of December 31, 2022 and 2021 are as follows:

<u>Date of issuance</u>	<u>Date of maturity</u>	<u>Book value</u>		<u>Interest rate (%)</u>
		<u>December 31, 2022</u>	<u>December 31, 2021</u>	
Hybrid bonds issued in Korean won:				
June 7, 2013	June 7, 2043	₩ 299,568	299,568	4.63
June 29, 2017	Perpetual bond	-	129,701	-
June 29, 2017	Perpetual bond	69,844	69,844	3.81
October 15, 2018	Perpetual bond	199,547	199,547	3.70
February 25, 2019	Perpetual bond	299,327	299,327	3.30
February 25, 2020	Perpetual bond	239,459	239,459	2.88
February 25, 2020	Perpetual bond	49,888	49,888	3.08
November 5, 2020	Perpetual bond	299,327	299,328	2.87
May 3, 2022	Perpetual bond	322,277	-	4.50
October 17, 2022	Perpetual bond	309,305	-	5.70
		<u>₩ 2,088,542</u>	<u>1,586,662</u>	
Dividends on hybrid bond holders		₩ 64,269	55,248	
Weighted average interest rate (%)		3.57	3.48	

The above hybrid bonds are subject to early redemption option after five years or ten years from the date of issuance, and the maturity can be extended under the same condition at the maturity date.

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27. Equity (continued)

(d) Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022							Total
	Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss				
	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans		
Beginning balance	₩ (254,466)	2,253	(142,653)	43,850	-	(256,024)	(607,040)	
Change due to fair value measurement	(1,164,128)	-	-	(38,412)	-	-	(1,202,540)	
Change due to equity method measurement	-	(16,785)	-	-	-	-	(16,785)	
Change due to impairment	(3,992)	-	-	-	-	-	(3,992)	
Change due to disposal	30,852	-	-	-	-	-	30,852	
Effect of hedge accounting	63,480	-	(25,793)	-	-	-	37,687	
Effect of foreign currency movements	-	-	5,658	(823)	-	-	4,835	
Remeasurements of defined benefit plans	-	-	-	-	-	269,591	269,591	
Amounts transferred to retained earnings	-	-	-	(2,943)	-	-	(2,943)	
Effect of tax	298,934	6,599	544	(2,204)	-	(74,366)	229,507	
Ending balance	₩ (1,029,320)	(7,933)	(162,244)	(532)	-	(60,799)	(1,260,828)	

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27. **Equity (continued)**

(d) Changes in accumulated other comprehensive income (loss) including reclassification adjustment for the years ended December 31, 2022 and 2021 are as follows (continued):

	December 31, 2021							Total
	Items that are or may be reclassified to profit or loss			Items that will not be reclassified to profit or loss				
	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Foreign currency translation differences for foreign operations	Net change in fair value of financial instruments at FVTOCI	Share of other comprehensive income (loss) of associates, net	Remeasurements of the defined benefit plans		
Beginning balance	₩ 100,226	5,119	(350,308)	(6,427)	-	(290,021)	(541,411)	
Change due to fair value measurement	(436,566)	-	-	23,156	-	-	(413,410)	
Change due to equity method measurement	-	(1,230)	-	-	-	-	(1,230)	
Change due to impairment	11,758	-	-	-	-	-	11,758	
Change due to disposal	(74,939)	-	-	-	-	-	(74,939)	
Effect of hedge accounting	10,627	-	(74,525)	-	-	-	(63,898)	
Effect of foreign currency movements	-	-	281,459	674	-	-	282,133	
Remeasurements of defined benefit plans	-	-	-	-	-	46,878	46,878	
Amounts transferred to retained earnings	-	-	-	45,518	-	-	45,518	
Effect of tax	134,428	(1,636)	721	(19,071)	-	(12,881)	101,561	
Ending balance	₩ (254,466)	2,253	(142,653)	43,850	-	(256,024)	(607,040)	

SHINHAN BANK AND SUBSIDIARIES
Consolidated Statements of Changes in Equity (Continued)

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27. **Equity (continued)**

(e) The appropriation of retained earnings for the year ended December 31, 2022, is expected to be appropriated at the shareholders' meeting on March 23, 2023. The appropriation date for the year ended December 31, 2021, was March 23, 2022.

Statements of appropriation of retained earnings for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Unappropriated retained earnings:		
Balance at beginning of year	₩ -	-
Transfer from other comprehensive income through the sale of securities at FVTOCI	2,134	(33,001)
Interest on hybrid bond	(64,269)	(55,248)
Profit for the year	2,631,873	2,152,934
	<u>2,569,738</u>	<u>2,064,685</u>
Transfer from reserves:		
Voluntary reserve	11,253,761	10,607,590
Regulatory reserve	141,679	-
	<u>11,395,440</u>	<u>10,607,590</u>
Appropriation of retained earnings:		
Legal reserve	263,187	215,294
Regulatory reserve for loan loss	-	283,643
Other reserve	11,590	19,577
Voluntary reserves	12,532,997	11,253,761
Loss on redemption of hybrid bond	299	-
Dividends on common stock	1,157,105	900,000
(Dividend per share in won: 2022 ₩729.75 (14.60%) 2021 ₩567.60 (11.35%))		
	<u>13,965,178</u>	<u>12,672,275</u>
Unappropriated retained earnings to be carried over to subsequent year	₩ -	-

These statements of appropriation of retained earnings are based on the separate financial statements of the Bank.

(f) Dividends

Dividends of common stock for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Number of issued shares outstanding	1,585,615,506	1,585,615,506
Par value per share in won	₩ 5,000	5,000
Dividend rate per share	14.60%	11.35%
Dividend per share in won	₩ 729.75	567.60

(g) Dividends payout ratio

Dividends payout ratio for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Dividends	₩ 1,157,105	900,000
Profit for the year (*)	3,045,012	2,494,375
Dividends payout ratio to profit for the year	38.00%	36.08%
Profit for the year adjusted for regulatory reserve for loan loss (*)	3,176,361	2,204,455
Dividends payout ratio to profit for the year adjusted for regulatory reserve for loan loss	36.43%	40.83%

(*) Profit for the year and profit for the year adjusted for regulatory reserve for loan loss are the amount attributable to equity holder of the Group.

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28. Regulatory reserve for loan loss

The Group should calculate and disclose regulatory reserve for loan loss, in accordance with *the Article 29-1 and 29-2 of Regulation on Supervision of Banking Business*.

(a) The regulatory reserve for loan loss as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Regulatory reserve for loan loss	₩ 2,631,990	2,342,070
Provision for(reversal of) regulatory reserve for loan loss	(131,349)	289,920
	<u>₩ 2,500,641</u>	<u>2,631,990</u>

(b) Profit for the year adjusted for regulatory reserve for loan loss and adjusted profit after reflecting regulatory reserve for loan loss for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Provision for(reversal of) regulatory reserve for loan loss	₩ (131,349)	289,920
Adjusted profit after reflecting regulatory reserve for loan loss(*)	3,177,081	2,204,974
Adjusted earnings per share after reflecting regulatory reserve for loan loss in won	₩ 1,963	1,356

(*) The adjusted reserve which reflects abovementioned loan loss is not based on K-IFRS and is calculated by assuming that the provisions of loan loss before income tax effects are reflected in profit for the year.

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29. Net interest income

(a) Net interest income for the years ended December 31, 2022 and 2021 is as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Interest income:		
Cash and due from banks	₩ 149,225	34,922
Securities at FVTPL	388,236	209,463
Securities at FVTOCI	822,079	539,489
Securities at amortized cost	590,960	444,048
Loans(*)	12,077,935	8,175,449
Others	57,381	42,100
	<u>₩ 14,085,816</u>	<u>9,445,471</u>
Interest income from impaired financial assets	₩ 16,737	15,897

(*) Interest income from loans at FVTPL for the year ended December 31, 2022 and 2021 are ₩13,497 million and ₩8,362 million, respectively.

(b) Interest expense for the years ended December 31, 2022 and 2021 is as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Financial liabilities at amortized cost(*)		
Deposits	₩ 4,496,591	2,095,439
Borrowings	404,739	137,663
Debt securities issued	859,837	562,852
Others	118,151	37,759
	<u>₩ 5,879,318</u>	<u>2,833,713</u>
Financial liabilities designated at fair value		
Debt securities issued	₩ 1,296	-
	<u>1,296</u>	<u>-</u>
	<u>₩ 5,880,614</u>	<u>2,833,713</u>

(*) There is no interest expense on financial liabilities at fair value through profit or loss for the years ended December 31, 2022 and 2021.

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30. Net fees and commission income

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

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Fees and commission income:		
Credit placement fees	₩ 56,812	62,691
Commission received as electronic charge receipt	148,867	150,011
Brokerage fees	62,454	92,693
Commission received as agency	263,411	268,685
Investment banking fees	102,434	88,332
Commission received in foreign exchange activities	223,877	198,662
Asset management fees from trust accounts	177,579	183,765
Guarantee fees	97,213	86,835
Others	147,928	142,076
	<u>₩ 1,280,575</u>	<u>1,273,750</u>
Fees and commission expense:		
Credit-related fees	₩ 35,822	37,494
Brand-related fees	45,850	42,279
Service-related fees	46,515	44,501
Trading and brokerage fees	9,512	8,155
Commission paid in foreign exchange activities	55,458	43,344
Others	132,108	120,172
	<u>₩ 325,265</u>	<u>295,945</u>

31. Dividend income

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

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Securities at FVTPL	₩ 2,411	2,051
Securities at FVTOCI(*1)	18,421	16,520
	<u>₩ 20,832</u>	<u>18,571</u>

(*) Dividend income for stocks disposed for the year ended December 31, 2022 are ₩982 million and dividend income for stocks disposed for the year ended December 31, 2021 is ₩840 million.

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32. Gain and loss on financial instruments at fair value through profit or loss

Gain and loss on financial instruments at FVTPL for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Financial instruments at FVTPL		
Debt:		
Gain on valuation of debt securities	₩ 186,396	211,050
Gain on sale of debt securities	62,130	46,603
Loss on valuation of debt securities	(228,484)	(171,987)
Loss on sale of debt securities	(191,634)	(86,255)
Others	163,052	155,911
	<u>(8,540)</u>	<u>155,322</u>
Equity:		
Gain on valuation of equity securities	9,845	15,340
Gain on sale of equity securities	8,478	16,251
Loss on valuation of equity securities	(7,232)	(2,613)
Loss on sale of equity securities	(14,834)	(8,097)
	<u>(3,743)</u>	<u>20,881</u>
Gold/silver:		
Gain on valuation of gold/silver deposits	2,089	9,316
Gain on sale of gold/silver deposits	3,535	3,937
Loss on valuation of gold/silver deposits	(38,997)	(26,224)
Loss on sale of gold/silver deposits	(810)	(446)
	<u>(34,183)</u>	<u>(13,417)</u>
Loans at FVTPL		
Gain on valuation of loans	170	12,239
Gain on sale of loans	12,182	14,698
Loss on valuation of loans	(9,024)	(3,252)
Loss on sale of loans	(3,640)	(3,163)
	<u>(312)</u>	<u>20,522</u>
	<u>(46,778)</u>	<u>183,308</u>
Derivatives		
Foreign currency related:		
Gain on valuation and transaction	14,782,237	8,054,862
Loss on valuation and transaction	(14,978,921)	(7,907,112)
	<u>(196,684)</u>	<u>147,750</u>
Interest rates related:		
Gain on valuation and transaction	1,446,536	753,398
Loss on valuation and transaction	(1,216,572)	(733,805)
	<u>229,964</u>	<u>19,593</u>
Equity related:		
Gain on valuation and transaction	29,314	10,988
Loss on valuation and transaction	(12,006)	(17,511)
	<u>17,308</u>	<u>(6,523)</u>
Commodity related:		
Gain on valuation and transaction	39,358	8,752
Loss on valuation and transaction	(31,741)	(18,388)
	<u>7,617</u>	<u>(9,636)</u>
	<u>58,205</u>	<u>151,184</u>
Net gain on financial instruments at FVTPL	₩ 11,427	334,492

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33. General and administrative expenses

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

	December 31, 2022	December 31, 2021
Employee benefits:		
Short and long term employee benefits	₩ 2,071,028	1,936,091
Post-employee defined benefits	117,609	126,904
Post-employee defined contributions	529	426
Termination benefits	133,580	128,534
	<u>2,322,746</u>	<u>2,191,955</u>
Amortization:		
Depreciation	152,661	123,208
Amortization of intangible assets	75,893	59,625
Depreciation of right-to-use assets	208,222	229,384
	<u>436,776</u>	<u>412,217</u>
Other general and administrative expenses:		
Rent	63,790	57,384
Service contract expenses	302,935	259,213
Taxes and dues	121,873	92,601
Advertising	159,579	98,364
Electronic data processing expenses	69,403	61,221
Others	225,190	188,078
	<u>942,770</u>	<u>756,861</u>
	<u>₩ 3,702,292</u>	<u>3,361,033</u>

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34. Share-based payments

(a) Equity-settled share-based payments

i) Equity-settled share-based payments as of December 31, 2022 are as follows:

	Contents
Type	Equity-settled share-based payment(*)
Service period	Upon appointment and promotion since January 1, 2014 (Within 1 year from grant date)
Performance conditions	Linked to relative stock price (20.0%) and management index for 4 years (80.0%)

(*) The Group granted shares of Shinhan Financial Group. According to the commitment, the amount that the Group pays to the Shinhan Financial Group is recognized as liabilities, and the difference between the amount recognized as liabilities and the compensation cost based on equity-settled share-based payments is recognized in equity.

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34. Share-based payments (continued)

(b) Equity-settled share-based payments (continued)

ii) *Granted shares and the fair value of grant date as of December 31, 2022 are as follows:*

<u>Grant date</u>	<u>Grant shares</u>	<u>Fair value (*1) (in won)</u>	<u>Estimated shares (*2)</u>
January 1, 2017	217,300	45,300	9,366
January 23, 2017	2,700	45,600	2,536
March 7, 2017	17,400	46,950	14,300
January 1, 2018	225,070	49,400	27,349
January 24, 2018	1,275	52,700	992
January 1, 2019	296,226	39,600	254,973
March 26, 2019	23,410	42,750	16,725
April 1, 2019	3,696	43,750	2,583
June 1, 2019	2,839	44,450	1,487
July 4, 2019	7,392	44,450	3,406
July 8, 2019	3,696	43,650	1,666
	<u>801,004</u>		<u>335,383</u>

(*1) The fair value per share is evaluated based on the closing price of Shinhan Financial Group at each grant date. As of December 31, 2022, the fair value per share data evaluated by Shinhan Financial Group amounted to ₩35,200.

(*2) Grant shares at grant date were adjusted pursuant to increase rate of stock price(20.0%) and achievement of target ROE(80.0%) based on standard quantity applicable to the days of service among specified period of service, which allows the determination of acquired quantity at the end of the operation period.

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34. Share-based payments (continued)

(c) Details of performance-based stock compensation as of December 31, 2022 are as follows:

	<u>Expired</u>	<u>Not expired</u>
Type	Cash-settled share-based payment	
Performance conditions	Relative stock price linked (20.0%), management index (60.0%), and prudential index (20.0%)	
Exercising period	4 years from the commencement date of the year to which the grant date belongs	
Grant shares	973,960	
Estimated number of shares vested at December 31, 2022	-	877,393
Fair value per share in Korean won(*)	35,200	

(*) Based on performance-based stock compensation, the reference stock price (the arithmetic average of the weighted average share price of transaction volume for the past two month, the previous one month, and the past one week) of four years after the commencement of the grant year is paid in cash, and the fair value of the reference stock to be paid in the future is assessed as the closing price of the settlement.

(d) Stock compensation costs calculated for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Compensation costs recorded for the year	₩ 11,427	13,232

(e) Accrued expenses of the stock compensation costs and residual compensation costs as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Accrued expenses	₩ 42,341	39,630

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35. Net other operating expenses

Net other operating expenses for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31,</u> <u>2022</u>	<u>December 31,</u> <u>2021</u>
Other operating income		
Gain on sale of assets:		
Loans at amortized cost	₩ 16,014	14,195
Loans written off	1,062	-
	<u>17,076</u>	<u>14,195</u>
Others:		
Gain on hedge activity from hedged items	776,107	289,733
Gain on hedge activity from hedging instruments	82,361	16,421
Reversal of other allowance	410	-
Others	56,866	111,385
	<u>915,744</u>	<u>417,539</u>
	<u>932,820</u>	<u>431,734</u>
Other operating expense		
Loss on sale of assets:		
Loans at amortized cost	4,041	255
Others:		
Loss on hedge activity from hedged items	75,233	19,359
Loss on hedge activity from hedging instruments	819,618	296,661
Provision for allowance for acceptances and guarantee	-	3,701
Provision for other allowance	11,706	4,894
Contribution to fund	430,814	388,790
Deposit insurance fee	423,909	403,566
Others	292,298	224,415
	<u>2,053,578</u>	<u>1,341,386</u>
	<u>2,057,619</u>	<u>1,341,641</u>
Net other operating expenses	₩ <u>(1,124,799)</u>	<u>(909,907)</u>

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36. Net non-operating income (expenses)

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

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Non-operating income		
Gain on sale of assets:		
Property and equipment	₩ 714	444
Intangible assets	273	4
Investment property	-	108
Non-current assets held for sale	4,990	16,976
	<u>5,977</u>	<u>17,532</u>
Investments in associates:		
Dividend income	6	-
Gain from disposal	1,113	1,924
	<u>1,119</u>	<u>1,924</u>
Others:		
Rental income on investment property	26,737	24,244
Others	32,415	34,353
	<u>59,152</u>	<u>58,597</u>
	<u>66,248</u>	<u>78,053</u>
Non-operating expenses		
Loss on sale of assets:		
Property and equipment	193	261
Intangible assets	91	10
Investment property	-	2,111
Non-current assets held for sale	150	1,186
Assets for non-business	114	-
	<u>548</u>	<u>3,568</u>
Investments in associates:		
Loss from disposal	696	2,087
Others:		
Investment properties depreciation	12,465	12,255
Donations	41,150	42,693
Impairment loss on intangible assets	66	1,124
Others	88,748	280,547
	<u>142,429</u>	<u>336,619</u>
	<u>143,673</u>	<u>342,274</u>
Net non-operating expenses	₩ <u>(77,425)</u>	<u>(264,221)</u>

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37. Income tax expense and deferred tax

(a) Details of income tax expense for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Current income tax expense	₩ 1,023,291	754,373
Deferred taxes arising from changes in temporary differences(*)	(234,008)	(18,987)
Deferred taxes arising from utilization of expired unused tax losses(*)	42,329	14,522
Tax adjustment charged or credited directly to equity(*)	230,282	103,094
Income tax expense	₩ <u>1,061,894</u>	<u>853,002</u>

(*) The tax rate was changed due to amendments of the tax law at the end of 2022, reflecting the effect of changing the tax rate on deferred tax assets (liabilities) expected to be realized after 2023.

(b) The income tax expense calculated by applying statutory tax rates to the Group's taxable income differs from the actual tax expense in the consolidated statements of income for the years ended December 31, 2022 and 2021 for the following reasons:

	December 31, 2022	December 31, 2021
Profit before income tax	₩ 4,107,626	3,347,896
Statutory tax rate	<u>27.50%</u>	<u>27.50%</u>
Income tax expense at statutory tax rates	1,119,235	910,309
Adjustments:		
Non-taxable income	(679)	(475)
Non-deductible expense	7,462	6,855
Decrease resulting from consolidated corporate tax system	(45,223)	(34,142)
Income tax paid(refund)	(629)	6,281
Others(impact of tax rate change, etc.)	(18,272)	(35,826)
Income tax expense	₩ <u>1,061,894</u>	<u>853,002</u>
Effective tax rate	25.85%	25.48%

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37. Income tax expense and deferred tax

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

		December 31, 2022			
		Beginning balance	Decreases	Increases	Ending balance(*1)(*4)
Accrued income	₩	(191,515)	(17,911)	-	(209,426)
Accounts receivable		(26,659)	2,887	-	(23,772)
Securities at FVTPL		118,472	2,923	-	121,395
Investments in associates and subsidiaries		(351,280)	(94,047)	6,600	(438,727)
Deferred loan origination costs and fees		(149,624)	283,311	-	133,687
Revaluation and depreciation on property and equipment		(113,764)	6,853	-	(106,911)
Derivative liabilities		(84,920)	36,126	-	(48,794)
Deposits		24,430	12,617	-	37,047
Accrued expenses		64,954	52,059	-	117,013
Defined benefit obligations		406,345	15,359	(81,798)	339,906
Plan assets		(468,370)	(17,525)	7,432	(478,463)
Other provisions		89,046	(11,579)	-	77,467
Allowance for guarantees and acceptance		22,340	(1,969)	-	20,371
Allowance for advanced depreciation		(48,712)	1,775	-	(46,937)
Allowance for expensing depreciation		(274)	72	-	(202)
Net change in fair value of securities at FVTOCI		82,308	(3,993)	296,731	375,046
Donation payables		36,114	925	-	37,039
Allowance and bad debt		71,718	12,790	-	84,508
Compensation expenses associated with stock option		21	-	-	21
Fictitious dividends		16,613	455	-	17,068
Others		121,462	(362,966)	1,317	(240,187)
	₩	(381,295)	(81,838)	230,282	(232,851)
Expired unused tax losses					
Appropriation by extinctive prescription of deposit	₩	251,364	(42,329)	-	209,035
Temporary differences not qualified for deferred tax assets or liabilities					
Investments in associates and Subsidiaries (*2)(*3)		(364,697)	(82,768)		(447,465)
	₩	234,766	(41,399)	230,282	423,649

(*1) Deferred tax assets of overseas subsidiaries have decreased by ₩2,797 million due to foreign currency exchange rate changes.

(*2) The effect of income taxes by the valuation of equity method is reasonably estimated based on the both plausibility and the applicable amount of deferred income tax belonging to each associate investee.

(*3) The temporary difference in deferred tax assets not recognized in relation to investment assets in associates is ₩192,508 million and ₩203,473 million for the years ended December 31, 2022 and 2021, respectively. And the temporary difference in deferred tax liabilities not recognized in relation to investment assets in associates is ₩1,881,053 million and ₩1,529,644 million for the years ended December 31, 2022 and 2021, respectively.

(*4) The tax rate was changed due to amendments of the tax law at the end of 2022, Income tax rate was changed, and accordingly, 26.5% of deferred tax assets (liabilities) expected to be realized after 2023 were applied.

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37. Income tax expense (continued)

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

		December 31, 2021			
		Beginning balance	Decreases	Increases	Ending balance(*1)
Accrued income	₩	(179,125)	(12,390)	-	(191,515)
Accounts receivable		(29,158)	2,499	-	(26,659)
Securities at FVTPL		138,498	(20,026)	-	118,472
Investments in associates and subsidiaries		(232,470)	(117,175)	(1,635)	(351,280)
Deferred loan origination costs and fees		(137,608)	(12,016)	-	(149,624)
Revaluation and depreciation on property and equipment		(113,002)	(762)	-	(113,764)
Derivative liabilities		(27,404)	(57,516)	-	(84,920)
Deposits		27,632	(3,202)	-	24,430
Accrued expenses		70,366	(5,412)	-	64,954
Defined benefit obligations		402,461	24,196	(20,312)	406,345
Plan assets		(429,598)	(46,204)	7,432	(468,370)
Other provisions		73,334	15,712	-	89,046
Allowance for guarantees and acceptance		21,897	443	-	22,340
Allowance for advanced depreciation		(48,712)	-	-	(48,712)
Allowance for expensing depreciation		(337)	63	-	(274)
Net change in fair value of securities at FVTOCI		(33,129)	80	115,357	82,308
Donation payables		16,562	19,552	-	36,114
Allowance and bad debt		196,628	(124,910)	-	71,718
Compensation expenses associated with stock option		22	(1)	-	21
Fictitious dividends		16,168	445	-	16,613
Others		(16,673)	135,883	2,252	121,462
	₩	(283,648)	(200,741)	103,094	(381,295)
Expired unused tax losses					
Appropriation by extinctive prescription of deposit	₩	265,886	(14,522)	-	251,364
Temporary differences not qualified for deferred tax assets or liabilities					
Investments in associates and Subsidiaries (*2)		(247,123)	(117,574)	-	(364,697)
	₩	229,361	(97,689)	103,094	234,766

(*1) Deferred tax assets of overseas subsidiaries have increased by ₩939 million due to foreign currency exchange rate changes.

(*2) The effect of income taxes by the valuation of equity method is reasonably estimated based on the both plausibility and the applicable amount of deferred income tax belonging to each associate investee.

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37. Income tax expense (continued)

(d) Changes in tax effects that are directly charged or credited to equity for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>		<u>December 31, 2021</u>		<u>Changes in tax effects</u>
	<u>Amount before tax</u>	<u>Tax effects</u>	<u>Amount before tax</u>	<u>Tax effects</u>	
Net change in fair value of securities at FVTOCI	₩ (1,415,270)	385,417	(299,304)	88,687	296,730
Share of other comprehensive income (loss) of associates	(10,793)	2,861	5,993	(3,738)	6,599
Foreign currency translation differences for foreign operations	(157,263)	(4,980)	(202,514)	(5,525)	545
Remeasurements of defined benefit plans	(83,612)	22,814	(353,203)	97,180	(74,366)
Capital adjustments	2,373	(629)	5,106	(1,403)	774
	<u>₩ (1,664,565)</u>	<u>405,483</u>	<u>(843,922)</u>	<u>175,201</u>	<u>230,282</u>

	<u>December 31, 2022</u>		<u>December 31, 2021</u>		<u>Changes in tax effects</u>
	<u>Amount before tax</u>	<u>Tax effects</u>	<u>Amount before tax</u>	<u>Tax effects</u>	
Net change in fair value of securities at FVTOCI	₩ (299,304)	88,687	120,468	(26,670)	115,357
Share of other comprehensive income (loss) of associates	5,993	(3,738)	7,223	(2,103)	(1,635)
Foreign currency translation differences for foreign operations	(202,514)	(5,525)	(483,974)	(6,246)	721
Remeasurements of defined benefit plans	(353,203)	97,180	(400,082)	110,060	(12,880)
Capital adjustments	5,106	(1,403)	10,683	(2,934)	1,531
	<u>₩ (843,922)</u>	<u>175,201</u>	<u>(745,682)</u>	<u>72,107</u>	<u>103,094</u>

(e) The current tax assets and liabilities as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Current tax assets:		
Prepaid income taxes	₩ 31,780	27,018
Current tax liabilities:		
Payable due to consolidated tax system	₩ 426,134	270,804
Income taxes payables	52,590	40,740
	<u>₩ 478,724</u>	<u>311,544</u>

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37. Income tax expense (continued)

(f) The deferred tax assets (liabilities) and current tax assets (liabilities) presented on a gross basis prior to any offsetting as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Deferred tax assets	₩ 3,150,339	2,265,667
Deferred tax liabilities	2,726,690	2,030,901
Current tax assets	457,452	364,157
Current tax liabilities	904,396	648,683

38. Earnings per share

(a) Earnings per share

Earnings per share for the years ended December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Profit for the year	₩ 3,045,012	2,494,375
Less: dividends on hybrid bonds	(64,269)	(55,248)
Profit available for common stock	₩ 2,980,743	2,439,127
Weighted average number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares
Basic and diluted earnings per share in won	₩ 1,880	1,538

Considering that the Group had no dilutive potential common shares and that stock options were not included in the calculation of diluted earnings per share because they were anti-dilutive for the reporting periods presented, diluted earnings per share equal to basic earnings per share for the years ended December 31, 2022 and 2021.

(b) Weighted average number of common shares outstanding

Weighted average number of common shares outstanding as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares
Weight	365/365	365/365
Weighted average number of common shares outstanding	1,585,615,506 shares	1,585,615,506 shares

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39. Commitments and contingencies

(a) Guarantees, acceptances and credit commitments as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Guarantees:		
Guarantee outstanding	₩ 12,041,886	10,494,647
Contingent guarantees	4,565,184	4,670,080
ABS and ABCP purchase commitments	1,378,603	1,373,703
	<u>17,985,673</u>	<u>16,538,430</u>
Commitments to extend credit:		
Loan commitments in Korean won	81,413,452	80,185,878
Loan commitments in foreign currencies	25,145,440	19,896,985
Others	4,551,882	3,074,886
	<u>111,110,774</u>	<u>103,157,749</u>
Endorsed bills:		
Secured endorsed bills	10,025	8,199
Unsecured endorsed bills	7,046,806	7,683,165
	<u>7,056,831</u>	<u>7,691,364</u>
	<u>₩ 136,153,278</u>	<u>127,387,543</u>

(b) Provision for acceptances and guarantees

Provision for acceptances and guarantees, as of December 31, 2022 and 2021 are as follows:

	<u>December 31, 2022</u>	<u>December 31, 2021</u>
Guarantees outstanding	₩ 12,041,886	10,494,647
Contingent guarantees	4,565,184	4,670,080
ABS and ABCP purchase commitments	1,378,603	1,373,703
Secured endorsed bills	10,025	8,199
	<u>₩ 17,995,698</u>	<u>16,546,629</u>
Provision for acceptances and guarantees	₩ 76,872	81,237
Ratio (%)	0.43	0.49

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39. Commitments and contingencies (continued)

(c) Legal contingencies

Pending litigations in which the Group was involved as a defendant as of December 31, 2022 and 2021 are as follows:

December 31, 2022				
Case	Number of claim	Claim amount	Description	Status
Deposit return	1	₩ 4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second instance and the third instance is ongoing as of December 31, 2022.
Cheque return	1	2,000	The plaintiff presented a total of nine checks (₩2 billion in total) to the Group. However, the payment was rejected due to the accident report caused by defraudation from the Group. Therefore, the plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The first instance is ongoing as of December 31, 2022.
Return of unjust earning	1	33,096	The plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first instance is ongoing as of December 31, 2022.
Others	166	75,629	It includes various cases, such as compensation for loss claim.	
	<u>169</u>	<u>₩ 115,331</u>		

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39. Commitments and contingencies (continued)

(c) Legal contingencies (continued)

Pending litigations in which the Group was involved as a defendant as of December 31, 2022 and 2021 are as follows:
(continued)

December 31, 2021				
Case	Number of claim	Claim amount	Description	Status
Deposit return	1	₩ 4,606	The plaintiff alleges that the Group has canceled the money received in his account without his consent and requested the Group to pay the deposit equivalent to the amount.	The Group won the first and second instance and the third instance is ongoing as of December 31, 2021.
Cheque return	1	9,000	The plaintiff presented a total of nine checks (₩ 9 billion in total) to the Group. However, the payment was rejected due to the accident report (lost of check) from the Group. Therefore, the Plaintiff claimed to be the legitimate holder of the cashier's check in this case and requested the payment of the check against the Group.	The first instance is ongoing as of December 31, 2021.
Return of unjust earning	1	33,096	The plaintiff believes that the group of lenders including the Group unfairly sold two oil drilling vessels that are the core assets for borrowers and it caused losses to other bankruptcy creditors of the borrower. Therefore, the Plaintiff filed a lawsuit for damages.	The first instance is ongoing as of December 31, 2021.
Others	167	75,559	It includes various cases, such as compensation for loss claim.	
	<u>170</u>	<u>₩ 122,261</u>		

As of December 31, 2022 and 2021, the Group recorded a provision of ₩4,247 million and ₩3,113 million for litigation for certain of the above lawsuits. Additional losses may be incurred from these legal actions besides the current provision established by the Group, but the amount of loss is not expected to have a material adverse effect on the Group's consolidated financial statements.

(d) Others

The Group recognized ₩339.9 billion and ₩289.9 billion, respectively, in the estimated amount of damages, which is likely to be paid to fulfill its obligations as of December 31, 2022 and 2021, as provisions, for customer losses expected due to delayed redemption of Lime CI funds, etc. according to the Financial Dispute Mediation Committee of the Financial Supervisory Service and Resolution of Board of Directors. In this regard, the amount paid in advance for liquidity supply and the amount compensated through fact-checking is ₩326.8 billion and ₩217.4 billion as of December 31, 2022 and 2021.

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40. Statements of cash flows

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

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Cash	₩	2,259,832	4,152,634
Reserve deposits		8,477,472	9,624,230
Other deposits		11,832,578	9,003,263
Cash and due from banks		22,569,882	22,780,127
Less: Restricted due from banks(*)		(293,956)	(703,566)
Less: Due with original maturities of more than three months		(896,004)	(838,244)
	₩	<u>21,379,922</u>	<u>21,238,317</u>

(*) Items which meets the definition of cash in K-IFRS No. 1007 'Statements of Cash Flows' is excluded.

(b) Significant non-cash activities for the years ended December 31, 2022 and 2021 are as follows:

		<u>December 31, 2022</u>	<u>December 31, 2021</u>
Debt-equity swap	₩	-	32,239
Accounts payable for purchase of property and equipment		(3,797)	3,797
Accounts payable for purchase of intangible assets		(117,743)	(137,058)
Recognition of right-of-use assets		256,704	190,465
Recognition of lease liabilities		216,931	172,346

(c) Changes in liabilities resulting from financing activities for the years ended December 31, 2022 and 2021 are as follows:

<u>December 31, 2022</u>					
	<u>Derivative assets</u>	<u>Borrowings</u>	<u>Debentures</u>	<u>Lease liabilities</u>	<u>Total</u>
Beginning balance	₩ (9,449)	20,962,239	37,625,738	414,416	58,992,944
Changes in cash flows	56	2,872,249	(3,589,574)	(185,244)	(902,513)
Amortization	-	(2,495)	(104)	8,134	5,535
Net foreign currencies transaction gain (loss)	-	380,799	(167,956)	(18,864)	231,707
Changes in fair value of hedged items	-	-	(681,924)	-	(681,924)
Others	716,577	-	-	141,081	857,658
Ending balance	₩ <u>707,184</u>	<u>24,212,792</u>	<u>33,186,180</u>	<u>397,251</u>	<u>58,503,407</u>
<u>December 31, 2021</u>					
	<u>Derivative assets</u>	<u>Borrowings</u>	<u>Debentures</u>	<u>Lease liabilities</u>	<u>Total</u>
Beginning balance	₩ (252,187)	20,554,982	34,516,305	438,936	55,258,036
Changes in cash flows	1,652	(169,958)	2,862,735	(213,509)	2,480,920
Amortization	-	314	1,560	6,852	8,726
Net foreign currencies transaction loss	-	576,901	480,132	16,236	1,073,269
Changes in fair value of hedged items	-	-	(234,993)	-	(234,993)
Others	241,086	-	-	165,901	406,987
Ending balance	₩ <u>(9,449)</u>	<u>20,962,239</u>	<u>37,625,739</u>	<u>414,416</u>	<u>58,992,945</u>

SHINHAN BANK AND SUBSIDIARIES
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41. Related party transactions

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

Related party	Account	December 31, 2022	December 31, 2021	
The parent company				
Shinhan Financial Group	Current tax assets	₩ 1,814	2,510	
	Deposits	2,188	3,964	
	Current tax liabilities	426,134	270,804	
	Other liabilities	55,204	53,484	
Entities under common control				
Shinhan Card Co., Ltd.	Derivative assets	785	3,175	
	Loans	494,622	96,164	
	Allowance for loan loss	(852)	(441)	
	Other assets(*1)	9,573	7,449	
	Deposits	123,259	36,318	
	Derivative liabilities	46,340	23,185	
	Provisions	451	493	
	Other liabilities	30,462	32,684	
	Shinhan Securities Co., Ltd.	Financial assets designated at FVTPL(*3)	4,142	4,640
		Derivative assets	18,875	4,492
Loans		23,634	192,413	
Allowance for loan loss		(187)	(236)	
Other assets(*1)		1,942	24,645	
Deposits		1,121,312	637,566	
Debentures		-	19,074	
Derivative liabilities		1,153	3,939	
Provisions		133	492	
Other liabilities(*4)		40,172	38,166	
Shinhan Life Insurance	Derivative assets	15,465	25,027	
	Loans	33	13	
	Other assets	49	4	
	Deposits	71,611	170,054	
	Derivative liabilities	31,956	4,728	
	Provisions	31	34	
	Other liabilities(*5)	15,412	32,413	
	Deposits	1,923	1,893	
Shinhan Capital Co., Ltd.	Allowance for loan loss	16	18	
	Other liabilities	13,152	13,170	
	Loans	1,906	2,060	
Jeju Bank	Allowance for loan loss	(2)	(2)	
	Deposits	2,833	2,704	
	Other liabilities	2,139	2,139	
	Financial assets designated at FVTPL(*3)	26,205	26,702	
Shinhan Asset Management Co., Ltd.	Other assets	-	1	
	Deposits	27,476	130,040	
	Other liabilities	480	751	
	Loans	10	7	
Shinhan DS	Other assets	20,350	15,151	
	Deposits	9,363	2,242	
	Other liabilities	8,295	7,367	
	Other liabilities	8,987	9,126	
Shinhan Savings Bank	Deposits	9,878	18,308	
	Other liabilities	58	18	
Shinhan Aitas	Other assets	28	28	
	Deposits	-	7	
Shinhan AI	Other liabilities	1,575	2,090	

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41. Related party transactions (continued)

(a) Significant balances with the related parties as of December 31, 2022 and 2021 are as follows: (continued)

Related party	Account	December 31, 2022	December 31, 2021
Entities under common control (continued)			
Shinhan REITs Management	Deposits	3,331	443
	Other liabilities	8	-
Shinhan Asset Trust Co., Ltd.	Loans	3,982	3,235
	Deposits	310,233	226,576
Shinhan Venture Investment Co., Ltd.	Other liabilities	592	377
	Deposits	11,003	6,496
Shinhan EZ General Insurance, Ltd.(*6)	Other liabilities	10	-
	Deposits	4	-
One-Shinhan Connect Fund 1	Deposits	22,009	63,557
One-Shinhan Connect Fund 2	Deposits	28,983	-
IMM Long-term Solutions Private Equity Fund	Deposits	619	-
	Other liabilities	7	-
SH Global Private Real Estate Investment Trust No.5	Derivative assets	-	3,043
	Derivative liabilities	5,837	-
SH US Nevada Photovoltaic Private Special Asset Investment Trust	Derivative assets	333	2,180
	Derivative liabilities	-	16
Shinhan AIM Real Estate Fund No.15	Derivative assets	-	-
	Derivative liabilities	93	-
Shinhan AIM Fund of Fund 4	Derivative assets	38	12
	Derivative liabilities	511	148
SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Derivative liabilities	454	-
	Derivative assets	-	680
Shinhan AIM Real Estate Fund No.22-A	Derivative liabilities	768	-
	Derivative assets	29	1
SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Derivative liabilities	23	117
	Derivative assets	1,579	-
Shinhan Dollar Income Private Security Investment Trust No.2	Derivative assets	-	400
	Derivative liabilities	173	-
Investments in associates and associates of entities under common control			
BNP Paribas Cardif Life Insurance Co., Ltd.	Deposits	18,745	14,870
	Deposits	-	1,455
BNP Paribas Cardif General Insurance(*6)	Deposits	-	4
Dream High Fund III(*2)	Deposits	742	10,096
Partners 4th Growth Investment Fund	Deposits	-	350
Snowball Venture Fund II(*2)	Deposits	2	16
ICSF (The Korea's Information Center for Savings & Finance)	Loans	415	457
	Deposits	218	246
KOREA FINANCE SECURITY	Deposits	721	1,394
Hermes Private Equity Fund	Loans	6,825	12,000
	Allowance for loan loss	(20)	(52)
Korea Credit Bureau	Deposits	3	-
	Deposits	21,163	33,278
Goduck Gangill PFV Co., Ltd.	Deposits	-	-
SBC PFV Co., Ltd.	Deposits	-	-

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41. Related party transactions (continued)

(a) Significant balances with the related parties as of December 31, 2022 and 2021 are as follows: (continued)

Related party	Account	December 31, 2022	December 31, 2021
Sprott Global Renewable Private Equity Fund I	Deposits	100	176
IMM Investment Co., Ltd.	Loans	800	800
	Allowance for loan loss	(3)	(3)
	Deposits	14,824	21,543
Goduck Gangil10 PFV Co., Ltd.	Loans	3,100	7,600
	Allowance for loan loss	(9)	(24)
	Deposits	26,880	72,740
Shinhan Global Healthcare Fund II	Deposits	1	1
IMM Special Situation Private Equity Fund(the number two of one)	Deposits	151	23
NV Station Private Equity Fund	Deposits	21	41
Korea Digital Asset Custody	Deposits	153	526
SW-S Fund	Deposits	112	115
WaveTechnology Co., Ltd.	Deposits	41	99
iPIXEL Co., Ltd.	Loans	-	55
	Deposits	225	651
CJL No.1 Private Equity Fund	Deposits	603	779
EDNCENTRAL Co., Ltd.	Deposits	-	1
Nova New Technology Investment Fund No.1	Deposits	215	357
DS Power Semicon Private Equity Fund	Deposits	100	-
Genesis No.1 Private Equity Fund	Deposits	19	-
DDI LVC Master Real Estate Investment Trust Co., Ltd.	Deposits	59	-
Newlake Growth Capital Partners2 PEF	Deposits	353	-
Logisvalley Shinhan REIT Co., Ltd.	Loans	43,000	-
	Allowance for loan loss	(28)	-
	Deposits	1,421	-
Shinhan-Albatross Tech Investment Fund	Deposits	3,402	-
Shinhan Global Active REIT Co., Ltd.	Deposits	393	-
SEOKWANG T&I	Deposits	1	-
Shinhan Time 1st Investment fund	Deposits	238	-
DeepBlue No.1 Private Equity Fund	Deposits	400	-
Key management personnel			
	Loans	6,563	6,150
	Allowance for loan loss	(2)	(1)
	Provisions	-	1

(*1) Includes right-of-use assets.

(*2) It has been removed from the related party as of December 31, 2022.

(*3) It includes the amount related to investments in structured entities.

(*4) As of December 31, 2022 and 2021, the amount of non-controlling interests classified as liabilities for structured entities included in the consolidation is ₩1,529 million and ₩1,560 million, respectively.

(*5) As of December 31, 2022 and 2021, the amount of non-controlling interests classified as liabilities for structured entities included in the consolidation is ₩2,086 million and ₩1,802 million, respectively.

(*6) During the year, it has changed to entities under common control from an associate or an associate of entity under common control.

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41. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2022 and 2021 are as follows:

Related party	Account	December 31, 2022	December 31, 2021
The parent company			
Shinhan Financial Group	Fees and commission income	₩ 3	-
	Other operating income	1,886	1,099
	Interest expense	(221)	(123)
	Fees and commission expense	(41,682)	(38,435)
	Other operating expense	(584)	(4,364)
Entities under common control			
Shinhan Card Co., Ltd.	Interest income	8,484	3,755
	Fees and commission income	165,870	172,909
	Gain related to derivatives	10,653	14,499
	Other operating income	5,728	5,236
	Interest expense	(428)	(254)
	Fees and commission expense	(9,482)	(11,007)
	Loss related to derivatives	(38,349)	(56,740)
	Reversal of (provision for) allowance	(412)	(441)
	Other operating expense	(21)	(1,064)
Shinhan Investment Corp.	Interest income	1,723	2,052
	Fees and commission income	4,893	6,780
	Financial assets measured at FVTPL(*1)	(26)	1,121
	Gain related to derivatives	81,994	16,943
	Other operating income	7,318	6,953
	Interest expense(*2)	(6,732)	(1,854)
	Fees and commission expense	(22)	-
	Loss related to derivatives	(68,511)	(30,004)
	Reversal of (provision for) allowance	49	(227)
	Other operating expense	(637)	(1,294)
Shinhan Life Insurance Co., Ltd.	Interest income	-	34
	Fees and commission income	9,658	6,409
	Gain related to derivatives	54,710	43,515
	Other operating income	3,814	2,639
	Interest expense(*3)	(2,261)	(879)
	Fees and commission expense	(569)	(1,235)
	Loss related to derivatives	(53,308)	(9,035)
	Other operating expense	-	(23)
Shinhan Capital Co., Ltd.	Fees and commission income	26	24
	Other operating income	920	827
	Interest expense	(236)	(123)
Jeju Bank	Interest income	2	14
	Other operating income	589	527
	Interest expense	(38)	(19)
	Reversal of (provision for) allowance	-	3

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41. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2022 and 2021 are as follows:
(continued)

Related party	Account	December 31, 2022	December 31, 2021
Entities under common control			
Shinhan Asset Management Co., Ltd.	Financial assets measured at FVTPL(*1)	₩ 5,799	610
	Fees and commission income	47	43
	Other operating income	139	127
	Interest expense	(864)	(737)
	Fees and commission expense	(1,409)	(2,029)
Shinhan DS	Fees and commission income	-	1
	Other operating income	899	904
	Interest expense	(240)	(122)
	Other operating expense	(83,743)	(64,034)
Shinhan Savings Bank	Fees and commission income	1,520	1,249
	Other operating income	774	661
	Interest expense	(186)	(77)
Shinhan Aitas	Fees and commission income	47	40
	Other operating income	160	149
	Interest expense	(165)	(90)
Shinhan REITs Management	Interest expense	(40)	(26)
	Other operating income	100	85
Shinhan AI	Fees and commission expense	(6,921)	(7,248)
	Interest income	(2,070)	(1,878)
Asia Trust Co., Ltd.	Fees and commission income	24	15
	Interest expense	(2,095)	(808)
	Fees and commission expense	(340)	(449)
	Fees and commission income	1	1
Shinhan BNPP Investment Trust No. 1 in Special Private Equity Investment for Future Energy	Fees and commission income	1	1
Shinhan Venture Investment Co., Ltd.	Interest expense	(199)	(4)
	Fees and commission income	2	-
Shinhan EZ General Insurance, Ltd.(*4)	Interest expense	(1)	-
	Interest expense	(44)	-
One-Shinhan Connect Fund 1	Interest expense	(18)	-
One-Shinhan Connect Fund 2	Interest expense	(10)	-
IMM Long-term Solutions Private Equity Fund	Interest expense	(10)	-
SH Global Private Real Estate Investment Trust No.5	Gain related to derivatives	-	3,043
	Loss related to derivatives	(5,837)	-
SH US Nevada Photovoltaic Private Special Asset Investment Trust	Gain related to derivatives	333	2,180
Shinhan AIM Real Estate Fund No.15	Gain related to derivatives	-	16
	Loss related to derivatives	(93)	-
Shinhan AIM Fund of Fund 4	Gain related to derivatives	38	12
	Loss related to derivatives	(511)	(148)
SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Loss related to derivatives	(454)	-
Shinhan AIM Real Estate Fund No.22-A	Gain related to derivatives	-	680
	Loss related to derivatives	(768)	-
SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Gain related to derivatives	29	1
	Loss related to derivatives	(23)	(117)
Shinhan Dollar Income Private Security Investment Trust No.2	Gain related to derivatives	1,579	-
Kyobo-AXA Czech Republic-Praha Private Real Estate Trust No.1	Gain related to derivatives	-	400
	Loss related to derivatives	(173)	-

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41. Related party transactions (continued)

(b) Significant transactions with the related parties for the years ended December 31, 2021 and 2021 are as follows:
(continued)

Related party	Account	December 31, 2022	December 31, 2021
Investments in associates and associates of entities under common control			
BNP Paribas Cardif Life Insurance Co., Ltd.	Fees and commission income	₩ 1,283	2,177
	Interest expense	(52)	(13)
BNP Paribas Cardif General Insurance(*4)	Fees and commission income	1	6
	Interest expense	(1)	(1)
Partners 4th Growth Investment Fund	Interest expense	(12)	(11)
KOREA FINANCE SECURITY	Fees and commission income	6	8
	Interest expense	-	(1)
Korea Credit Bureau	Fees and commission income	13	14
	Interest expense	-	(9)
Goduck Gangil1 PFV Co., Ltd	Interest income	377	754
	Reversal of (provision for) allowance	31	20
SBC PFV Co., Ltd	Fees and commission income	808	776
	Interest expense	(23)	(14)
IMM Investment Co., Ltd.	Interest income	29	23
	Interest expense	(274)	(49)
	Reversal of (provision for) allowance	-	(1)
Goduck Gangil10 PFV Co., Ltd	Interest income	171	283
	Interest expense	(738)	(78)
	Reversal of (provision for) allowance	14	(4)
COSPEC BIM tech	Interest income	-	41
	Reversal of (provision for) allowance	-	95
Korea Digital Asset Custody	Interest expense	-	(2)
CJL No.1 Private Equity Fund	Interest expense	(7)	(2)
iPIXEL Co., Ltd.	Interest income	1	2
Hermes Private Investment Equity Fund	Interest expense	-	(1)
DDI LVC Master Real Estate Investment Trust Co., Ltd.	Interest expense	(1)	-
Logisvalley Shinhan REIT Co., Ltd.	Interest income	1,018	-
	Interest expense	(1)	-
	Reversal of (provision for) allowance	(28)	-
Shinhan-Albatross Tech Investment Fund	Interest expense	(7)	-
Newlake Growth Capital Partners2 PEF	Interest expense	(1)	-
Shinhan Global Active REIT Co., Ltd.	Interest expense	(1)	-
DeepBlue No.1 Private Equity Fund	Interest expense	(2)	-
Key management personnel			
	Interest income	₩ 205	122

(*1) Excluded from associates under common control for the year ended December 31, 2022.

(*2) The amount includes ₩7 million of gain or loss on non-controlling interests of structured entities that are subject to the consolidation.

(*3) The amount includes ₩29 million of gain or loss on non-controlling interests of structured entities that are subject to the consolidation.

(*4) During the year, it has changed to entities under common control from an associate or an associate of entity under common control.

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41. Related party transactions (continued)

(c) Details of transactions with key management for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Short and long-term employee benefits	₩ 11,742	11,237
Post-employment benefits	395	408
Share-based payment transactions	4,345	5,535
	<u>₩ 16,482</u>	<u>17,180</u>

(d) Payment guarantees of related parties

i) The guarantees provided between the related parties as of December 31, 2022 and 2021 are as follows:

Guaranteed parties	Amount of guarantees		Account
	December 31, 2022	December 31, 2021	
Shinhan Securities Co., Ltd.	₩ 19,000	19,000	Purchase note agreement
	382,713	305,130	Unused credit
Shinhan Card Co., Ltd.	342,356	542,030	Unused credit
	36,878	16,715	Financial guarantee (Letter of credit method)
Shinhan Life Insurance Co., Ltd.	400,070	130,018	Unused credit
Shinhan Capital Co., Ltd.	40,000	40,000	Unused credit
BNP Paribas Cardif Life Insurance Co., Ltd.	10,000	10,000	Unused credit
Shinhan DS	17	9	Unused credit
	-	26	Payment guarantee
Structured entities	649,432	422,041	Securities acquisition agreement(*)
Key management personnel	2,143	1,607	Unused credit limit
	<u>₩ 1,882,609</u>	<u>1,486,576</u>	

(*) The amount is for subsidiaries and associates, which are structured entities, under common control.

ii) As of December 31, 2022 and 2021, the Group has received a purchase guarantee (VND 200,000 million) of private equity bonds issued by Vietnam Electrical Equipment JSC from Shinhan Securities Co., Ltd.

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41. Related party transactions (continued)

(e) Collaterals provided to the related parties

i) Details of collaterals provided to the related parties as of December 31, 2022 and 2021 are as follows:

	Related party	Pledged assets	December 31, 2022		December 31, 2021	
			Carrying amounts	Amounts collateralized	Carrying amounts	Amounts collateralized
Entities under common control	Shinhan Life Insurance Co., Ltd.	Securities ₩	10,055	10,055	10,101	10,101

ii) Details of collaterals provided by the related parties as of December 31, 2022 and 2021 are as follows:

	Related party	Pledged assets	December 31, 2022	December 31, 2021
Entities under common control	Shinhan Securities Co., Ltd.	Deposits ₩	266,600	245,700
		Real estate	-	151,974
	Jeju Bank	Government bonds	40,000	20,000
		Shinhan Life Insurance Co., Ltd.	Government bonds	378,000
	Shinhan Credit Information Co., Ltd.	Deposits	180	180
Investments in associates	Shinhan Card Co., Ltd.	Bonds	520,000	-
		BNP Paribas Cardif Life Insurance Co., Ltd.	Government bonds	12,400
	iPIXEL Co., Ltd.	Electronic credit guarantee	190	190
		Logisvalley Shinhan REIT Co., Ltd.	Mortgage trust	51,600
		Real estate	8,073	10,012
Key management personnel		Deposits	1,306	2,011
		guarantee	3,092	375
		₩	<u>1,281,441</u>	<u>491,442</u>

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41. Related party transactions (continued)

(f) Transactions with related parties

(i) Loan transactions with related parties for the years ended December 31, 2022 and 2021 are as follows:

	Related party	December 31, 2022			
		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩ 7	16	(13)	10
	Shinhan Card Co., Ltd.	96,164	535,117	(136,659)	494,622
	Jeju Bank	2,060	3,893	(4,047)	1,906
	Shinhan Securities Co., Ltd.	192,413	72,765	(241,544)	23,634
	Shinhan Life Insurance Co., Ltd.	13	37	(17)	33
Investments in associates and associates of entities under common control	Goduck Gangil PFV Co., Ltd.	12,000	-	(5,175)	6,825
	IMM Investment Co., Ltd.	800	-	-	800
	Goduck Gangil10 PFV Co., Ltd.	7,600	-	(4,500)	3,100
	iPIXEL Co., Ltd.	55	-	(55)	-
	Logisvalley Shinhan REIT Co., Ltd.	-	43,000	-	43,000
	Key management personnel	6,150	4,590	(4,177)	6,563
	₩	317,262	659,418	(396,187)	580,493

(*1) The amount is before deducting allowance.

(*2) Some of the limit loans are shown in net amount.

	Related party	December 31, 2021			
		Beginning(*1)	Loans(*2)	Collections(*2)	Ending(*1)
Entities under common control	Shinhan DS	₩ 6	14	(13)	7
	Shinhan Card Co., Ltd.	99,581	77,999	(81,416)	96,164
	Jeju Bank	8,894	4,359	(11,193)	2,060
	Shinhan Securities Co., Ltd.	56,386	137,111	(1,084)	192,413
	Shinhan Life Insurance Co., Ltd.	-	25	(12)	13
Investments in associates and associates of entities under common control	Goduck Gangil PFV Co., Ltd.	24,000	-	(12,000)	12,000
	IMM Investment Co., Ltd.	800	-	-	800
	Goduck Gangil10 PFV Co., Ltd.	9,400	600	(2,400)	7,600
	iPIXEL Co., Ltd.	-	71	(16)	55
	COSPEC BIM tech	151	-	(151)	-
	Key management personnel	5,146	5,315	(4,311)	6,150
	₩	204,364	225,494	(112,596)	317,262

(*1) The amount is before deducting allowance.

(*2) Some of the limit loans are shown in net amount.

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41. Related party transactions (continued)

(f) Transactions with related parties (continued)

(ii) Borrowing transactions with related parties for the years ended December 31, 2022 and 2021 are as follows:

	Related party	Account	December 31, 2022				
			Beginning	Loans	Collections	Ending	
Entities under common control	Shinhan Securities Co., Ltd.(*2)	Debenture	₩ 19,100	1,389,588	(1,408,688)	-	
	Shinhan Securities Co., Ltd.	Deposit(*1)	143,563	358,717	-	502,280	
	Shinhan Card Co., Ltd.	Deposit(*1)	3,212	1,019	(2,437)	1,794	
	Shinhan Asset Management Co., Ltd.	Deposit(*1)	78,911	9,968	(78,538)	10,341	
	Shinhan Aitas	Deposit(*1)	12,000	10,000	(17,000)	5,000	
	Shinhan DS	Deposit(*1)	825	5,961	-	6,786	
	Shinhan Asset Trust Co., Ltd.	Deposit(*1)	180,000	50,000	(130,000)	100,000	
	Shinhan Life Insurance Co., Ltd.	Deposit(*1)	20,903	12,445	(2,250)	31,098	
	Shinhan REITs Management Co., Ltd.	Deposit(*1)	-	3,000	-	3,000	
	Shinhan Venture Investment Co., Ltd.	Deposit(*1)	-	12,000	(1,500)	10,500	
	IMM Long-term Solutions Private Equity Fund	Deposit(*1)	-	609	-	609	
	Associate of entity under joint control.	IMM Investment Co., Ltd.	Deposit(*1)	-	10,000	-	10,000
		CJL No.1 Private Equity Fund	Deposit(*1)	-	603	-	603
DeepBlue No.1 Private Equity Fund		Deposit(*1)	-	400	-	400	
			₩ 458,514	1,864,310	(1,640,413)	682,411	

(*1) The details of settlements among related parties' depository liabilities that can be deposited and withdrawn on demand, are excluded.

(*2) It includes private equity bonds of general investors that Shinhan Securities Co., Ltd. brokered and sold.

	Related party	Account	December 31, 2021				
			Beginning	Loans	Collections	Ending	
Entities under common control	Shinhan Securities Co., Ltd. (*2)	Debenture	₩ 11,450	1,284,672	(1,277,022)	19,100	
	Jeju Bank	Borrowing	-	17,003	(17,003)	-	
	Shinhan Securities Co., Ltd.	Deposit(*1)	140,413	175,396	(172,246)	143,563	
	Shinhan Credit Information Co., Ltd.	Deposit(*1)	2,390	-	-	2,390	
	Shinhan Card Co., Ltd.	Deposit(*1)	1,857	817	(1,852)	822	
	Shinhan Asset Management Co., Ltd.	Deposit(*1)	70,373	12,876	(4,338)	78,911	
	Shinhan Aitas	Deposit(*1)	10,000	5,000	(3,000)	12,000	
	Shinhan DS	Deposit(*1)	735	856	(766)	825	
	Asia Trust Co., Ltd.	Deposit(*1)	150,000	30,000	-	180,000	
	Shinhan Life Insurance Co., Ltd.	Deposit(*1)	3,610	48,561	(31,268)	20,903	
	Shinhan REITs Management Co., Ltd.	Deposit(*1)	-	5,000	(5,000)	-	
				₩ 390,828	1,580,181	(1,512,495)	458,514

(*1) The details of settlements among related parties' depository liabilities that can be deposited and withdrawn on demand, are excluded.

(*2) It includes private equity bonds of general investors sold through Shinhan Securities Co., Ltd.

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41. Related party transactions (continued)

(g) Major commitments related to derivatives

As of December 31, 2022 and 2021, the significant commitments related to derivative assets and liabilities with related parties are as follows:

	<u>Related party</u>	<u>Classification of commitments</u>		<u>December 31, 2022</u>	<u>December 31, 2021</u>	
Entities under common control	Shinhan Life Insurance Co., Ltd.	Derivatives	₩	1,001,557	835,382	
	Shinhan Card Co., Ltd.	Derivatives		1,037,409	1,251,098	
	Shinhan Securities Co., Ltd.	Derivatives		581,315	1,424,228	
	SH Global Private Real Estate Investment Trust No.5	Derivatives		194,657	91,046	
	SH US Nevada Photovoltaic Private Special Asset Investment Trust	Derivatives		47,524	44,456	
	Shinhan AIM Real Estate Fund No.15	Derivatives		2,128	1,440	
	Shinhan AIM Fund of Fund 4	Derivatives		30,904	28,040	
	SH Veneta Toll Road Pro. Private Special Asset Investment Trust(Infra)	Derivatives		27,609	-	
	Shinhan AIM Real Estate Fund No.22-A	Derivatives		24,575	20,951	
	SH Global Green Energy Partnership Private Special Asset Investment Trust No.1	Derivatives		11,706	5,568	
	Shinhan Dollar Income Private Security Investment Trust No.2	Derivatives		37,639	-	
	Kyobo-AXA Czech Republic-Praha Private Realestate Trust No.1	Derivatives		8,390	8,140	
				₩	<u>3,005,413</u>	<u>3,710,349</u>

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41. Related party transactions (continued)

(h) Major investment and collection transactions

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows:

		December 31, 2022			
		Related party	Investment	Collection	
Investments in associates	Shinhan-Albatross Technology Investment Fund	₩	-	1,200	
	Shinhan-Neoplux Energy Newbiz Fund		-	288	
	Korea Digital Asset Custody		-	-	
	Newlake Growth Capital Partners2 PEF		-	136	
	Neoplux Technology Valuation Investment Fund		-	598	
	Stassets-DA Value Healthcare Fund I		-	107	
	KST-SH Laboratory Investment Fund No.1		500	-	
	Partners 4th Growth Investment Fund		-	1,714	
	One Shinhan Connect Fund 1		11,100	12,163	
	One Shinhan Connect Fund 2		15,000	-	
	Shinhan SKS Corporate Recovery Private Equity Fund		4,965	-	
	Shinhan VC Tomorrow Venture Fund 1		10,000	-	
	One Shinhan Futures Fund 1		-	794	
	One Shinhan Futures Fund 3		598	-	
	DDI LVC Master Real Estate Investment Trust Co., Ltd.		6,625	-	
	Logisvalley Shinhan REIT Co., Ltd.(*)		9,800	-	
	BTS 2nd Private Equity Fund		3,026	-	
	Shinhan Global Flagship Venture Fund1		18,000	-	
	Entities under common control and investments in associates under common control	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust		-	1,519
		SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1		-	720
SHBNPP Venture Professional Investment Type Private Investment Trust No.1			-	4,223	
Shinhan AIM Social Enterprise Investment Fund I			-	659	
SHINHAN NPS RENEWABLE FUND NO.1			8,927	34	
SHBNPP Venture Professional Investment Type Private Investment Trust No.2			3,500	3,457	
Shinhan AIM Social Enterprise Investment Fund II			324	-	
SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1			1,151	-	
Shinhan AIM FoF Fund 6			12,673	-	
SHBNPP Venture Professional Investment Type Private Investment Trust No.3			10,500	-	
SHBNPP Ongoing Peace TDF 2040 Security Investment Trust(H)[Equity Balanced-FoF]			-	1,247	
SH BNPP Startup Venture Alpha Specialized Investment Private Equity Mixed Asset Trust No.1			525	-	
Shinhan AIM Investment Finance Specialized Investment Trust No. 1			5,396	-	
Shinhan ESG Bond Specialized Investment Trust No. 1			-	70,678	
Shinhan AIM Social Enterprise Investment Fund III			1,775	-	
SH Venture Professional Investment Type Private Investment Trust No.4			21,000	-	
SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3			8,234	-	
SH Startup Venture Alpha Private Equity Mixed Asset Trust No.2			1,575	-	
Shinhan Digital New Deal Private Mixed Asset			4,007	-	
Shinhan Subway Line No.9 Private Mixed Asset			115,457	5,112	
Shinhan AIM FoF Fund 9-C		9,560	-		
SH Venture Private Investment Trust No.5		21,000	-		
Shinhan Greenway Corporate Investment FUND NO.1		7,300	-		

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41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	December 31, 2022		
	Related party	Investment	Collection
Entities under common control and investments in associates under common control			
Shinhan Dollar Income Private No.2 Fund	₩	38,019	-
Shinhan Corporate Investment Type Private No.15 Fund		50,000	-
SH BGT Private Special Asset Investment Trust No.2		3,995	-
SH-KT Logistics Investment Type Private Real Estate Investment Trust No.1[FoFs]		11,600	-
Aone Mezzanine Opportunity Private Mixed Investment		-	2,600
SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Trust No.3		9,200	669
SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.3		-	201
SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.2		-	3,474
SHBNPP Sangju YC Expressway Professional Investment Type Private Special Asset Investment Trust		5	-
SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No.2		-	4,361
Mastern Opportunity Seeking Real Estate Fund II		-	2,366
SHBNPP BNCT Professional Investment Type Private Mixed Asset		-	16,452
SH Estate Loan Private Investment No.2		29,458	1,531
SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust		247	-
Pacific Private Investment Trust No.49-1		10,000	-
Shinhan Digital Healthcare New Technology Investment Fund 1		-	587
Truston Global Professional Investment Type Private Special Asset Investment Trust No.3		-	409
IMM Long-term Solutions Private Equity Fund		19,434	-
Synergy-Turnaround 18th New Technology Fund		1,000	-
Genesis No.1 Private Equity Fund		238	-
T&F 2020 SS Private Equity Fund Specializing in Start-up and Venture Business		-	842
SHINHAN-NEO Core Industrial Technology Fund		1,160	-
SHINHAN-NEO Market-Frontier 2nd Fund		3,000	-
Synergy-Turnaround 13th New Technology Fund		-	1,374
J& Moorim Jade Investment Fund		-	131
Gyeonggi-Neoplux Superman Fund		-	248
SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2		4,732	418
Genesis Eco No.1 PEF		97	-
Daishin Newgen New Technology Investment Fund 1st		-	854
KTB Newlake Global Healthcare PEF		6,283	10,187
NH-Brain EV Fund		10,000	-
IGEN2022 No.1 Private Equity Fund		4,000	237
IP-LD 2022 No.1 Fund		1,000	-
NH-J&-IBKC Label Technology Fund		5,000	-
History 2022 Fintech Fund		1,100	-
NH-Daishin-Kyobo Healthcare No.1 Fund		3,000	-
IBKC-BEHIGH Fund 1st		1,500	-
ON No.1 Private Equity Fund		2,000	-
	₩	528,586	151,590

(*) It includes investment without voting rights.

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41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	<u>Related party</u>	<u>Investment</u>	<u>Collection</u>
Subsidiaries	Shinhan-Albatross Technology Investment Fund	₩ -	6,000
Investments in associates	Shinhan-Neoplux Energy Newbiz Fund	1,400	1,050
	Korea Digital Asset Custody	505	-
	Newlake Growth Capital Partners2 PEF	10,000	-
	Neoplux Technology Valuation Investment Fund	-	10,897
	Korea Credit Bureau	-	45
	One-Shinhan Future's New Technology Investment Fund 2	1,170	-
	KST-SH Laboratory Investment Fund No.1	500	-
	Partners 4th Growth Investment Fund	-	16,143
	One Shinhan Connect New Technology Investment Fund 1	72,000	-
	SBC PFV Co., Ltd.	6,250	-
	Shinhan SKS Corporate Recovery Private Equity Fund	4,015	-
	Shinhan VC Tomorrow Venture Fund 1	5,000	-
Entities under common control and entities under common control	SHBNPP Konkuk University Dormitory Private Speical Asset Fund 1	-	1,766
	SHBNPP Future Energy Professional Investment Type Private Special Asset Investment Trust No.1	-	7,037
	SHBNPP Mokpo New Port Professional Investment Type Private Special Asset Investment Trust	-	1,273
	SHBNPP Real Estate Loan Professional Investment Type Private Real Estate Investment Trust No.1	7,500	7,204
	SHBNPP Venture Professional Investment Type Private Investment Trust No.1	2,800	-
	Shinhan AIM Social Enterprise Investment Fund I	860	-
	Shinhan Energy Specialized Investment Trust No. 1	1,926	1,870
	SHBNPP Venture Professional Investment Type Private Investment Trust No.2	14,000	-
	SHBNPP Lifetime Income TIF Mixed Asset Investment Trust	1,000	-
	Shinhan AIM Social Enterprise Investment Fund II	804	-
	SHBNPP WTE(Iste To Energy) Professional Investment Type Private Special Asset Investment Trust No.1	5,857	-
	Shinhan AIM FoF Fund 6	11,902	-
	SHBNPP Venture Professional Investment Type Private Investment Trust No.3	31,500	-
	SHBNPP Startup Venture Alpha Specialized Private Equity Fund 1st	2,625	-
	Shinhan BNPP Global NextG EMP Securities Investment Trust	1,100	-
	Shinhan AIM Investment Finance Specialized Investment Trust No. 1	3,190	-
	Shinhan ESG Bond Specialized Investment Trust No. 1	100,000	-
	Shinhan AIM Social Enterprise Investment Fund III	1,485	-
	GVA KONEX High Yield IPO-I Professional Investors	5,000	-
	SHBNPP Corporate Professional Investment Type Private Security Investment Trust No.45	-	80,245
	SHBNPP Venture Professional Investment Type Private Investment Trust No.4	21,000	-
	SHBNPP Green New Deal Energy Professional Investment Type Private Special Asset Investment Trust No.3	14,158	-

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41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	Related party	Investment	Collection
Entities under common control and investments in associates under common control	Shinhan Global Carbon Neutral Solution Security Investment Trust	₩ 2,500	-
	Shinhan Global Mega Trend Alpha Security Investment Trust	1,575	-
	SH Digital New Deal BTL General Type Private Mixed Asset Investment Trust No.3	1,032	-
	Shinhan Mezzanine General Private Investment Trust No. 3	5,000	-
	SHBNPP MAIN Professional Investment Type Private Mixed Asset Investment Trust No.3	17,500	-
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.3	-	28,379
	SHBNPP Senior Loan Professional Investment Type Private Mixed Asset Investment Trust No.2	-	2,181
	SHBNPP Sangju YC Expressway Professional Investment Type Private Special Asset Investment Trust	6	-
	SHBNPP Jigae Namsan BTO professional Investment Type Private Special Asset Investment Trust	4,052	19,806
	SHBNPP Japan Photovoltaic Private Special Asset Investment Trust No. 2	-	10,501
	Mastern Opportunity Seeking Real Estate Fund II	238	-
	IGIS GLIP Professional Investment Type Private Real Estate Investment Trust No. 1-1	533	-
	IGIS GLIP Professional Investment Type Private Real Estate Investment Trust No. 1-2	533	-
	SHBNPP BNCT Professional Investment Type Private Special Asset Investment Trust	-	7,838
	PHAROS DK FUND	2,000	-
	SH Real Estate Loan Investment Type Private Real Estate Investment Trust No.2	14,128	-
	Shinhan JigaeNamsan Road Private Special Asset Investment Trust	32,562	-
	Shinhan Digital Healthcare New Technology Investment Fund 1	-	422
	KST-SH Laboratory Investment Fund No.1	500	-
	Truston Global Professional Investment Type Private Special Asset Investment Trust No.3	-	2,105
	One Shinhan Future's Fund 2	1,170	-
	Neoplux Technology Valuation Investment Fund	-	7,824
	One-Shinhan Connect New Technology Investment Fund 1	72,000	-
	Shinhan SKS Corporate Recovery Private Equity Fund	4,015	-
	Shinhan Nautic No.1 Private Equity Fund	3,000	1,434
	T Core Industrial Technology No.1 Venture Private Equity Fund	1,500	-
	Hermes Private Investment Equity Fund	-	704
	Partner One Value up No.1 Private Equity Fund	-	734
	Genesis No.1 Private Equity Fund	226	-
	KIWOOM PRIVATE EQUITY GIANT PRIVATE EQUITY FUND	-	306
	Macquarie Korea Opportunities Joint Investment & Private Investment Corporation No. 1	-	608
	Shinhan-Neo Component Equipment Investment Association	1,160	-
	SHINHAN-NEO Market-Frontier 2nd Fund	7,500	-

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41. Related party transactions (continued)

(h) Major investment and collection transactions (continued)

Major investments and collection transactions with related parties for the years ended December 31, 2022 and for the year ended December 31, 2021 are as follows: (continued)

	Related party	Investment	Collection
Entities under common control and investments in associates under common control	Synergy-Turnaround 13th New Technology Fund	₩ 1,000	-
	NH-Synergy Core Industrial New Technology Fund	3,500	-
	J& Moorim Jade Investment Fund	1,500	-
	Gyeonggi-Neoflux Superman Investment Association	-	610
	SHBNPP Global Infrastructure Professional Investment Type Private Special Asset Investment Trust No.7-2	11,975	233
	Genesis Eco No.1 PEF	5,903	-
	AIP Semiconductor-M3X Venture Fund No.1	2,000	-
	NH Kyobo AI Solution New Technology Investment Fund	2,000	-
	Daishin Newgen New Technology Investment Fund 1st	3,000	-
	META ESG Private Equity Fund I	3,000	-
	SWFV New Technology FUND-1	4,700	-
		₩ 538,855	217,215

(i) The main types of transactions between the Group and related parties include deposit transactions, loan transactions, credit offering transactions by local subsidiaries due to the acquisition of L/C opened by the Bank, overdraft transactions related to credit card funds settlement and CLS payment service agreement transactions.

(j) For the years ended December 31, 2022 and 2021, the Group purchased bonds through Shinhan Securities Co., Ltd. at ₩ 4,497,237 million and ₩ 5,419,050 million, respectively, while the amount sold is ₩ 2,428,750 million and ₩ 5,307,469 million, respectively.

(k) As of December 31, 2022 and 2021, the plan assets deposited in the DB type retirement pension managed by Shinhan Life Insurance are ₩99,992 million and ₩156,326 million, respectively.

(l) As of December 31, 2022 and 2021, the limitation contract amount provided by Shinhan Card, a related party, is ₩66,900 million and ₩67,572 million, respectively.

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42. Investments in subsidiaries

(a) Condensed statements of financial positions for the Bank (separate) and its subsidiaries as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			December 31, 2021		
	Total assets	Total liabilities	Total equity	Total assets	Total liabilities	Total equity
Shinhan Bank ₩	454,842,498	425,703,758	29,138,740	432,515,895	404,942,232	27,573,663
Shinhan Bank America	2,414,659	2,152,709	261,950	2,316,397	2,068,072	248,325
Shinhan Bank Canada	850,852	763,728	87,124	809,954	727,350	82,604
Shinhan Bank Europe GmbH	1,188,733	1,095,161	93,572	808,260	720,133	88,127
Shinhan Bank China Limited	6,198,889	5,619,181	579,708	6,222,433	5,668,667	553,766
Shinhan Kazakhstan Bank Limited	346,739	291,682	55,057	214,216	169,099	45,117
Shinhan Bank Cambodia	1,071,860	869,359	202,501	854,201	686,474	167,727
Shinhan Bank Japan	12,313,754	11,456,039	857,715	11,422,258	10,612,219	810,039
Shinhan Bank Vietnam Ltd. (*)	9,926,850	8,586,360	1,340,490	8,032,621	6,906,834	1,125,787
Shinhan Bank Mexico	326,518	224,579	101,939	256,174	169,662	86,512
Shinhan Bank Indonesia (*)	1,844,950	1,467,028	377,922	1,452,840	1,075,629	377,211
Structured entities	8,791,239	8,884,512	(93,273)	8,840,192	8,820,196	19,996

(*) Fair value adjustments at the time of business combination have reflected.

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42. Investments in subsidiaries (continued)

(b) Condensed statements of comprehensive income for the Bank (separate) and its subsidiaries for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022			December 31, 2021		
	Operating income	Profit for the year	Total comprehensive income (loss) for the year	Operating income	Profit for the year	Total Comprehensive income for the year
Shinhan Bank	₩ 33,807,522	2,631,873	2,027,693	22,197,037	2,152,934	1,875,321
Shinhan Bank America	93,782	7,201	13,625	77,865	2,054	21,012
Shinhan Bank Canada	35,959	4,344	4,521	20,919	2,416	9,120
Shinhan Bank Europe GmbH	21,941	4,885	5,445	12,961	3,775	4,002
Shinhan Bank China Limited	312,557	45,703	25,942	233,152	13,938	74,968
Shinhan Kazakhstan Bank Limited	35,940	9,357	9,940	16,425	3,462	5,634
Shinhan Bank Cambodia	69,408	23,638	34,774	48,977	20,149	32,956
Shinhan Bank Japan	281,448	116,735	47,676	247,699	81,380	63,940
Shinhan Bank Vietnam Ltd. (*)	632,162	197,766	214,702	441,102	129,167	226,380
Shinhan Bank Mexico	17,977	4,740	15,427	9,567	392	5,150
Shinhan Bank Indonesia (*)	92,666	12,548	712	74,028	71	24,507
Structured entities	319,026	(106,273)	(105,925)	273,838	28,035	27,220

(*) Fair value adjustments at the time of business combination are applied.

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43. Interests in unconsolidated structured entities

(a) The nature and extent of interests in unconsolidated structured entities

The Group is involved in structured entities through investments in asset-backed securities, structured finance, and investment funds. The main characteristics of the structured entities are as follows:

	Description
Assets-backed securitization	<p>Securitization vehicles are established to buy assets from originators and issue asset-backed securities in order to facilitate the originators' funding activities and enhance their financial soundness. The Group is involved in the securitization vehicles by purchasing (or committing to purchase) the asset-backed securities issued and/or providing other forms of credit enhancement.</p> <p>The Group does not consolidate a securitization vehicle if (i) the Group is unable to make or approve decisions as to the modification of the terms and conditions of the securities issued by such vehicle or disposal of such vehicles' assets, (ii) (even if the Group is able to do so) if the Group does not have the exclusive or primary power to do so, or (iii) if the Group does not have exposure, or right, to a significant amount of variable returns from such entity due to the purchase (or commitment to purchase) of asset-backed securities issued or subordinated obligations or by providing other forms of credit support.</p>
Structured financing	<p>Structured entities for project financing are established to raise funds and invest in a specific project such as M&A (Mergers and Acquisitions), BTL (Build-Transfer-Lease), shipping finance, etc. The Group is involved in the structured entities by originating loans, investing in equity, or providing credit enhancement.</p>
Investment fund	<p>Investment fund is a type of financial assets where investment funds raise funds from the general public to invest in a group of assets such as stocks or bonds and distribute their income and capital gains to their investors. The Group manages assets on behalf of other investors, such as investing in equity in investment funds, collective investment companies, and business members.</p>

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43. Interests in unconsolidated structured entities (continued)

(a) The nature and extent of interests in unconsolidated structured entities (continued)

The size of unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	109,297,670	223,632,461	222,486,034	555,416,165

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Total assets	₩	112,156,163	169,291,695	177,417,905	458,865,763

(b) Nature of risk associated with interests in unconsolidated structured entities

i) The carrying amounts of the assets and liabilities recognized relating to its interests in unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

		December 31, 2022			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	382,894	7,023,732	85,772	7,492,398
Loans at FVTPL		-	46,626	-	46,626
Securities at FVTPL		2,023,694	54,789	6,022,521	8,101,004
Derivative assets		4,432	-	-	4,432
Securities at FVTOCI		1,106,404	175,366	-	1,281,770
Securities at amortized cost		4,082,846	-	-	4,082,846
	₩	<u>7,600,270</u>	<u>7,300,513</u>	<u>6,108,293</u>	<u>21,009,076</u>
Liabilities:					
Derivative liabilities	₩	24,902	91	-	24,993

		December 31, 2021			
		Assets-backed securitization	Structured financing	Investment fund	Total
Assets:					
Loans at amortized cost	₩	186,821	6,335,639	114,300	6,636,760
Loans at FVTPL		-	129,079	67,097	196,176
Securities at FVTPL		3,518,434	123,061	6,876,699	10,518,194
Derivative assets		4,343	16,560	-	20,903
Securities at FVTOCI		1,797,443	209,667	-	2,007,110
Securities at amortized cost		3,914,914	-	-	3,914,914
Others		-	1,450	-	1,450
	₩	<u>9,421,955</u>	<u>6,815,456</u>	<u>7,058,096</u>	<u>23,295,507</u>
Liabilities:					
Derivative liabilities	₩	3,817	48	-	3,865

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43. Interests in unconsolidated structured entities (continued)

(b) Nature of risk associated with interests in unconsolidated structured entities (continued)

ii) Exposure to risk relating to interests in unconsolidated structured entities as of December 31, 2022 and 2021 are as follows:

	December 31, 2022			
	Assets-backed securitization	Structured financing	Investment fund	Total
Assets owned	₩ 7,600,270	7,300,513	6,108,293	21,009,076
Purchase commitments	891,860	91,858	472,954	1,456,672
Providing unused credit	407,839	251,909	-	659,748
	<u>₩ 8,899,969</u>	<u>7,644,280</u>	<u>6,581,247</u>	<u>23,125,496</u>

	December 31, 2021			
	Assets-backed securitization	Structured financing	Investment fund	Total
Assets owned	₩ 9,421,955	6,815,456	7,058,096	23,295,507
Purchase commitments	843,209	2,210	1,195,977	2,041,396
Providing unused credit	426,565	252,027	-	678,592
Guarantee contracts	-	5,550	-	5,550
Others	-	18,758	-	18,758
	<u>₩ 10,691,729</u>	<u>7,094,001</u>	<u>8,254,073</u>	<u>26,039,803</u>

SHINHAN BANK AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
December 31, 2022 and 2021
(In millions of Korean won)

44. Information of trust business

(a) Total assets with trust business as of December 31, 2022 and 2021 and operating revenue for the years ended December 31, 2022 and 2021 are as follows:

	Total assets		Operating revenue	
	December 31, 2022	December 31, 2021	December 31, 2022	December 31, 2021
Consolidated	₩ 3,764,132	4,363,636	112,993	137,447
Unconsolidated	91,944,641	87,663,477	1,303,281	1,230,398
	₩ <u>95,708,773</u>	<u>92,027,113</u>	<u>1,416,274</u>	<u>1,367,845</u>

(b) Significant balances with trust business as of December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Borrowings from trust accounts	₩ 6,563,116	5,189,455
Deposits	30,094	30,744
Accrued revenues from asset management fee from trust accounts	22,809	11,314
Accrued interest expenses	7,977	1,702

(c) Significant transactions with trust business for the years ended December 31, 2022 and 2021 are as follows:

	December 31, 2022	December 31, 2021
Asset management fee from trust accounts	₩ 177,579	183,765
Termination fee	1,056	9,713
Interest expense for deposits	552	275
Interest on borrowings from trust accounts	99,313	20,522