

KAKAO CORP. AND SUBSIDIARIES

Consolidated Financial Statements

December 31, 2022 and 2021

(With Independent Auditors' Report Thereon)

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Independent Auditors' Report

Based on a report originally issued in Korean

To the Board of Directors and Shareholders
Kakao Corp.:

Opinion

We have audited the consolidated financial statements of Kakao Corp. and its subsidiaries (the "Group") which comprise the consolidated statements of financial position as of December 31, 2022 and 2021, and the consolidated statements of comprehensive income, changes in equity and cash flows for the years then ended and notes to the consolidated financial statements, comprising significant accounting policies and other explanatory information.

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

Basis for Opinion

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

Key Audit Matters

Key audit matters are those matters that, in our professional judgement, were of most significance in our audit of the consolidated financial statements as of and for the year ended December 31, 2022. These matters were addressed in the context of our audit of the consolidated financial statements as a whole, and in forming our opinion thereon, and we do not provide a separate opinion on these matters.

A. Recognition of revenue from Search and Display advertising

Why the matter was decided as the key audit matter

In 2022, the amount of revenue generated from Search and Display advertising services is ₩ 804.6 billion, which covers significant proportion of the Group's revenue. And we also considered the complexity of calculating the amount. Revenue recognition from Search and Display advertising depends on the terms of the contracts with a number of advertisers and advertising agencies, and the amount of revenue from Search and Display advertising of the Group is determined and recorded in a financial system through a complex process based on large volume of data including a number of customer information and various contract terms aggregated in the IT system (Note 2). There is a potential risk that the amount of revenue was improperly recognized due to such



complex process and large volume of data. As a result, we identified recognition of the revenue from Search and Display advertising as a key audit matter.

How the matter was addressed in our audit

The primary audit procedures we performed to address this key audit matter included:

- Obtained understanding of and evaluated accounting policies on recognition of revenue from Search and Display advertising, and identifying and testing certain controls over the revenue recognition process
- Testing general IT controls for the operating system (program change, security, computer operation, and other)
- Testing IT application controls for determining the amounts charged to customers in the operating system by independent reperformance
- Testing the effectiveness of controls in relation to a pre-approval for the change of data by testing samples and inspecting the relevant evidence documents
- Performing reconciliation between the amount of revenue recorded in the operating system and that recognized in the financial accounting system
- For selected samples, examining the accuracy of amount recognized as revenue by inspecting relevant documents

B. Impairment of goodwill of cash-generating units of internet portal service including other services and commerce service

Why the matter was decided as the key audit matter

As of December 31, 2022, goodwill of cash-generating unit of internet portal service and other services amounts to ₩ 1,081.9 billion and goodwill of cash-generating units of music service amounts to ₩ 270.9 billion (Note 19). The Group performed the impairment tests on the forementioned goodwill by calculating value-in-use based on the discounted cash flow (Note 3). We identified accounting for the forementioned goodwill as a key audit matter due to its significant magnitude, and due to the significant judgements required for the Group's managements in determining the assumptions such as discount rates, growth rates and future cash flow forecasts to estimate the value-in-use.

How the matter was addressed in our audit

The primary audit procedures we performed to address this key audit matter included:

- Obtaining an understanding of the Group's policies, procedures and internal controls in relation to accounting for impairment on goodwill
- Evaluating the adequacy of valuation model used by management to estimate value-in-use
- Evaluating the eligibility and independence of an external specialist hired by the Group
- Testing internal controls on management's review and approval in relation to future cash flow estimates for impairment tests
- Evaluating whether future cash flow is reasonably estimated based on a business plan approved by management
- Evaluating the reasonableness of key assumptions used to estimate value-in-use
- Evaluating the results of management's sensitivity analysis on the discount rates and the terminal growth rates performed to assess the impact of changes in key assumptions on the impairment tests

Other Matter

The procedures and practices utilized in the Republic of Korea to audit such consolidated financial statements may differ from those generally accepted and applied in other countries.

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

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with 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, or has no realistic alternative but to do so.

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

Auditors' 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 auditors' report that includes our opinion. 'Reasonable assurance' is a high level of assurance, but is not a guarantee that an audit conducted in accordance with KSAs will always detect a material misstatement when it exists. Misstatements can arise from fraud or error and are considered material if, individually or in aggregate, they could reasonably be expected to influence the economic decisions of users taken on the basis of these consolidated financial statements.

As part of an audit in accordance with KSAs, we exercise professional judgement 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 Company'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, then we are required to draw attention in our auditors' 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 auditors' 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.

We also provide those charged with governance with a statement that we have complied with relevant ethical requirements regarding independence, and communicate with them all relationships and other matters that may reasonably be thought to bear on our independence and where applicable related safeguards.



From the matters communicated with those charged with governance, we determine those matters that were of most significance in the audit of the consolidated financial statements of the current period and are therefore the key audit matters. We describe these matters in our auditors' report unless law or regulation precludes public disclosure about the matter or when, in extremely rare circumstances, we determine that a matter should not be communicated in our report because the adverse consequences of doing so would reasonably be expected to outweigh the public interest benefits of such communication.

The engagement partner on the audit resulting in this independent auditors' report is Sang-hyun, Kang.

KPMG Samjong Accounting Corp.

Seoul, Korea
March 20, 2023

This report is effective as of March 20, 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 the above audit report has not been updated to reflect the impact of such subsequent events or circumstances, if any.

KAKAO CORP. AND SUBSIDIARIES
Consolidated Statements of Financial Position
As of December 31, 2022 and 2021

(in millions of Korean won)

	Notes	2022	2021
Assets			
Current assets			
Cash and cash equivalents	4,7,8	₩ 4,780,244	5,231,504
Short-term financial instruments	4,7,8	1,210,213	1,573,559
Financial assets at fair value through profit or loss	4,5,7,10	565,644	305,060
Derivative financial assets	4,5,7,10,26	351	352
Trade receivables	4,7,10	440,899	398,117
Other current financial assets	4,7,10	361,873	319,120
Inventories	15	160,328	91,808
Other current assets	14	236,180	182,674
		7,755,732	8,102,194
Non-current assets			
Long-term financial instruments	4,7,8	10,131	10,139
Financial assets at fair value through profit or loss	4,5,7,10	502,078	302,249
Financial assets at fair value through other comprehensive income	5,7,10	1,449,567	1,219,163
Investments in associates and joint venture	16	2,651,898	3,215,802
Non-current derivatives assets	4,5,7,10,26	6,211	
Other non-current financial assets	4,7,10	269,788	144,002
Property and equipment	17	885,397	554,916
Intangible assets	19	6,022,352	6,347,795
Investment property	18	20,878	101,296
Right-of-use assets	20	1,715,592	1,399,234
Net defined benefit assets	22	69,448	6,297
Other non-current assets	14	353,770	339,173
Deferred income tax assets	24	493,820	71,920
		14,450,931	13,711,986
Assets of financial services business			
Cash and cash equivalents	4,7,8	55,665	94,196
Deposits	4,7,8	66,511	247,755
Financial assets at fair value through profit or loss	4,5,7,10	496,616	495,952
Financial assets at amortized cost	4,7	16,175	-
Property and equipment	17	15,037	11,782
Intangible assets	19,39	70,561	33,228
Right-of-use assets	20	3,093	11,200
Retirement plan assets	22	289	-
Reinsurance assets		108	-
Other financial assets	4,7,10	15,590	30,498
Other assets	14	17,181	40,768
		756,828	965,379
Total assets		₩ 22,963,492	22,779,559

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Consolidated Statements of Financial Position, Continued
As of December 31, 2022 and 2021

(in millions of Korean won)

	Notes	2022	2021
Liabilities			
Current Liabilities			
Trade and other payables	4,712	₩ 1,373,954	1,230,985
Short-term borrowings	4,721,37	1,096,884	1,258,828
Deposits received	4,713	442,303	384,150
Other current financial liabilities	4,713	38,623	653,737
Income tax payable	24	157,670	188,902
Provisions	25	20,574	11,243
Derivative financial liabilities	5,726	9,573	11,912
Short-term lease liabilities	4,20,37	244,391	169,531
Other current liabilities	14	1,764,354	1,720,986
		<u>5,148,327</u>	<u>5,630,274</u>
Non-current liabilities			
Non-current trade and other payables	4,712	110,592	63,708
Long-term borrowings	4,721,37	1,176,181	553,054
Non-current provisions	25	70,152	51,934
Long-term lease liabilities	4,20,37	1,643,416	1,318,155
Net defined benefit liabilities	22	18,514	-
Other long-term employee benefits liabilities	23	73,168	67,927
Non-current derivative financial liabilities	5,726	3,540	-
Deferred income tax liabilities	24	652,641	756,812
Other non-current financial liabilities	4,713	25,620	43,010
Other non-current liabilities	14	70,105	30,495
		<u>3,843,929</u>	<u>2,885,095</u>
Liabilities of financial services business			
Deposits received	4,713	394,287	598,311
Net defined benefit liabilities	22	-	338
Other long-term employee benefit liabilities	23	2,342	1,020
Provisions	25	1,124	1,151
Insurance contract liabilities		190	-
Lease liabilities	4,20,37	2,327	10,266
Other financial liabilities	4,5,7,13	33,213	49,080
Other liabilities	14	5,890	14,052
		<u>439,373</u>	<u>674,218</u>
Total liabilities		<u>₩ 9,431,629</u>	<u>9,189,587</u>
Equity			
Share capital	1,27	₩ 44,952	44,641
Share premium	27	8,115,902	7,781,245
Other components of equity	29	41,031	77,071
Accumulated other comprehensive income(loss)	30	(1,250,708)	371,824
Retained earnings	31	3,046,458	1,709,599
Equity attributable to owners of the Parent Company		<u>9,997,276</u>	<u>9,984,380</u>
Non-controlling interests	41	3,534,587	3,605,592
Total equity		<u>13,531,862</u>	<u>13,589,972</u>
Total liabilities and equity		<u>₩ 22,963,492</u>	<u>22,779,559</u>

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Consolidated Statements of Comprehensive Income
For the years ended December 31, 2022 and 2021

	Note	2022	2021
<i>(in millions of Korean won, except per share amounts)</i>			
Revenue	6,11	₩ 7,106,837	6,136,669
Operating expenses	32	6,526,521	5,541,752
Bad debt expense		10,795	3,558
Other operating expenses		6,515,726	5,538,194
Operating profit		580,316	594,916
Other non-operating income	33	2,013,527	1,733,429
Other non-operating expenses	33	1,111,461	407,247
Finance income	34	342,770	177,819
Interest income		122,729	36,889
Other finance income		220,041	140,930
Finance costs	34	463,160	315,317
Share of income of associates and joint venture	16	100,294	596,401
Share of loss of associates and joint venture	16	157,923	86,308
Profit before income tax	6	1,304,363	2,293,693
Income tax expense	24 6	241,786	647,540
Profit for the year		1,062,578	1,646,153
Profit attributable to:			
Equity holders of the Parent Company		1,352,936	1,392,152
Non-controlling interest		(290,358)	254,001
Other comprehensive income			
Items not to be reclassified subsequently to profit or loss:			
Remeasurement of net defined benefit liabilities		(2,212)	(5,968)
Gain (loss) on valuation of equity instruments at fair value through other comprehensive income		(1,728,675)	368,152
Share of other comprehensive income (loss) of associates, net of tax		(50,961)	33,127
Revaluation surplus		-	(1,126)
Items to be reclassified subsequently to profit or loss:			
Share of other comprehensive income (loss) of associates, net of tax		1,927	1,290
Change of retained earnings in equity method		-	(624)
Foreign currency translation adjustments, net of tax		49,085	36,950
Other comprehensive income(loss) for the year, net of tax		(1,730,837)	431,801
Total comprehensive income(loss) for the year		₩ (668,259)	2,077,954
Total comprehensive income(loss) for the year is attributable to:			
Equity holders of the Parent Company		₩ (268,602)	1,691,423
Non-controlling interest		(399,657)	386,531
Earnings per share to the equity holders of the Parent Company (in Korean won)			
Basic earnings per share	35	₩ 3,106	3,221
Diluted earnings per share	35	3,055	3,146

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Consolidated Statements of Changes in Equity
For the years ended December 31, 2022 and 2021

	Note	Attributable to equity holders of the Parent Company					Total	Non-controlling interest	Total equity
		Share capital	Share premium	Other components of equity	Accumulated other comprehensive income (loss)	Retained earnings			
<i>(in millions of Korean won)</i>									
Balance at January 1, 2021		₩ 44,301	5,833,100	18,617	86,577	316,325	6,298,920	1,128,809	7,427,729
Comprehensive income :									
Profit for the year		-	-	-	-	1,392,152	1,392,152	254,001	1,646,153
Foreign currency translation adjustments, net of tax	30	-	-	-	26,680	-	26,680	10,271	36,951
Share of other comprehensive loss of associates, net of tax	16,30	-	-	-	15,548	-	15,548	18,869	34,417
Share or retained earnings of associates						(624)	(624)		(624)
Gain (loss) on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	262,743	-	262,743	105,409	368,152
Reclassification of gain on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(14,647)	14,647	-	-	-
Changes in revaluation surplus	30	-	-	-	(1,126)	-	(1,126)		(1,126)
Remeasurement of employee benefits	22,30	-	-	-	(3,951)	1	(3,950)	(2,018)	(5,968)
Total comprehensive income for the year		-	-	-	285,247	1,406,176	1,691,423	386,532	2,077,954
Transactions with equity holders:									
Exercise of stock options	27,28	264	286,790	(27,134)	-	-	259,920	25,767	285,687
Share-based compensation	28	-	-	80,652	-	-	80,652	44,401	125,053
Conversion of convertible bonds	21,27	76	17,914	-	-	-	17,990	-	17,990
Exchange of exchangeable bond	21	-	10,262	-	-	-	10,262	-	10,262
Cash dividends	36	-	-	-	-	(12,902)	(12,902)	-	(12,902)
Change in ownership interest over subsidiaries		-	1,621,416	-	-	-	1,621,416	1,925,932	3,547,347
Change in scope of consolidation		-	11,764	4,936	-	-	16,700	94,152	110,852
Total transactions with equity holders		340	1,948,145	58,453	-	(12,902)	1,994,037	2,090,252	4,084,289
Balance at December 31, 2021		₩ 44,641	7,781,245	77,070	371,825	1,709,599	9,984,380	3,605,593	13,589,972

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Consolidated Statements of Changes in Equity, Continued
For the years ended December 31, 2022 and 2021

(in millions of Korean won)	Note	Attributable to equity holders of the Parent Company					Total	Non-controlling interest	Total equity
		Share capital	Share premium	Other components of equity	Accumulated other comprehensive income (loss)	Retained earnings			
Balance at January 1, 2022		₩ 44,641	7,781,245	77,071	371,824	1,709,599	9,984,380	3,605,592	13,589,972
Comprehensive income :									
Profit for the year		-	-	-	-	1,352,936	1,352,936	(290,358)	1,062,578
Foreign currency translation adjustments, net of tax	30	-	-	-	33,987	-	33,987	15,097	49,085
Share of other comprehensive loss of associates, net of tax	16,30	-	-	-	(31,345)	-	(31,345)	(17,689)	(49,034)
Gain (loss) on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(1,622,830)	-	(1,622,830)	(105,845)	(1,728,675)
Reclassification of gain on valuation of financial instruments at fair value through other comprehensive income	30	-	-	-	(991)	991	-	-	-
Remeasurement of employee benefits	22,30	-	-	-	(1,354)	5	(1,349)	(862)	(2,212)
Total comprehensive income for the year		-	-	-	(1,622,533)	1,353,931	(268,602)	(399,657)	(668,259)
Transactions with equity holders:									
Exercise of stock options	27,28	276	110,372	(39,607)	-	-	71,041	41,273	112,314
Share-based compensation	28	-	-	84,564	-	-	84,564	74,584	159,148
Retirement of treasury stocks	21,27	(324)	81,317	(80,996)	-	-	(2)	-	(2)
Cash dividends	36	-	-	-	-	(22,990)	(22,990)	-	(22,990)
Change in ownership interest over subsidiaries		-	(23,205)	-	-	-	(23,205)	101,796	78,590
Change share premium to retained earnings		-	(5,918)	-	-	5,918	-	-	-
Change in scope of consolidation		-	(11,461)	-	-	-	(11,461)	(25,744)	(37,204)
Changes in corporate tax effect		-	183,551	-	-	-	183,551	136,742	320,293
Total transactions with equity holders		(48)	334,657	(36,039)	-	(17,072)	281,498	328,651	610,149
Balance at December 31, 2022		₩ 44,592	8,115,902	41,031	(1,250,708)	3,046,458	9,997,276	3,534,587	13,531,862

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Consolidated Statements of Cash Flows
For the years ended December 31, 2022 and 2021

(in millions of Korean won)

	Note	2022	2021
Cash flows from operating activities			
Cash generated from operations	37	₩ 935,230	1,487,783
Interest received		118,713	32,739
Interest paid		(113,101)	(28,455)
Dividend received		55,458	41,883
Income tax paid		(317,923)	(227,378)
Net cash inflow from operating activities		678,376	1,306,572
Cash flows from investing activities			
Increase in short-term financial instruments		342,616	(886,796)
Decrease (increase) in long-term financial instruments		7	35
Purchase of property and equipment		(452,916)	(216,219)
Disposal of property and equipment		14,340	3,506
Purchase of intangible assets		(189,960)	(154,485)
Disposal of intangible assets		99,340	78,083
Acquisition of financial assets at fair value through profit or loss		(2,161,219)	(1,189,751)
Disposal of financial assets at fair value through profit or loss		1,744,502	993,407
Acquisition of financial assets at fair value through other comprehensive income		(63,014)	(36,281)
Disposal of financial assets at fair value through other comprehensive income		43,396	294
Acquisition of associates and joint ventures		(58,343)	(679,860)
Disposal of associates and joint ventures		79,372	177,652
Acquisition of subsidiaries, net of cash acquired		(174,036)	(1,223,774)
Disposal of subsidiaries, net of cash transferred		34,851	2,435
Decrease (increase) in other current financial assets		18,982	(39,136)
Increase in other non-current financial assets		(66,252)	(87,996)
Decrease in financial liabilities at fair value through profit or loss		(754,073)	-
Cash outflow from transfer of business		-	(38,229)
Other cash outflow from investing activities		(31,698)	(43,894)
Net cash outflow from investing activities		(1,574,105)	(3,341,009)
Cash flows from financing activities			
Proceeds from short-term borrowings		1,263,672	1,184,504
Repayments of short-term borrowings		(1,560,734)	(456,913)
Proceeds from long-term borrowings		710,478	518,562
Repayments of long-term borrowings		(413)	(6,350)
Principal elements of lease payments		(148,175)	(105,689)
Exercise of stock options		72,490	64,551
Payments of dividends		(22,990)	(12,902)
Cash inflows from transactions with non-controlling interests		281,706	3,409,728
Cash outflows from transactions with non-controlling interests		(209,035)	(159,581)
Other cash flows from financing activities		24,822	5,256
Net cash inflow from financing activities		₩ 411,821	4,441,166

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
 Consolidated Statements of Cash Flows, Continued
 For the years ended December 31, 2022 and 2021

(in millions of Korean won)

	Note	2022	2021
Net increase(decrease) in cash and cash equivalents	₩	(489,791)	2,431,383
Effect of exchange rate changes on cash and cash equivalents		(5,884)	24,654
Cash and cash equivalents at the beginning of year		5,325,700	2,894,317
Cash and cash equivalents at the end of year	₩	<u>4,835,909</u>	<u>5,325,700</u>

See accompanying notes to the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements
For the years ended December 31, 2022 and 2021

1. General Information

Kakao Corp. (the "Parent Company") has prepared the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("Korean IFRS") 1110, *Consolidated Financial Statements*, and its consolidated subsidiaries include Daum Global Holdings and 142 entities.

(1) Description of the Parent Company

General information about Kakao Corp. and its subsidiaries (collectively, the "Group") is as follows:

The Parent Company was incorporated in February 1995 and provides advertising services, contents offerings including Emoticons, games and music, and other online services through its online platforms.

The Parent Company was listed on the KOSDAQ market in Korea on November 9, 1999 and was transferred to the KOSPI market in Korea on July 10, 2017.

The Parent Company's headquarter is located in Youngpyong-dong, Jeju City, in Jeju Province, Korea. As of December 31, 2022, the Parent Company's share capital amounted to ₩ 44,592 million and the Parent Company's shareholders are as follows:

	Number of shares (in shares)	Percentage of ownership (%)
Kim Bum Soo	59,101,147	13.3
K Cube Holdings Co., Ltd.	46,781,422	10.5
National Pension Service	26,968,191	6.1
MAXIMO PTE. LTD.	26,396,880	5.9
Other related parties	1,656,904	0.4
Treasury shares	8,724,627	2.0
Others	275,794,518	61.8
	445,423,689	100.0

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
Daum Global Holdings	₩ 2,554	Holding company	Korea	December 31	510,810	100.0
KAKAO BRAIN Corp.	613	Software development	Korea	December 31	1,225,800	100.0
Kakao Ventures Corp.	18,511	Holding company	Korea	December 31	3,702,216	100.0
KAKAO Venture Fund ^{2,6}	5,100	Investment/holding company	Korea	December 31	19	36.7
Kakao digital contents Fund ^{2,6}	34,874	Investment/holding company	Korea	December 31	141	40.4
Kakao Game Growth Share Fund ⁶	15,000	Investment/holding company	Korea	December 31	150	100.0
Kakao Copilot Fund No. 1 ³⁹	25,0	Investment/holding company	Korea	December 31	25,600	99.1
KAKAO_CCVC Jeju Creative Economy Innovative Fund	2,000	Investment/holding company	Korea	December 31	190	95.0
KnWorks Co., Ltd. (formerly, DK Service)	1,611	Service operations	Korea	December 31	322,136	100.0
DK Techin	4,500	Service operations	Korea	December 31	900,000	100.0
DK CHINA Co., Ltd	1,093	Service operations	China	December 31	1	100.0
Seoul Arena Co., Ltd ¹	1,600	Real estate development	Korea	December 31	1,600,000	100.0
Kakao healthcare Corp. ^c	60,900	Information communication services	Korea	December 31	12,180,000	100.0
Linewalks Corp. ⁷	33	Software development and distribution	Korea	December 31	67,204	100.0
LOC&ALL. INC.	611	Software development and services	Korea	December 31	122,231	100.0
LINKAGE LAB Co., Ltd.	149	Services	Korea	December 31	29,851	100.0
Kakao Investment Co., Ltd.	7,459	Holding company	Korea	December 31	745,964	100.0
KI SG PTE. LTD ⁴	1,313	Holding company	Singapore	December 31	1,100,000	100.0
Kids Note Co., Ltd. ^{2,4}	3,800	Software development and information services	Korea	December 31	367,668	48.4
AWINS ⁵	136	Wholesale toys and hobbies and playthings	Korea	December 31	23,987	88.0
Kakao Piccoma Corp.	273,597	Software development and services	Japan	December 31	876,620	91.1
DK CORPORATION ³	587	Advertising agency and others	Japan	December 31	386	100.0
Piccoma Europe ³	35,840	Application software development and distribution	France	December 31	26,000,000	100.0
Studio1pic Corp. ³	150	Application software development and distribution	Korea	December 31	30,000	100.0
Sherpa Studio Corp. ³	1,047	Electronic publishing	Japan	December 31	12,000	60.0
Voithru Inc. ³	211	Information communication services	Korea	December 31	1,522,139	72.0
Voithru Japan ¹⁷	47	Information communication services	Japan	December 31	50,000	100.0
KAKAO G Corp.	83,934	Software development and services	Japan	December 31	81,000,000	100.0
Panzea Pte. Ltd. ²⁴	150,042	Software development	Singapore	December 31	122,926,000	100.0

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
KRUST UNIVERSE PTE. LTD. ²⁵	₩ 147,069	Software development	Singapore	December 31	122,000,000	100.0
Ground X Corp. (formerly, Ground 1 Corp.) ³¹	5,608	E-commerce, internet information services	Korea	December 31	1,0839,164	96.6
KLAYBAY PTE. LTD. ^{1,31}	37	Software and application development	Singapore	December 31	30,000	100.0
Kakao Mobility Corp. ²⁶	25,475	Software development and distribution	Korea	December 31	145,992,000	57.3
KM Solution Corp. ²¹	35	Services	Korea	December 31	6,909	100.0
KM parking and space Corp. ²¹	158	Services	Korea	December 31	11,111	100.0
CMNP Corp. ²¹	1,369	Transportation service	Korea	December 31	2,737,000	100.0
K Drive Corp. ³²	4,820	Services	Korea	December 31	9,640,000	100.0
TJ Partners Corp. ²¹	762	Transportation service	Korea	December 31	1,524,000	100.0
KM ONE Corp. ²²	69	Taxi service	Korea	December 31	138,000	100.0
KM Two Corp. ²²	82	Taxi service	Korea	December 31	164,000	100.0
KM Three Corp. ²²	80	Taxi service	Korea	December 31	160,000	100.0
KM Four Corp. ²²	71	Taxi service	Korea	December 31	142,000	100.0
KM Five Corp. ²²	71	Taxi service	Korea	December 31	142,000	100.0
KM SIX Corp. ²²	93	Taxi service	Korea	December 31	186,000	100.0
KM Seven Corp. ²²	61	Taxi service	Korea	December 31	122,000	100.0
Donggo Taxi Corp. ²²	103	Taxi service	Korea	December 31	20,696	100.0
Jinhwa Corp. ²²	693	Taxi service	Korea	December 31	138,671	100.0
WithONE's Inc ²¹ .	30	Information communication services	Korea	December 31	60,000	100.0
KM PARK.CO.,Ltd ²¹	23,000	Services	Korea	December 31	4,600,000	100.0
RS Solutions Corp ²¹ .	198	Software development and consulting	Korea	December 31	39,749	100.0
Korea freight forwarders association Corp. ^{2,21}	50	Services	Korea	December 31	4,900	100.0
Kakao Entertainment Corp. ²⁶	19,885	Software development and services	Korea	December 31	29,269,283	73.6
SamyangCNC Co.,Ltd. ⁸	50	Contents production and distribution	Korea	December 31	500,000	100.0
Daon Creative inc ⁸	283	Contents production and distribution	Korea	December 31	41,731	73.7
PT. Neo Bazar Indonesia ⁹	12,907	Software development and services	Indonesia	December 31	9,905,415	100.0
RS MEDIA Co., Ltd. ⁸	452	Contents production and distribution	Korea	December 31	64,909	71.8
Soundist Entertainment.Co.,Ltd. ⁸	3,060	Contents production and distribution	Korea	December 31	367,219	60.0
Feelyeon Management ⁸	24	Contents production and distribution	Korea	December 31	3,447	72.7
Intime ⁸	200	Contents production and distribution	Korea	December 31	28,000	70.0
Legendaries Corp.(Formerly, BATTLE ENTERTAINMENT CORP.) ⁸	240	Contents production and distribution	Korea	December 31	32,058	66.7
PAGE LAB Inc. ⁸	4	Contents production and distribution	Korea	December 31	632	79.0
KWBOOKS ⁸	101	Contents production and distribution	Korea	December 31	10,200	50.5

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
IST Entertainment Corp. ⁸	₩ 50	Entertainment management	Korea	December 31	10,000	100.0
EDAM Entertainment Corp ⁸	50	Entertainment management	Korea	December 31	52,500	52.5
OOTB Incorporated ⁸	13	Movies and videos production	Korea	December 31	13,143	100.0
Mega Monster Corporations ⁸	256	Contents production	Korea	December 31	481,729	94.1
J,WIDE-COMPANY ⁸	53	Entertainment management	Korea	December 31	105,883	100.0
BH Entertainment ⁸	574	Entertainment management	Korea	December 31	114,815	100.0
READY ENTERTAINMENT ⁸	450	Entertainment management	Korea	December 31	90,000	100.0
Shanghai Ready Entertainment Co.,Ltd. ²⁰	290	Entertainment management	China	December 31	100,000	100.0
SOOP ENTERTAINMENT CO., LTD ⁸	1,372	Entertainment management	Korea	December 31	274,429	100.0
AWESOMEENT CO. LTD. ⁸	547	Entertainment management	Korea	December 31	109,490	100.0
moonlight film ^{8,27}	1	Movies production	Korea	December 31	820	41.0
sanai pictures ⁸	2	Movies production	Korea	December 31	1,620	81.0
VAST.CO.,Ltd. ⁸	50	Entertainment management	Korea	December 31	10,000	100.0
FLEX M Corp ⁸	50	Entertainment management	Korea	December 31	100,000	100.0
Antenna Corp. ⁸	65	Entertainment management	Korea		13,038	100.0
Baram Pictures Corp. ⁸	152	Broadcast programs production	Korea	December 31	30,482	100.0
Logos Film Corporation ⁸	50	Broadcast programs production	Korea	December 31	10,000	100.0
STORY & PICTURES MEDIA ⁸	100	Broadcast programs production	Korea	December 31	20,000	100.0
STARSHIP ENTERTAINMENT CORP. ⁸	62	Record production and entertainment management	Korea	December 31	7,464	59.7
HIGHLINE ENTERTAINMENT ¹⁸	100	Entertainment management	Korea	December 31	154,000	77.0
SHOWNOTE Inc. ¹⁸	324	Performance planning	Korea	December 31	64,883	100.0
KAKAO ENTERTAINMENT ASIA CO.,LTD. ¹⁹	2,032	Digital contents production and distribution	Thailand	December 31	565,000	100.0
Kakao Entertainment (Thailand) Ltd. ¹	1,081	Publishing and electronic publishing	Thailand	December 31	299,997	100.0
Kiwi Vine Corp. (formerly, Kiwi Media Corp.) ⁸	124	Translation services	Korea	December 31	100,000	80.9
Cradle Studio Crop. ⁸	10	Entertainment management	Korea	December 31	10,410	51.0

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
STUDIO PHEONIX CO.,LTD. ³⁰	₩ 1,079	VR contents development	Thailand	December 31	299,990	100.0
STUDIO ORANGE CO.,LTD. ³⁰	1,079	Animation studio	Thailand	December 31	299,990	100.0
3Y Corporation ⁸	14	Broadcast programs production	Korea	December 31	1,362	100.0
Radish Korea Inc. ³⁴	506	Publishing and electronic publishing	Korea	December 31	101,245	100.0
TAPAS ENTERTAINMENT, INC.(formerly, Radish Media, Inc.) ⁸	-	Publishing and electronic publishing	USA	December 31	265,154,848	97.4
Wuxiaworld Limited ³⁴	2	Information communication services	Hong Kong	December 31	11,111	100.0
Wuxiaworld Publishing USA Ltd ³⁵	12	Information communication services	USA	December 31	10,000	100.0
INISOFT Co., Ltd. ⁸	1,250	Software development and consulting	Korea	December 31	249,600	99.8
Kross Pictures Corp. ⁸	498	Contents production and distribution	Korea	December 31	99,698	100.0
Kross Comics Corp. ⁸	982	Information communication services	Korea	December 31	196,494	100.0
KROSS COMICS INDIA PRIVATE LIMITED ²⁸	117	Information communication services	India	December 31	700,199	100.0
KROSS TELEVISION INDIA PRIVATE LIMITED ²⁷	1,190	Information communication services	India	December 31	6,999,998	100.0
KROSS PICTURES INDIA PRIVATE LIMITED ²⁹	69	Information communication services	India	December 31	408,999	100.0
Glink Media Corp. ⁸	30	Advertising agency	Korea	December 31	300,000	100.0
Gleline Corp. ⁸	20	Creation and art related services	Korea	December 31	28,000	70.0
Dolphin Films ⁸	-	Advertisements and movie videos productions	Korea	December 31	20	100.0
Studio K110 Co., Ltd. ⁸	100	Advertisements production and advertising agency	Korea	December 31	200,000	100.0
Zip Cinema Corp. ⁸	84	Movies production	Korea	December 31	16,790	100.0
Nextlevelstudio Inc. ⁸	21	Print publishing	Korea	December 31	2,578	61.2
Kakao Entertainment America Corp. ^{1,8,38}	-	Entertainment management	Korea	December 31	-	100.0
Kakao Games Corp. ²	8,228	Game development and services	Korea	December 31	33,730,000	41.4
NGLE CORPORATION ¹²	205	Software development and services	Korea	December 31	210,000	51.2
Dalian Technology Co., Ltd. ¹⁰	374	Game software development	China		250	100.0
METABORA Co., Ltd ¹¹	1,790	Game software development and distribution	Korea	December 31	10,932,057	57.7

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
METABORA SINGAPORE PTE. LTD. (formerly, BORANETWORK. PTE. LTD. ¹²)	₩ -	System software development and distribution	Singapore	December 31	10	100.0
Kakao Games Europe B.V. ¹¹	970,301	Game software development and distribution	Netherlands	December 31	495,037,594	100.0
Kakao Games USA, Inc. ¹⁴	2,305	Game software development and distribution	USA	December 31	500,000	100.0
GLOHOW HOLDINGS PTE. LTD. ¹⁴	1,669	Game software distribution	Singapore	December 31	14,001	54.9
GLOWHOW Co., Ltd. ¹⁶	342	Game software distribution	Thailand	December 31	91,061	100.0
Glohow Co., Ltd. ¹⁶	209	Software development	Taiwan	December 31	50,000	100.0
Glohow Joint Stock Company ^{1,16}	60	Game software development and mobile publishing	Vietnam	December 31	90,680	80.0
Kakao Games Japan Corp. ¹¹	2,024	Game software development and distribution	Japan	December 31	2,000,000	100.0
Kakao VX ¹¹	22,516	Software development and distribution	Korea	December 31	2,935,686	65.2
TAESIK MAUMGOLF CO.,LTD. ¹⁵	578	Golf simulator sales	China	December 31	500,000	100.0
GSWING SPORTING GOODS CO., LTD. ¹⁵	574	Golf simulator sales	China	December 31	500,000	100.0
Gaseung Development Company ¹⁵	100	Golf course development and operation	Korea	December 31	110,000	55.0
Beagle Co., Ltd. ¹⁵	65	Software development and distribution	Korea	December 31	129,938	100.0
Lionheart Studio Corp. ¹¹	37,450	Game software development and distribution	Korea	December 31	41,156,591	54.9
Life MMO Corp. ¹¹	1,009	Software development and distribution	Korea	December 31	199,999	80.8
XLGAMES Inc. ¹¹	4,340	Game software development and distribution	Korea	December 31	4,585,703	52.8

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

(in millions of Korean won, except number of shares)

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares (in shares)	Percentage of ownership (%)
SENA Technologies, Inc ¹¹	₩ 2,485	Electronic/communication /computer products manufacturing and sales	Korea	December 31	2,676,750	54.3
SENA Technologies, Inc ³⁷	6,902	Home appliances, telecommunication equipment wholesale and retail business	USA	December 31	50,000	100.0
Shenzhen Sena Technologies Co., Ltd. ³⁶	386	Telecommunication equipment manufacturing and development, wholesale and retail business	China	December 31	210	100.0
SENA Europe GmbH ³⁶	258	Home appliances, telecommunication equipment wholesale and retail business	Germany	December 31	1,000	100.0
SENA SAS ³⁶	259	Home appliances, telecommunication equipment wholesale and retail business	France	December 31	1,000	100.0
Qingyuan SENA smart Helmets, Inc. ^{1,36}	5,551	Manufacturing	China	December 31	4,200	100.0
Kakaopay Corp. ^{2,26}	66,501	Software development and distribution	Korea	December 31	62,351,920	46.9
KP Insurance Services Corp. ²³	633	Financial services and insurance services	Korea	December 31	126,180	96.4
Kakaopay Securities Corp. ²³	53,834	Financial services	Korea	December 31	7,256,092	67.4
Kakaopay Insurance Corp. ¹³	100,000	Insurance services	Korea	December 31	20,000,000	100.0
Kakao Enterprise Corp.	8,328	Software development and distribution	Korea	December 31	14,175,265	85.1
EXNTU Corp. ³³	100	Software development and distribution	Korea	December 31	6,000	100.0
Magenta Works Inc. ³³	20	Software development and distribution	Korea	December 31	20,000	100.0
Kakao Space Corp.	1,206	Real estate development and consulting	Korea	December 31	120,588	100.0
KAKAO IX JAPAN Corp.	5,241	Wholesale and retail sales	Japan	December 31	143,055	100.0
KAKAO IX CHINA Co.,LTD.	30,634	Wholesale and retail sales	China	December 31	26,909,700	100.0
KAKAO IX HK, LTD.	53	Retail sales	Hong Kong	December 31	350,000	100.0

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

¹ Newly established in 2022.

² The Company has classified the investee as a subsidiary because its shareholding is 50% or less, but the Group has determined that it can exercise effective control based on the potential voting rights it has over the investee.

³ As a subsidiary of Kakao Piccoma Corp. (formerly, KAKAO JAPAN Corp.), the number of shares and the percentage of ownership represent Kakao Piccoma Corp.'s ownership as of December 31, 2022.

⁴ As a subsidiary of Kakao Investment Co., Ltd., the number of shares and the percentage of ownership represent Kakao Investment Co., Ltd.'s ownership as of December 31, 2022.

⁵ As a subsidiary of Kids Note Co., Ltd., the number of shares and the percentage of ownership represent Kids Note Co., Ltd.'s ownership as of December 31, 2022.

⁶ As a subsidiary of Kakao Ventures Corp., the number of shares and the percentage of ownership represent ownership of the Parent Company and Kakao Ventures Corp. as of December 31, 2022.

⁷ As a subsidiary of Kakao healthcare Corp., the number of shares and the percentage of ownership represent Kakao Space Corp.'s ownership as of December 31, 2022.

⁸ As a subsidiary of Kakao Entertainment Corp., the number of shares and the percentage of ownership represent Kakao Entertainment Corp.'s ownership as of December 31, 2022.

⁹ As a subsidiary of Kakao Entertainment Corp., the number of shares and the percentage of ownership represent Kakao Entertainment Corp. and Kakao Investment Co., Ltd.'s ownership as of December 31, 2022.

¹⁰ As a subsidiary of NGLE CORPORATION, the number of shares and the percentage of ownership represent NGLE CORPORATION's ownership as of December 31, 2022.

¹¹ As a subsidiary of Kakao Games Corp., the number of shares and the percentage of ownership represent Kakao Games Corp.'s ownership as of December 31, 2022.

¹² As a subsidiary of METABORA Co., Ltd., the number of shares and the percentage of ownership represent METABORA Co.,Ltd.'s ownership as of December 31, 2022.

¹³ As a subsidiary of Kakaopay Corp., the number of shares and the percentage of ownership represent ownership of the Parent Company and Kakaopay Corp. as of December 31, 2022.

¹⁴ As a subsidiary of Kakao Games Europe B.V., the number of shares and the percentage of ownership represent Kakao Games Europe B.V.'s ownership as of December 31, 2022.

¹⁵ As a subsidiary of Kakao VX, the number of shares and the percentage of ownership represent Kakao VX's ownership as of December 31, 2022.

¹⁶ As a subsidiary of GLOHOW HOLDINGS PTE. LTD., the number of shares and the percentage of ownership represent GLOHOW HOLDINGS PTE. LTD.'s ownership as of December 31, 2022.

¹⁷ As a subsidiary of Voithru Inc. the number of shares and the percentage of ownership represent Voithru Inc.'s ownership as of December 31, 2022.

¹⁸ As a subsidiary of STARSHIP ENTERTAINMENT CORP., the number of shares and the percentage of ownership represent STARSHIP ENTERTAINMENT CORP.'s ownership as of December 31, 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

¹⁹ As a subsidiary of Kakao Enterprise Corp., the number of shares and the percentage of ownership represent Kakao Enterprise Corp., STUDIO PHEONIX CO.,LTD., and STUDIO ORANGE CO.,LTD.'s ownership as of December 31, 2022.

²⁰ As a subsidiary of READY ENTERTAINMENT, the number of shares and the percentage of ownership represent READY ENTERTAINMENT's ownership as of December 31, 2022.

²¹ As a subsidiary of Kakao Mobility Corp., the number of shares and the percentage of ownership represent Kakao Mobility Corp.'s ownership as of December 31, 2022.

²² As a subsidiary of TJ Partners Corp., the number of shares and the percentage of ownership represent TJ Partners Corp.'s ownership as of December 31, 2022.

²³ As a subsidiary of Kakaopay Corp., the number of shares and the percentage of ownership represent Kakaopay Corp.'s ownership as of December 31, 2022.

²⁴ As a subsidiary of Kakao G Corp., the number of shares and the percentage of ownership represent Kakao G Corp.'s ownership as of December 31, 2022.

²⁵ As a subsidiary of PANZEA PTE. LTD., the number of shares and the percentage of ownership represent PANZEA PTE. LTD.'s ownership as of December 31, 2022.

²⁶ In accordance with the agreements with non-controlling interests of some of the above subsidiaries, the Group should obtain a pre-approval from investors, when the Group wants to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer to the third party or other methods not determined in the agreements such as exercise of tag-along right.

²⁷ As a subsidiary of Kross Pictures Corp. the number of shares and the percentage of ownership represent Kross Pictures Corp.'s ownership as of December 31, 2022.

²⁸ As a subsidiary of Kross comics Corp. the number of shares and the percentage of ownership represent Kross comics Corp.'s ownership as of December 31, 2022.

²⁹ As a subsidiary of KROSS TELEVISION INDIA PRIVATE LIMITED. the number of shares and the percentage of ownership represent KROSS TELEVISION INDIA PRIVATE LIMITED 's ownership as of December 31, 2022.

³⁰ As a subsidiary of Kakao Entertainment Corp. (formerly, Kakao Page Corp.), STUDIO PHEONIX CO.,LTD. and STUDIO ORANGE CO.,LTD. hold the share of ownership.

³¹ As a subsidiary of Krust Universe Pte. Ltd., the number of shares and the percentage of ownership represent Krust Universe Pte. Ltd.'s ownership as of December 31, 2022.

³² As a subsidiary of CMNP Corp., the number of shares and the percentage of ownership represent CMNP Corp.'s ownership as of December 31, 2022.

³³ As a subsidiary of Kakao Enterprise Corp., the number of shares and the percentage of ownership represent Kakao Enterprise Corp.'s ownership as of December 31, 2022.

³⁴ As a subsidiary of TAPAS ENTERTAINMENT, INC.(formerly, Radish Media, Inc.), the number of shares and the percentage of ownership represent TAPAS ENTERTAINMENT, INC.(formerly, Radish Media, Inc.)'s ownership as of December 31, 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. General Information, Continued

(2) Consolidated subsidiaries, continued

1) Details of the consolidated subsidiaries as of December 31, 2022, are as follows, continued:

³⁵ As a subsidiary of Wuxiaworld Limited, the number of shares and the percentage of ownership represent Wuxiaworld Limited's ownership as of December 31, 2022.

³⁶ As a subsidiary of SENA Technologies, Inc.(Korea), the number of shares and the percentage of ownership represent SENA Technologies, Inc.(Korea)'s ownership as of December 31, 2022.

³⁷ As a subsidiary of SENA Technologies, Inc.(USA), the number of shares and the percentage of ownership represent SENA Technologies, Inc.(USA)'s ownership as of December 31, 2022.

³⁸ As a subsidiary of Kakao Entertainment Corp., The company was established in 2022 and has no paid-in capital as of December 31, 2022.

³⁹ As a subsidiary of Kakao Ventures Corp., the number of shares and the percentage of ownership represent Kakao Ventures Corp. and KAKAO BRAIN Corp.'s ownership as of December 31, 2021.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

2) Subsidiaries newly included in the consolidation during the year ended December 31, 2022:

Subsidiaries	Reason
Nextlevelstudio Inc.	Included to a subsidiary through acquisition of control
Glohow Joint Stock Company	Newly established
Today's Pickup Corp.	Included to a subsidiary through acquisition of control
MZPlaying Inc.	Included to a subsidiary through acquisition of control
RS Solutions Corp.	Included to a subsidiary through acquisition of control
Beagle Co., Ltd	Included to a subsidiary through acquisition of control
EDAM Entertainment Corp.	Included to a subsidiary through acquisition of control
KLAYBAY PTE. LTD.	Newly established
KAKAO healthcare Corp..	Newly established
WithONE's Inc	Included to a subsidiary through acquisition of control
KM PARK.CO.,Ltd	Included to a subsidiary through acquisition of control
Neozensoft CO.,LTD.	Included to a subsidiary through acquisition of control
OOTB CO.,LTD.	Included to a subsidiary through acquisition of control
Seoul Arena Co., Ltd	Newly established
SAKURA Exchange BitCoin, Inc.	Included to a subsidiary through acquisition of control
Sandwichtime Corp.	Included to a subsidiary through acquisition of control
Whynotme Production Corp.	Included to a subsidiary through acquisition of control
Korea freight forwarders association Corp.	Included to a subsidiary through acquisition of control
LINEWALKS Inc.	Included to a subsidiary through acquisition of control
Qingyuan SENA smart Helmets, Inc	Newly established
Voithru Japan	Included to a subsidiary through acquisition of control
Voithru Inc.	Included to a subsidiary through acquisition of control
Kakao Entertainment America Corp.	Newly established

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For the years ended December 31, 2022 and 2021

1. General Information, Continued

(2) Consolidated subsidiaries, continued

3) Subsidiaries excluded from the consolidation during the year ended December 31, 2022:

Company	Reason
Ad Page	Merged with Kakao Games Corp., a subsidiary
Beijing Da Yun Cultural Communication Co.,Ltd	Liquidation
Shenzhen Electronics Co., Ltd.	Liquidation
Today's Pickup Corp.	Merged with Kakao Mobility Corp., a subsidiary
MZPlaying Inc.	Merged with Kakao Mobility Corp., a subsidiary
SONNORI CORP.	Excluded from consolidation due to loss of control
KAKAO IX USA, LTD.	Liquidation
B Media Company	Excluded from consolidation due to loss of control
INISOFT JAPAN LLC.	Liquidation
NeoBazar Inc	Merged with Kakao Entertainment Corp., a subsidiary
Ballmate Corp.	Merged with Kakao VX., a subsidiary
HIGHLINE ENTERTAINMENT	Merged with STARSHIP ENTERTAINMENT CORP, a subsidiary
Neozensoft CO.,LTD.	Merged with Kakao Healthcare Corp., a subsidiary
Whynotme Production Corp.	Merged with SamyangCNC Co.,Ltd., a subsidiary
NEXELON.INC	Excluded from consolidation due to loss of control
DK CHINA Sanhe Co., Ltd.	Liquidation
TAPAS MEDIA, INC.	Merged with TAPAS ENTERTAINMENT, INC.(formerly, Radish Media Inc.), a subsidiary
FLEX M Corp	Excluded from consolidation due to loss of control
GRAYGO CORP,	Excluded from consolidation due to loss of control
Mezondbaha	Excluded from consolidation due to loss of control
Clove Club Corp.	Excluded from consolidation due to loss of control
Yewon Books	Merged with KW Books, Inc., a subsidiary
Sandwichtime Corp.	Merged with Nextlevelstudio Inc., a subsidiary
SAKURA Exchange BitCoin, Inc.	Excluded from consolidation due to loss of control
AD X Co., Ltd	Merged with Neptune Co., Ltd., a subsidiary
NFLY STUDIO.IN	Excluded from consolidation due to loss of control
CODDOG.INC	Excluded from consolidation due to loss of control
NCROQUIS.Inc	Excluded from consolidation due to loss of control
Beijing KAKAO Co., Ltd.	Merged with KAKAO IX CHINA CO.,LTD., a subsidiary
PATH MOBILE INC PTE. LTD.	Liquidation
Ground X Corp.	Liquidation
Tapas Media Korea Inc.	Liquidation
PT. Path Mobile Indonesia	Merged with PT NEO BAZAR INDONESIA., a subsidiary
Piccomics Corp.	Merged with Kakao Piccoma Corp., a subsidiary

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

1. General Information, Continued

(3) The summarized financial information for consolidated subsidiaries as of and for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)

	2022					
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the year	Total Comprehensive income (loss)
Kakao Entertainment Corp.	2,924,805	1,551,876	1,372,929	1,292,527	(438,074)	(443,248)
Kakaopay Corp.	2,896,844	973,164	1,923,680	482,769	96,342	99,079
Kakao Games Corp.	2,053,988	631,922	1,422,066	753,476	(69,308)	(254,057)
Kakao Mobility Corp.	1,392,137	303,091	1,089,046	620,980	(68,774)	(69,933)
Kakaopay investment Corp.	1,384,142	21,442	1,362,700	21	3,516	266
Kakao Games Europe B.V.	1,287,290	627,407	659,882	7,127	(27,359)	(27,715)
Kakaopay Securities Corp.	691,954	448,045	243,909	62,604	(48,026)	(48,013)
Kakao Piccoma Corp.	826,467	139,620	686,847	531,245	33,592	33,837
Kakao VX	363,760	119,541	244,219	173,508	15,087	14,246
Kakao Enterprise Corp.	221,883	167,412	54,471	160,742	(161,225)	(161,188)
Kakao G Corp.	159,059	13	159,046	-	5,371	5,426
Gaseung Development Company	84,874	84,726	148	-	(4,273)	(4,273)
	<u>14,287,202</u>	<u>5,068,260</u>	<u>9,218,942</u>	<u>4,084,999</u>	<u>(663,130)</u>	<u>(855,574)</u>

(in millions of Korean won)

	2021					
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the year	Total Comprehensive income (loss)
Kakao Entertainment Corp.	₩ 3,096,746	1,295,533	1,801,213	877,213	(244,466)	(245,280)
Kakaopay Corp.	2,704,764	963,513	1,741,251	403,417	(10,731)	(10,534)
Kakao Games Corp.	2,216,487	722,983	1,493,504	793,144	27,684	219,485
Kakao Mobility Corp.	1,059,007	226,169	832,838	442,547	25,452	24,554
Kakaopay Securities Corp.	864,506	672,555	191,951	75,216	(17,048)	(17,063)
Kakao Piccoma Corp.	816,103	116,051	700,052	451,202	52,034	52,142
Kakao Games Europe B.V.	494,686	33,933	460,753	18,389	(18,254)	(18,187)
Kakao VX	347,908	119,225	228,683	113,763	(32,360)	(32,591)
Kakao Investment Co., Ltd.	333,403	15,530	317,873	53	13,636	14,739
Kakao Enterprise Corp.	141,337	95,797	45,540	93,849	(96,337)	(96,603)
Gaseung Development Company	84,518	80,096	4,422	-	(3,564)	(3,564)
Kakao G Corp.	78,677	(30)	78,707	-	(1,416)	(1,416)
	<u>₩ 12,238,142</u>	<u>4,341,355</u>	<u>7,896,787</u>	<u>3,268,793</u>	<u>(305,370)</u>	<u>(114,318)</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies

The principal accounting policies applied in the preparation of these consolidated financial statements are set out below. These policies have been consistently applied to all the years presented, unless otherwise stated.

(1) Basis of preparation

The Group maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS). The accompanying consolidated financial statements have been translated into English from the Korean language financial statements. During the year ended December 31, 2020, the Group newly acquired Kakaopay Securities Corp., which engages in financial services business. Accordingly, assets and liabilities for non-financial services and financial services business are separately presented in the consolidated financial statements.

The consolidated financial statements of the Group have been prepared in accordance with Korean IFRS. These are the standards, subsequent amendments and related interpretations issued by the International Accounting Standards Board (IASB) that have been adopted by the Republic of Korea.

The financial statements have been prepared on a historical cost basis, except for the following:

- Certain financial assets and liabilities (including derivative instruments)
- assets held for sale – measured at fair value less costs to sell, and
- defined benefit pension plans – plan assets measured at fair value.

The preparation of financial statements requires the use of critical accounting estimates. Management also needs to exercise judgement in applying the Group's accounting policies. The areas involving a higher degree of judgment or complexity, or areas where assumptions and estimates are significant to the consolidated financial statements are disclosed in Note 3.

(2) Changes in accounting policy and disclosures

- *New and amended standards adopted by the Group*

The Group has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(2) Changes in accounting policy and disclosures, continued

1) Amendments to K-IFRS No. 1103 *Business Combinations* – Reference to Conceptual Framework

The amendments require that assets acquired and liabilities assumed in a business combination meet the definitions of assets and liabilities in Conceptual Framework of financial reporting in order to be recognized. This may increase the amount of liabilities that meet the criteria for recognition at the acquisition date of a business combination, but allows the application of K-IFRS No.1037, *Provisions, Contingent Liabilities and Contingent Assets*, and K-IFRS No. 2121 *levies*, if the liabilities were incurred separately and not acquired in a business combination. The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

2) Amendments to K-IFRS No. 1016 *Property, Plant and Equipment* – Proceeds before Intended Use

Under the amendment, for items that are produced while bringing an asset to the condition necessary for the intended use, an entity shall recognize the proceeds from selling such items, and the costs of those items, in profit or loss. It is prohibited to deduct such amount from the acquisition cost of property, plant and equipment. The Group determined that these amendments do not have a significant impact on the financial statements.

3) Amendments to K-IFRS No. 1037 *Provisions, Contingent Liabilities and Contingent Assets* – Onerous Contracts: Cost of Fulfilling a Contract

The amendment clarified the cost of fulfilling an onerous contract that it comprises the incremental costs of fulfilling a contract and an allocation of other costs that relate directly to fulfilling a contract. The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

4) Annual Improvements to K-IFRS 2018 – 2020 Cycle:

K-IFRS No. 1101 *First Time Adoption of K-IFRS*: The scope of the measurement of assets and liabilities of a subsidiary that is a first-time adopter should also include cumulative translation differences.

K-IFRS No. 1109 *Financial Instruments*: Fees paid to third parties must be derecognized from the financial liability cash flows (10% test) under the new conditions.

K-IFRS No. 1116 *Leases*: Deletion of lease incentive example 13

K-IFRS No. 1041 *Agriculture*: Fair value measurements of biological assets, etc. should also include tax-related cash flows for those assets.

The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(2) Changes in accounting policy and disclosures, continued

5) Amendments to K-IFRS No. 1116 *Leases* – COVID-19-related rent concessions beyond June 30, 2021

The amendment extends the availability of the practical expedient, which allows lessees not to assess whether rent concessions as a direct consequence of the COVID-19 pandemic are lease modification, so that it applies to rent concessions for which reduction in lease payments due on or before June 30, 2022. Lessee are required to apply the practical expedient consistently to all lease contracts with similar characteristics in similar circumstances. The Group determined that these amendments do not have a significant impact on the consolidated financial statements.

- *New standards and interpretations not yet adopted by the Group*

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.

1) Amendments to K-IFRS No. 1001 *Presentation of Financial Statements* – Classification of Liabilities as Current or Non-current

2) Enactment of K-IFRS No. 1117 *Insurance Contracts*

3) Amendments to K-IFRS No. 1001 *Presentation of Financial Statements* – Disclosure of Accounting Policies

4) Amendments to K-IFRS No. 1008 *Accounting Policies, Changes in Accounting Estimates and Errors* – Definition of Accounting Estimates

5) Amendments to K-IFRS No. 1012 *Income Taxes* – Deferred Tax Related to Assets and Liabilities Arising From a Single Transaction

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(3) Consolidation

The Group has prepared the consolidated financial statements in accordance with Korean IFRS 1110, *Consolidated Financial Statements*.

(a) Subsidiaries

Subsidiaries are all entities over which the Parent Company has control. The Group controls the corresponding investee when it is exposed, or has rights, to variable returns from its involvement with the investee and has the ability to affect those returns through its power over the investee. Consolidation of a subsidiary begins from the date the Group obtains control of a subsidiary and ceases when the Group loses control of the subsidiary.

The Group applies the acquisition method to account for business combinations. The consideration transferred is measured at the fair values of the assets transferred, and identifiable assets acquired and liabilities and contingent liabilities assumed in a business combination are initially measured at their fair values at the acquisition date. The Group recognizes any non-controlling interest in the acquiree on an acquisition-by-acquisition basis in the event of liquidation, either at fair value or at the non-controlling interest's proportionate share of the recognized amounts of acquiree's identifiable net assets. All other non-controlling interests are measured at their acquisition-date fair values, unless another measurement basis is required by standards. Acquisition-related costs are expensed as incurred.

Goodwill is recognized as the excess of the aggregate of the consideration transferred, the amount of any non-controlling interest in the acquiree, and the acquisition-date fair value of the acquirer's previously held equity interest in the acquiree over the identifiable net assets acquired. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Balances of receivables and payables, income and expenses and unrealized gains on transactions between the Parent Company and its subsidiaries are eliminated during the consolidation. Accounting policies of subsidiaries have been changed where necessary to ensure consistency with the policies adopted by the Group.

In transactions with non-controlling interest, which do not result in loss of control, the Group recognizes directly in equity any difference between the amount of the non-controlling interests and the fair value of the consideration paid or received, and attributes it to the owners of the Parent Company.

When the Group ceases to consolidate for a subsidiary because of a loss of control, any retained interest in the subsidiary is remeasured to its fair value and the different between its fair value and carrying amount is recognized in profit or loss.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(3) Consolidation, continued

(b) Associates

Associates are entities over which the Group has significant influence but not control or joint control. Investments in associates are accounted for using the equity method of accounting, after initially being recognized at cost. Unrealized gains on transactions between the Group and its associates are eliminated to the extent of the Group's interest in the associates. If the Group's share of losses of an associate equals or exceeds its interest in the associate (including long-term interests that, in substance, form part of the Group's net investment in the associate), the Group discontinues recognizing its share of further losses. After the Group's interest is reduced to zero, additional losses are provided for, and a liability is recognized, only to the extent that the Group has incurred legal or constructive obligations or made payments on behalf of the associate. If there is an objective evidence of impairment for the investment in the associate, the Group recognizes the difference between the recoverable amount of the associate and its book amount as impairment loss. If an associate uses accounting policies other than those of the Group for like transactions and events in similar circumstances, if necessary, adjustments shall be made to make the associate's accounting policies conform to those of the Group when the associate's financial statements are used by the Group in applying the equity method.

(c) Joint arrangements

A joint arrangement, wherein two or more parties have joint control, is classified as either a joint operation or a joint venture. A joint operator has rights to the assets, and obligations for the liabilities, relating to the joint operation and recognizes the assets, liabilities, revenues and expenses relating to its interest in a joint operation. A joint venturer has rights to the net assets relating to the joint venture and accounts for that investment using the equity method.

(4) Segment reporting

Information of each operating segment is reported in a manner consistent with the business segment reporting provided to the chief operating decision maker. As it is disclosed in Note 6, the Group has eight reportable segments including advertising, game and entertainment. The chief operating decision maker is responsible for allocating resources and assessing performance of the operating segments.

(5) Foreign currency translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Group's entities are measured using the currency of the primary economic environment in which the each entity operates (the "functional currency"). The consolidated financial statements are presented in Korean won, which is the Parent Company's functional and presentation currency.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(5) Foreign currency translation, continued

(b) Transactions and balances

Foreign currency transactions are translated into the functional currency using the exchange rates at the dates of the transactions. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation of monetary assets and liabilities denominated in foreign currencies at year end exchange rates are generally recognized in profit or loss. They are deferred in other comprehensive income if they relate to qualifying cash flow hedges and qualifying effective portion of net investment hedges, or are attributable to monetary part of the net investment in a foreign operation.

Foreign exchange gains and losses that relate to borrowings are presented in the statement of profit or loss, within finance costs. All other foreign exchange gains and losses are presented in the statement of profit or loss within 'other income or other expenses'.

Non-monetary items that are measured at fair value in a foreign currency are translated using the exchange rates at the date when the fair value was determined. Translation differences on assets and liabilities carried at fair value are reported as part of the fair value gain or loss. For example, 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 as part of the fair value gain 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.

(c) Translation into the presentation currency

The results of operations and financial position of the Group's entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(5) Foreign currency translation, continued

- Assets and liabilities for each statement of financial position presented are translated at the closing rate at the end of the reporting period.
- Income and expenses for each statement of comprehensive income are translated at average rates; and
- Equity is translated at the historical exchange rate; and
- All resulting exchange differences are recognized in other comprehensive income.

(6) Significant accounting policies

1) Cash and Cash Equivalents

Cash and cash equivalents include cash on hand, deposits in banks, and other short-term highly liquid investments with original maturities of three months or less.

2) Financial Assets

(a) Classification

The Group classifies its financial assets in the following measurement categories:

- those to be measured at fair value through profit or loss
- those to be measured at fair value through other comprehensive income, and
- those to be measured at amortized cost.

The classification depends on the Group's business model for managing the financial assets and the contractual terms of the cash flows.

For financial assets measured at fair value, gains and losses will either be recorded in profit or loss or other comprehensive income. For investments in debt instruments, this will depend on the business model in which the investment is held. The Group reclassifies debt investments when, and only when its business model for managing those assets changes.

For investments in equity instruments that are not held for trading, this will depend on whether the Group has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income. Changes in fair value of the investments in equity instruments that are not accounted for as other comprehensive income are recognized in profit or loss.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

(b) Measurement

At initial recognition, the Group measures a financial asset at its fair value plus, in the case of a financial asset not at fair value through profit or loss, transaction costs that are directly attributable to the acquisition of the financial asset. Transaction costs of financial assets carried at fair value through profit or loss are expensed in profit or loss.

Financial assets with embedded derivatives are considered in their entirety when determining whether their cash flows are solely payment of principal and interest.

A. Debt instruments

Subsequent measurement of debt instruments depends on the Group's business model for managing the asset and the cash flow characteristics of the asset. The Group classifies its debt instruments into one of the following three measurement categories:

- **Amortized cost:** Assets that are held for collection of contractual cash flows where those cash flows represent solely payments of principal and interest are measured at amortized cost. A gain or loss on a debt investment that is subsequently measured at amortized cost and is not part of a hedging relationship is recognized in profit or loss when the asset is derecognized or impaired. Interest income from these financial assets is included in 'finance income' using the effective interest rate method.
- **Fair value through other comprehensive income:** Assets that are held for collection of contractual cash flows and for selling the financial assets, where the assets' cash flows represent solely payments of principal and interest, are measured at fair value through other comprehensive income. Movements in the carrying amount are taken through other comprehensive income, except for the recognition of impairment loss (reversal of impairment loss), interest income and foreign exchange gains and losses which are recognized in profit or loss. When the financial asset is derecognized, the cumulative gain or loss previously recognized in other comprehensive income is reclassified from equity to profit or loss. Interest income from these financial assets is included in 'finance income' using the effective interest rate method. Foreign exchange gains and losses are presented in 'other non-operating income or expenses' and impairment losses are presented in 'other non-operating expenses'.
- **Fair value through profit or loss:** Assets that do not meet the criteria for amortized cost or fair value through other comprehensive income are measured at fair value through profit or loss. A gain or loss on a debt investment that is subsequently measured at fair value through profit or loss and is not part of a hedging relationship is recognized in profit or loss and presented net in the statement of profit or loss within 'finance income and costs in the year in which it arises'.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

B. Equity instruments

The Group subsequently measures all equity investments at fair value. Where the Group's management has elected to present fair value gains and losses on equity investments, which held for long-term investment or strategic purpose, in other comprehensive income, there is no subsequent reclassification of fair value gains and losses to profit or loss following the derecognition of the investment. Dividend income from such investments continue to be recognized in profit or loss as 'finance income' when the right to receive payments is established.

Changes in the fair value of financial assets at fair value through profit or loss are recognized in 'finance income and costs' in the statement of profit or loss as applicable. Impairment loss (reversal of impairment loss) on equity investments measured at fair value through other comprehensive income are not reported separately from other changes in fair value.

(c) Impairment

The Group assesses on a forward looking basis the expected credit losses associated with its debt instruments carried at amortized cost and fair value through other comprehensive income. An entity recognizes a credit loss allowance at an amount equivalent to 12-month expected credit losses or lifetime expected credit losses in three stages, as shown in the table below, depending on whether the credit risk has increased significantly since initial recognition of the financial asset. For trade receivables and lease receivables, the Group applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables.

	Classification	Credit loss allowances
Stage1	The credit risk has not increased significantly since initial recognition (*)	12-month expected credit loss: expected credit losses resulted from possible default events within the 12 months after the reporting date
Stage2	The credit risk has increased significantly since initial recognition	Lifetime expected credit loss: expected credit loss resulted from all possible default events over the expected life of a financial instrument
Stage3	Credit has been impaired	

(*) If the credit risk at the end of the reporting period is low, the credit risk may not be considered to have increased significantly.

When assessing whether a financial asset's credit risk has increased significantly since initial recognition and when estimating expected credit losses, the Group considers reasonable and supportable information that is relevant and available without undue cost or effort. This includes qualitative, quantitative information and analysis based on the Group's historical experience and informed credit assessment, including forward-looking information.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

① Measurement of expected credit losses

Expected credit losses are a probability-weighted estimate of credit losses. Credit losses are measured at the present value of all cash shortfalls (i.e. the differences between all contractual cash flows to be received in accordance with the contract and the contractual cash flows that the Group expects to receive). Expected credit losses are discounted at the effective interest rate of the financial asset.

② Credit-impaired financial assets

At the end of each reporting period, the Group assesses whether the credit of financial assets measured at amortized cost and debt securities measured at fair value through other comprehensive income are credit-impaired. A financial asset is 'credit-impaired' when one or more events that have a detrimental impact on the estimated future cash flows of the financial asset have occurred.

③ Presentation of allowance for expected credit losses in the statement of financial position

The loss allowance for a financial asset measured at amortized cost is deducted from the gross carrying amount of the asset. For debt instruments measured at fair value through other comprehensive income, the loss allowance is included in profit or loss and recognized in other comprehensive income.

④ Write-off

The gross carrying amount of a financial asset is written off when the Group has no reasonable expectations of recovering a financial asset in its entirety or a portion thereof. The Group expects no significant recovery from the amount written off. However, financial assets that are written off could still be subject to enforcement activities in order to comply with the Group's procedures for recovery of amounts due.

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Group commits to purchase or sell the asset. Financial assets are derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Group has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Group has retained substantially all the risks and rewards of ownership of the transferred asset, the Group continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Group classified the financial liability as "borrowings" in the consolidated statement of financial position (Note 21).

(e) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the statements of financial position where there is a legally enforceable right to offset the recognized amounts and there is an intention to settle on a net basis or realize the assets and settle the liability simultaneously. The legally enforceable right must not be contingent on future events and must be enforceable in the normal course of business and in the event of default, insolvency or bankruptcy of the Group or the counterparty.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

3) Derivative Instruments

Derivatives are initially recognized at fair value on the date when a derivative contract is entered into and are subsequently re-measured at their fair value. Changes in the fair value of the derivatives that are not qualified for hedge accounting are recognized in the consolidated statement of comprehensive income as 'finance income (costs)' according to the nature of transactions.

4) Trade Receivables

Trade receivables are recognized initially at the amount of consideration that is unconditional, unless they contain significant financing components when they are recognized at fair value. Trade receivables are subsequently measured at amortized cost using the effective interest method, less loss allowance. See Notes 10 for further information about the Group's accounting for trade receivables.

5) Inventories

Inventories are stated at the lower of cost and net realizable value. Cost is determined using the average method.

6) Property and Equipment

Property and equipment are stated at its historical cost less accumulated depreciation and accumulated impairment losses. Historical cost includes expenditure that is directly attributable to the acquisition of the items.

Depreciation on property and equipment, except land, is calculated using the straight-line method to allocate the difference between their cost and their residual values over their estimated useful lives, as follows:

	<u>Estimated useful lives</u>
Buildings	20 – 40 years
Structures	20 years
Machinery and equipment	4 – 6 years
Vehicles	4 – 6 years
Furniture	2 – 5 years

The depreciation method, residual values and useful lives of property and equipment are reviewed and adjusted at each financial year-end, if appropriate, accounted for as changes in accounting estimates.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

7) Government Grants

Government grants are recognized at their fair values when there is reasonable assurance that the grant will be received and the Group will comply with the conditions attached to it. Government grants related to assets are presented by deducting the grants in arriving at the carrying amount of the assets, and grants recognized as income are deferred and presented by deducting the expenses related to the purpose of the government grants.

8) Intangible Assets

(a) Goodwill

Goodwill arises on the acquisition of subsidiaries, associates and business combination are included in intangible assets. Goodwill represents the excess of the cost of an acquisition over the fair value of the Group's share of the net identifiable assets of the acquired subsidiary, associates, joint ventures and businesses at the date of acquisition. If this consideration is lower than the fair value of the net assets of the subsidiary acquired, the difference is recognized in profit or loss.

Goodwill is tested annually for impairment and carried at cost less accumulated impairment losses. Any impairment is recognized immediately as an expense and is not subsequently reversed.

For the purpose of impairment testing, goodwill acquired in a business combination is allocated to each of the CGUs, or group of CGUs, that is expected to benefit from the synergies of the combination. Goodwill is monitored at the operating segment level. Goodwill impairment reviews are undertaken annually or more frequently if events or changes in circumstances indicate a potential impairment. The carrying amount of goodwill is compared to the recoverable amount, which is the higher of value in use and the fair value less costs to sell.

(b) Membership and brand

Membership and brand are regarded as intangible assets with indefinite useful life and not amortized because there is no foreseeable limit to the period over which the asset is expected to be utilized.

(c) Other intangible assets

Other intangible assets such as development costs and industrial property rights are initially recognized at its historical costs and amortized using the straight-line method over their estimated useful lives and the unit of production method. Other intangible assets have definite useful life and are carried at cost less accumulated amortization.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

Their estimated useful lives of other Intangible assets are as follows:

	<u>Estimated useful lives</u>
Industrial property rights	5 – 10 years
Others	Indefinite, 2 – 15 years
Development costs	5 years
Exclusive rights	Contractual period

(d) Digital assets

The Group accounts for digital assets acquired from third parties as intangible assets. Digital assets are initially recognized at cost and subsequently stated at cost less accumulated impairment losses.

(i) KLAY Token

The Group accomplished the development of the digital asset KLAY, alongside the creation of the Klaytn Mainnet in 2019. At the time of completion, the total quantity of developed KLAY was 100 billion, which has increased to 110 billion as of December 31, 2022. The digital asset KLAY was developed based on blockchain technology.

The digital asset KLAY was developed to be used as a means of payment for various fees incurred while using the Klaytn Mainnet. These fees are related to creating and executing Smart Contracts within the Klaytn Mainnet, sending, recording, and uploading transactions through DApp that are registered on the Klaytn Mainnet, and utilizing services provided by DApp.

The Group has expensed all costs incurred in the development of the digital asset KLAY. However, for KLAYs that were acquired from a third party for a fee, such as mining compensation, the amount of KLAY and amounts to KRW 49.2 billion as of December 31, 2022, which is recognized as an asset in the consolidated statement of financial position.

According to the Klaytn Position Paper, a white paper published by the Group, the Group completed the roadmap for upgrading the Mainnet and developing user-friendly interfaces by performing various tasks related to supporting major toolkits, upgrading the platform, and expanding the ecosystem. The transfer of governance started and was completed in 2021.

(ii) BORA Token

The Group plans to create the BORA Platform, a global content service platform based on blockchain technology, which will offer a range of services. In order to access the services provided by the Group via the BORA Platform, customers will need to use BORA Tokens, which are issued by the Group. These tokens are considered utility tokens, as stated in the BORA 2.0 White Paper. BORA Tokens serve as the means of exchange for all transactions conducted on the BORA Portal, and token holders are able to use them to purchase goods and services available on the BORA Portal.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

BORA Tokens were issued by METABORA SINGAPORE PTD.LTD, a subsidiary of Way2bit Co. Ltd., in 2018. In 2020, Friends Games Corporation, a subsidiary of the Group, acquired additional shares of Way2bit Co. Ltd. and consolidated Way2bit Co. Ltd. and its subsidiaries. In 2021, Friends Games Corporation, a subsidiary of the Group, merged into Way2bit Co. Ltd.

As of December 31, 2022, BORA Tokens are controlled by METABORA SINGAPORE PTE.LTD (formerly known as BORANETWORK PTE. LTD), a subsidiary of the Group.

The Group currently holds unsold or unused BORA Tokens resulting from the business combination. Since BORA Tokens serve as a means to purchase services and goods provided by the Group, they have not been recognized as assets.

In addition, after the business combination, BORA Tokens sold to customers were not recognized as revenue. Revenue will only be recognized in the future when customers use BORA Tokens to pay for goods and services of the BORA Portal.

The Group controls and operates the BORA Portal and is responsible for issuing and managing BORA Tokens. Moreover, the Group collaborates with various partners to offer games and other services in addition to the Group's own games on the BORA Portal, allowing customers who hold BORA Tokens to access a wide range of services on BORA Portal.

Depending on the degree of activation of the BORA Portal in the future, the accounting method for the sale of BORA Tokens may change.

9) Investment Property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost. After recognition as an asset, investment property is carried at cost less accumulated depreciation and impairment losses. The Group depreciates investment properties, except for land, using the straight-line method over their useful lives of 40 years.

10) Impairment of Non-financial Assets

Goodwill or intangible assets with indefinite useful lives are not subject to amortization and are tested annually for impairment. Assets that are subject to amortization are reviewed for impairment whenever events or changes in circumstances indicate that the carrying amount may not be recoverable. An impairment loss is recognized for the amount by which the asset's carrying amount exceeds its recoverable amount. The recoverable amount is the higher of an asset's fair value less costs to sell and value in use. Non-financial assets, other than goodwill, that suffered impairment are reviewed for possible reversal of the impairment at each reporting date.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

The recoverable amount is estimated for each individual asset or for each cash-generating unit to which the asset belongs if the recoverable amount of the individual asset is not estimated. A cash-generating unit is the smallest identifiable group of assets that generates cash inflows that are largely independent of cash inflows of other assets or groups of assets. The recoverable amount is determined to be the greater of the value in use or the fair value less cost to sell. Value in use is based on the estimated future cash flows, discounted to their present value using a pre-tax discount rate that reflects current market assessments of the time value of money and the risks specific to the asset or cash-generating unit.

The goodwill acquired in a business combination is allocated to each cash-generating unit that is expected to benefit from the synergy effect of the business combination. Impairment losses on cash-generating units allocated first to reduce the carrying amount of goodwill allocated to the cash-generating unit, and then to reduce the carrying amounts of the other asset in the cash-generating unit on a pro rata basis.

11) Trade and Other Payables

These amounts represent liabilities for goods and services provided to the Group prior to the end of reporting period which are unpaid. The amounts are unsecured and are usually paid within 30 days of recognition. Trade and other payables are presented as current liabilities, unless payment is not due within 12 months after the reporting period. They are recognized initially at their fair value and subsequently measured at amortized cost using the effective interest method.

12) Financial Liabilities

(a) Classification and measurement

The Group's financial liabilities at fair value through profit or loss are financial instruments held for trading. A financial liability is held for trading if it is incurred principally for the purpose of repurchasing in the near term. A derivative that is not a designated as hedging instruments and an embedded derivative that is separated are also classified as held for trading.

The Group classifies non-derivative financial liabilities, except for financial liabilities at fair value through profit or loss, financial guarantee contracts and financial liabilities that arise when a transfer of financial assets does not qualify for derecognition, as financial liabilities carried at amortized cost and present as 'trade payables', 'borrowings' and 'other financial liabilities' in the statement of financial position. These financial liabilities are initially measured at fair value deducting the transaction costs directly attributable to the issue. Other financial liabilities are subsequently measured at amortized cost using the effective interest method, and interest expenses are recognized using the effective interest method.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

12) Financial Liabilities, continued

Preferred shares that require mandatory redemption at a particular date are classified as liabilities. Interest expenses on these preferred shares using the effective interest method are recognized in the statement of profit or loss as 'finance costs', together with interest expenses recognized from other financial liabilities.

(b) Derecognition

Financial liabilities are removed from the statement of financial position when it is extinguished; for example, when the obligation specified in the contract is discharged or cancelled or expired or when the terms of an existing financial liability are substantially modified. The difference between the carrying amount of a financial liability extinguished or transferred to another party and the consideration paid (including any non-cash assets transferred or liabilities assumed) is recognized in profit or loss.

13) Provisions

Provisions for service warranties, make good obligation, and legal claims are recognized when the Group has a present legal or constructive obligation as a result of past events, it is probable that an outflow of resources will be required to settle the obligation and the amount can be reliably estimated. Provisions are measured at the present value of management's best estimate of the expenditure required to settle the present obligation at the end of the reporting period, and the increase in the provision due to the passage of time is recognized as interest expense.

Provisions are reviewed at the end of each reporting period and adjusted to reflect the current best estimates. 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.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

14) Current and Deferred Income Tax

Income tax expense for the period consists of current and deferred tax. Income tax is recognized as income or expense for the period in the consolidated statement of comprehensive income, except to the extent that it relates to items recognized in other comprehensive income or directly in equity, or it relates to a business combination. In this case, income tax is also recognized in other comprehensive income or directly in equity, respectively. Income tax expense is calculated on the basis of the tax laws enacted or substantively enacted at the end of the reporting period.

When the Parent Company and subsidiaries are economically combined, the Group considers the Parent Company and subsidiaries as a single taxable unit and applies the consolidated tax return to pay corporate tax based on the aggregated income. In accordance with the consolidated tax return, the Group calculates the current income tax of the Group including domestic subsidiaries wholly owned by the Parent Company. This amount is recognized as the current income tax liability of the Parent Company, which is obligated to pay, and the amount of Group's current income tax allocated to the Company is recognized as the current income tax.

Current income tax is calculated through calculating taxable income after 1) calculating taxable income for each consolidated entity, 2) eliminating consolidation adjustment items for each consolidated entity, 3) adjusting intercompany transaction gains and losses between consolidated entities, and 4) allocating consolidation adjustment items for each consolidated items. After calculating the taxable income, the tax amount is calculated by applying the tax rate to the tax base which calculated by deducting the amount of net operating loss, non-taxable income and income deduction. Finally, current income tax is calculated by adding or deducting tax credits, tax deductions and additions. Taxable income differs from the income stated in the statement of comprehensive income as it excludes gains or losses that will be added or deducted in other taxable periods and items that are not taxable or deductible from the pre-tax income in the statement of comprehensive income. Income tax payable related to the Group's current income tax is calculated at the tax rates that have been enacted or substantively enacted.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

14) Current and Deferred Income Tax, continued

Deferred income tax is provided in full, using the liability method, on temporary differences arising between the tax bases of assets and liabilities and their carrying amounts in the consolidated financial statements. However, deferred income tax is not accounted for if it arises from initial recognition of an asset or liability in a transaction other than a business combination that at the time of the transaction affects neither accounting nor taxable profit or loss.

Deferred tax assets are recognized only if it is probable that future taxable amounts will be available to utilize those temporary differences and losses.

The Group recognizes a deferred tax liability all taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint arrangements, 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. In addition, The Group recognizes a deferred tax asset for all deductible temporary differences arising from such investments to the extent that it is probable the temporary difference will reverse in the foreseeable future and taxable profit will be available against which the temporary difference can be utilized.

The Group reviews the carrying amount of the deferred tax asset at the end of each reporting period and reduces the carrying amount of the deferred tax asset if it is no longer probable that sufficient taxable income will be available to allow the benefits of the deferred tax asset to be utilized. .

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 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.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets and liabilities and when the deferred tax balances relate to the same taxation authority. Current tax assets and tax liabilities are offset when the Group has a legally enforceable right to offset and intends either to settle on a net basis, or to realize the assets and settle the liability simultaneously.

15) Employee Benefits

(a) Post-employment benefits

The Group operates pension plans. The Group has both defined contribution plans and defined benefit plans. A defined contribution plan is a pension plan under which the Group pays fixed contributions into a separate entity. The contributions are recognized as employee benefit expenses when an employee has rendered service.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

15) Employee Benefits, continued

(a) Post-employment benefits, continued

The Group recognizes the contribution payable to a defined contribution plan in exchange for that service as a liability, after deducting any contribution already paid. If the contribution already paid exceeds the contribution due for service before the end of the reporting period, the Group recognizes that excess as an asset to the extent that the prepayment will lead to a reduction in future payments or a cash refund.

A defined benefit plan is a pension plan that is not a defined contribution plan. Typically defined benefit plans define an amount of pension benefit that an employee will receive on retirement, usually dependent on one or more factors such as age, years of service and compensation. The liability recognized in the statement of financial position in respect of defined benefit pension plans is the present value of the defined benefit obligation at the end of the reporting period less the fair value of plan assets. The defined benefit obligation is calculated annually by independent actuaries using the projected unit credit method. The present value of the defined benefit obligation is determined by discounting the estimated future cash outflows using interest rates of high-quality corporate bonds and that have terms to maturity approximating to the terms of the related pension obligation. On the other hand, remeasurements of the net defined benefit liability, which comprise actuarial gains and losses, the return on plan assets (excluding interest) and the effect of the asset ceiling (excluding interest), are recognized in other comprehensive income. The Group determines the net interest expense (income) on the net defined benefit liability (asset) for the period by applying the discount rate used to measure the defined benefit obligation at the beginning of the annual period to the then-net defined benefit liability (asset), taking into account any changes in the net defined benefit liability (asset) during the period as a result of contributions and benefit payments.

If any plan amendments, curtailments, or settlements occur, past service costs or any gains or losses on settlement are recognized as profit or loss for the year.

(b) Share-based payments

Equity-settled share-based payments granted to employees are estimated at fair value of equity instruments at the grant date and recognized as employee benefit expenses over the vesting period. The number of equity instruments expected to vest is remeasured with consideration to non-market vesting conditions at the end of the reporting period, with any changes from the original measurement recognized in profit or loss for the year and equity.

When the options are exercised, the Group issues new shares. The proceeds received, net of any directly attributable transaction costs, are recognized as capital stock (nominal value) and capital surplus.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

15) Employee Benefits, continued

(b) Share-based payments, continued

Under cash-settled share-based payment plan, the Group compensates the difference of the fair value and exercise price of option as the consideration for employee services received. Total expense that will be recognized over the vesting period is determined by reference to the fair value of the option granted. Until the liability is settled, the Group is required to remeasure the fair value of the liability at the end of each reporting period and at the date of settlement, with any changes in value recognized in profit or loss for the year.

(c) Other long-term employee benefits

The Parent Company and certain subsidiaries provide long-term employee benefits, which are entitled to employees with service period for at least three years. The expected costs of these benefits are accrued over the period of employment using the same accounting methodology as used for defined benefit pension plans. The Group recognizes service cost, net interest on other long-term employee benefits and remeasurement as profit or loss for the year. These liabilities are valued annually by independent and qualified actuaries.

(d) Short-term employee benefits

Short-term employee benefits are recognized at the amount expected to be settled within 12 months from the end of the reporting period in which the employee has provided service in exchange for the service, and are recognized in profit or loss when the service is provided. Short-term employee benefits are recognized at an undiscounted amount.

16) Share capital

The Group classifies ordinary shares as equity. Incremental costs directly attributable to the equity transactions are recognized as a deduction from equity, net of any tax effects.

When the Group repurchases its share capital, the amount of the consideration paid is recognized as a deduction from equity and classified as treasury shares. The profits or losses from the purchases, disposal, reissue, or retirement of treasury shares are not recognized as current profit or loss. If the Group acquires and retains treasury shares, the consideration paid or received is directly recognized in equity.

17) Revenue recognition

Revenues are mainly comprised of advertisement, content, commerce revenue and merchandise sales.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

17) Revenue recognition, continued

(a) Advertising revenue

The Group generally provides advertising services to a customer during the period of a contract and recognizes the allocated transaction price for a performance obligation over the period of service as revenue. However, in the case of a contract in which advertising services are priced based on the sum of the total number of advertising services provided other than the contracted period, the Group recognizes revenue when it satisfies its performance obligation. Advertising revenue is either prepaid by the customer at the set transaction price, or charged afterwards as the Group satisfies its obligations.

(b) Contents revenue and others

The Group provides a variety of contents to a customer. Transaction prices are immediately paid when a customer purchases contents online. The Group recognizes revenue at the time when contents are used at which point the right to use contents are transferred and controlled by the customer and there are no unfulfilled obligations of the Group that may affect the use of contents. The Group recognizes revenue over the time when there are obligations of the Group that may affect the use of contents over the period over which contents are used by customers.

The Group pays the commission fees when a customer pays for the game services provided by the Group. The incremental costs are those commission fees that the Group incurs to acquire a contract with a customer that would not have been incurred if the contract had not been acquired. The Group recognizes the incremental costs as an asset and amortizes it over the expected period of providing the game service to customers.

(c) Commerce revenue and goods sales

The Group sells goods or provides services as a principal or agent through KakaoTalk platforms and recognizes revenue when the performance obligation is satisfied.

(d) Other revenues

With respect to fintech business, the Group identifies each performance obligation for services provided and recognizes revenues when each performance obligation is completed in accordance with K-IFRS No. 1115.

The Group capitalizes the incremental costs of obtaining a contract and amortizes it over a certain period in accordance with K-IFRS No. 1115 for the costs incurred in connection with sales contracts that would not have been incurred if the contract had not been obtained.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

18) Finance income and finance cost

The Group's finance income and finance cost include:

- Interest income
- Interest expense
- Dividend income
- Net gain or loss on the disposal of investments in debt securities measured at fair value through other comprehensive income
- Net gain or loss on financial assets measured at fair value through profit or loss
- Foreign currency gains and losses on financial assets and financial liabilities
- Impairment loss (or reversal of impairment loss) on investments in debt securities measured at amortized cost or fair value through other comprehensive income

Interest income or interest expense is recognized using the effective interest method. Dividend income is recognized when the Group's right to receive dividends is established. The effective interest rate is the rate that exactly discounts estimated future cash payments or receipts through the expected life of the financial instrument to the gross carrying amount of the financial asset (when the asset is not credit-impaired) or to the amortized cost of the financial liability. However, for financial assets that have become credit-impaired subsequent to initial recognition, interest income is calculated by applying the effective interest rate to the amortized cost of the financial asset. If the asset is no longer credit-impaired, then the calculation of interest income reverts to the gross basis.

19) Dividend

Dividend to the Group's shareholders is recognized as a liability in the consolidated financial statements in the year in which the dividends are approved by the Group's shareholders.

20) Lease

(a) Lessor

The Group allocates the consideration in the contract to each lease component on the basis of their relative stand-alone prices at inception or on modification of a contract that contains a lease component.

When the Group acts as a lessor, it determines at lease inception whether each lease is a finance lease or an operating lease.

To classify each lease, the Group makes an overall assessment of whether the lease transfers substantially all of the risks and rewards incidental to ownership of the underlying asset. If this is the case, then the lease is a finance lease; if not, it is an operating lease. As part of this assessment, the Group considers certain indicators such as whether the lease is for the major part of the economic life of the asset.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

20) Lease, continued

(a) Lessor, continued

When the Group is an intermediate lessor, it accounts for its interests in the head lease and the sub-lease separately. It assesses the lease classification of a sub-lease with reference to the right-of-use asset arising from the head lease, not with reference to the underlying asset. If a head lease is a short-term lease to which the Group applies the exemption, then it classifies the sub-lease as an operating lease.

If an arrangement contains lease and non-lease components, then the Group applies K-IFRS No. 1115 to allocate the consideration in the contract.

When the Group is a lessor, the Group recognizes lease payments received under operating leases as income on a straight-line basis over the lease term. Initial direct cost incurred by the Group in arranging an operating lease are added to the carrying amount of the underlying asset and recognized as an expense on the same basis as the lease income. Each leased asset is presented in the consolidated statement of financial position on the basis of its characteristics.

(b) Lessee

The Group leases offices, vehicles and machinery. Lease contracts are typically made for fixed periods of 3 to 8 years, but may have extension options as described below.

Contracts may contain both lease and non-lease components. The Group allocates the consideration in the contract to the lease and non-lease components based on their relative stand-alone prices. However, with respect to real estate leases for which the Group is a lessee, the Group applied a practical expedient and elected not to separate a non-lease component from a lease component, and instead account for them as a single lease component.

Lease terms are negotiated on an individual basis and contain a wide range of different terms and conditions. The lease agreements do not impose any covenants, but leased assets may not be used as collaterals for the borrowings.

The Group determines the lease term by including the enforceable extended period when the lessee is reasonably certain to exercise an extension option within the non-cancellable period of lease and when the lessee is reasonably certain not to exercise a termination option. When assessing the enforceable period, the Group considers economic penalties imposed on the lessee and lessor when they have right to terminate the lease contract without the counterparty's consent.

Assets and liabilities arising from a lease are initially measured on a present value basis. Lease liabilities include the net present value of the following lease payments:

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

20) Lease, continued

(b) Lessee, continued

- Fixed payments (including in-substance fixed payments), less any lease incentives receivable
- Variable lease payment that are based on an index or a rate, initially measured using the index or rate as of the commencement date
- Amounts expected to be payable by the Group (the lessee) under residual value guarantees
- The exercise price of a purchase option if the Group (the lessee) is reasonably certain to exercise that option, and
- Payments of penalties for terminating the lease, if the lease term reflects the Group (the lessee) exercising that option

The lease payments are discounted using the interest rate implicit in the lease. If that rate cannot be determined, the lessee's incremental borrowing rate is used, being the rate that the lessee would have to pay to borrow the funds necessary to obtain an asset of similar value in a similar economic environment with similar terms and conditions.

The Group calculates the incremental borrowing interest rate as follows.

- If possible, reflect the change in financial position after receiving third-party financing in the latest third-party financial interest rate received by individual lessees.
- Reflect lease-specific adjustments such as country, currency, collateral, and guarantee

When an individual lessee can readily observe the interest rate on a loan with a same term but a different payment profile (via recent financing sources or market data), the Group sets that interest rate as a starting point for calculating the incremental borrowing interest rate.

The Group is exposed to potential future increases in variable lease payments based on an index or rate, which are not included in the lease liability until they take effect. When adjustments to lease payments based on an index or rate take effect, the lease liability is reassessed and adjusted against the right-of-use asset. When the carrying amount of a right-of-use asset decreases to zero, the remeasurement amount is recognized in profit or loss.

Each lease payment is allocated between the liability and finance cost. The finance cost is charged to profit or loss over the lease period so as to produce a constant periodic rate of interest on the remaining balance of the liability for each period.

Right-of-use assets are measured at cost comprising the following:

- the amount of the initial measurement of lease liability
- any lease payments made at or before the commencement date less any lease incentives received
- any initial direct costs, and
- restoration costs

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

(20) Lease, continued

(b) Lessee, continued

The right-of-use asset is depreciated over the shorter of the asset's useful life and the lease term on a straight-line basis. If the Group is reasonably certain to exercise a purchase option, the right-of-use asset is depreciated over the underlying asset's useful life.

In the consolidated statement of financial position, the Group presents the right-of-use assets which does not qualify the definition of investment property separately from other assets.

Payments associated with short-term leases of equipment and vehicles and leases of low-value assets are recognized on a straight-line basis as an expense in profit or loss. Short-term leases are leases with a lease term of 12 months or less. Low-value assets comprise IT-equipment and small items of office furniture.

(c) Variable lease payments

Some machinery leases contain variable payment terms that are linked to usage. Variable payment terms are used for a variety of reasons, including minimizing the fixed costs base for machinery. Variable lease payments that depend on usage are recognized in profit or loss when machinery is used and when the usage is confirmed by the settlement.

(d) Extension and termination options

Extension and termination options are included in a property across the Group. These terms are used to maximize operational flexibility in terms of managing contracts.

Most of the extension and termination options held by the Group can be exercised upon agreement between the lessors and the Group.

21) Earnings per share

Basic earnings per share is calculated by dividing net profit for the year available to ordinary shareholders by the weighted-average number of ordinary shares outstanding during the year. Diluted earnings per share are calculated using the weighted-average number of ordinary shares outstanding adjusted to include the potentially dilutive effect of ordinary equivalent shares outstanding.

22) Business Combinations between entities under a Common Control

Book value method applies to a business combination under a common control. Related assets and liabilities are measured at book value of the consolidated financial statements. In addition, the difference between the sum of book values of the assets and liabilities transferred and the consideration paid is recognized as share premium.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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2. Significant Accounting Policies, Continued

(6) Significant accounting policies, continued

23) Compound Financial Instruments

Compound financial instruments are convertible bonds and redeemable convertible preferred shares that can be converted into equity instruments of the Parent Company at the option of the holder and exchangeable bond that can be converted into equity instruments of the subsidiary at the option of the holder.

The liability component of a compound financial instrument is recognized initially at the fair value of a similar liability that does not have equity conversion rights and exchange rights. The equity component is recognized initially on the difference between the fair value of the compound financial instrument as a whole and the fair value of the liability component. Subsequent to the initial recognition, it will not be remeasured. Any directly attributable transaction costs are allocated to the liability and equity components in proportion to their initial carrying amounts.

In accordance with the Interpretation Statements No.00094 issued by the Financial Supervisory Service in Korea, the Group recognized some conversion rights and exchange rights (pre-emptive rights) as equity. This accounting treatment is applicable within Korean IFRS as defined in item 1 of paragraph 1 of Article 13 of Acts on External Audit for Stock Companies.

24) Approval of Issuance of the Financial Statements

The issuance of the consolidated financial statements, of the Group was authorized by the Board of Directors on February, 2023, which is subject to change with approval at the annual shareholders' meeting.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

3. Critical Accounting Estimates and Assumptions

The preparation of financial statements requires the Group to make estimates and assumptions concerning the future. Management also needs to exercise judgement in applying the Group's accounting policies. Estimates and assumptions are continually evaluated and are based on historical experience and other factors, including expectations of future events that are believed to be reasonable under the circumstances. As the resulting accounting estimates will, by definition, seldom equal the related actual results, it can contain a significant risk of causing a material adjustment.

The estimates and assumptions that have a significant risk of causing a material adjustment to the carrying amounts of assets and liabilities within the next financial year are discussed below. Additional information of significant judgement and assumptions of certain items are included in relevant notes.

1) Subsidiary

Subsidiaries are all entities over which the Group has control. The Group controls an entity when the Group is exposed to, or has rights to, variable returns from its involvement with the entity and has the ability to affect those returns through its power to direct the activities of the entity.

2) Associates and joint venture

In determining whether the Group has significant influence, the Group takes into account whether the Group directly or indirectly holds 20% or more of the voting rights over the investee, whether the Group participates in the board or other decision-making body equivalent thereto of the investees, or whether the Group's potential voting rights will affect these rights.

3) Estimated impairment of goodwill

The Group tests annually whether goodwill has suffered any impairment. The recoverable amounts of cash-generating units are determined based on value-in-use calculations (Note 19).

4) Income taxes

The Group's taxable income generated from these operations are subject to income taxes based on tax laws and interpretations of tax authorities in numerous jurisdictions. There are many transactions and calculations for which the ultimate tax determination is uncertain (Note 24).

If certain portion of the taxable income is not used for investments or increase in wages or dividends in accordance with the *Tax System for Recirculation of Corporate Income*, the Group is liable to pay additional income tax calculated based on the tax laws. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Group's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

3. Critical Accounting Estimates and Assumptions, Continued

5) Fair value of financial instruments

The fair value of financial instruments that are not traded in an active market is determined by using valuation techniques. The Group uses its judgment to select a variety of methods and make assumptions that are mainly based on market conditions existing at the end of each reporting period (Note 5).

6) Impairment of financial assets

The provision for impairment for financial assets are based on assumptions about risk of default and expected loss rates. The Group uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Group's past history, existing market conditions as well as forward looking estimates at the end of each reporting period

7) Provisions

As of December 31, 2022, the Group recognizes provisions as explained in Notes 2 (6) 13). These provisions are estimated based on past experience.

8) Net defined benefit liabilities

The present value of net defined benefit liabilities depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 22).

9) Other long-term employee benefits liabilities

The present value of other long-term employee benefits liabilities depends on a number of factors that are determined on an actuarial basis using a number of assumptions including the discount rate (Note 23).

10) Share-based compensation

The Group measures equity-settled share-based compensation at the fair value at the date of grant of equity instruments. The fair value is estimated by using the evaluation model which considers grant condition of equity instruments. In addition, the Group measures cash-settled share-based compensation based on the fair value of share options granted by considering condition of service provision. The amount of liability is re-estimated at the end of each reporting period and at the settlement date until the liability is settled.

11) Revenue recognition

As points provided to customers provide material rights that customers would not have received without entering into the contract, the promise to provide points is a separate performance obligation. The transaction price is allocated to products and points on a relative stand-alone selling price basis. Management estimates the stand-alone selling price of points based on the discount applied when points are redeemed, and likelihood of point redemption expected on the basis of past experience. The stand-alone selling price of products are estimated based on the retail price.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

3. Critical Accounting Estimates and Assumptions, Continued

12) Lease

In determining the lease term, management considers all facts and circumstances that create an economic incentive to exercise an extension option, or not exercise a termination option. Extension options (or periods after termination options) are only included in the lease term if the lease is reasonably certain to be extended (or not terminated).

For leases of office, vehicles and machinery, the following factors are normally the most relevant:

- If there are significant penalties to terminate (or not extend), the Group is typically reasonably certain to extend (or not terminate).
- If any leasehold improvements are expected to have a significant remaining value, the Group is typically reasonably certain to extend (or not terminate).
- Otherwise, the Group considers other factors including historical lease durations and the costs and business disruption required to replace the leased asset.

Most extension options in offices, vehicles and machinery leases have not been included in the lease liability, because the Group could replace the assets without significant cost or business disruption.

The lease term is reassessed if an option is actually exercised (or not exercised) or the Group becomes obliged to exercise (or not exercise) it. The assessment of reasonable certainty is only revised if a significant event or a significant change in circumstances occurs, which affects this assessment, and that is within the control of the lessee.

13) Fair value of assets and liabilities from business combination

The fair value of identifiable assets and liabilities acquired in a business combination is measured based on management's assumptions about the selection of valuation methods and input variables.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management

(1) Financial risk factors

The Group's activities expose it to a variety of financial risks: market risk (including currency risk, fair value interest rate risk, cash flow interest rate risk and price risk), credit risk and liquidity risk. The Group's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Group's financial performance.

1) Market risk

i) Interest rate risk

Interest rate risk is defined as the risk that the interest income or expenses arising from deposits and borrowings will fluctuate because of changes in future market interest rate. The interest rate risk mainly arises through floating rate deposits and borrowings. The objective of interest rate risk management lies in maximizing corporate value by minimizing uncertainty caused by fluctuations in interest rates.

As of December 31, 2022, if the market interest rate of floating rate deposits had increased/decreased by 100bp with other variables held constant, the effect on profit before income tax for the year ended December 31, 2022, would have been increased/decreased by ₩ 15,442 million (2021: ₩ 16,731 million) and ₩ 17,071 million (2021: ₩ 8,883 million) due to increased/decreased interest income of floating rate deposits and borrowings, respectively.

ii) Price risk

The Group invests in debt and equity securities for managing liquidity, operational needs and others. The Group's investment portfolio consists of direct and indirect investments in listed and non-listed securities.

As of December 31, 2022, if all other variables were constant and the value of marketable equity had increased or decreased by 5.0%, gain and loss on valuation of equity securities at fair value (before income tax) and other comprehensive income (before income tax) would have been increased or decreased by ₩ 35,448 million (2021: ₩ 58,352 million).

Impacts of investment financial instruments of the Group on profit or loss and other comprehensive income are described in Note 10.

iii) Foreign exchange risk

Foreign exchange risk is defined as the risk that the fair value of financial instruments or future cash flows fluctuate because of changes in foreign exchange rates. Foreign exchange risk arises from financial instruments presented in currencies other than functional currency. Therefore, foreign exchange risk does not arise from non-monetary financial instruments or financial instruments presented in functional currency.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

iii) Foreign exchange risk, continued

The Group's exposure to foreign currency risk at the end of the reporting period, expressed in Korean won, was as follows:

(in millions of Korean won)	2022							
	USD	JPY	CNY	EUR	GBP	HKD	SGD	TWD
Financial assets								
Cash and cash equivalents	₩ 86,520	9,248	3,132	83	-	-	92	535
Short-term financial instruments	42,138	-	-	-	-	-	-	-
Trade receivables	115,621	574	2,709	17,033	-	1	-	-
Other financial asset	73,237	25	-	301	-	-	-	-
	<u>₩317,516</u>	<u>9,848</u>	<u>5,841</u>	<u>17,416</u>	<u>-</u>	<u>1</u>	<u>92</u>	<u>535</u>
Financial liabilities								
Trade and other payables	₩ 43,974	604	-	2,342	12	-	-	-
Borrowings	31,683	-	-	-	-	-	-	-
Other financial liability	20,202	-	-	-	-	-	-	-
	<u>₩ 95,859</u>	<u>604</u>	<u>-</u>	<u>2,342</u>	<u>12</u>	<u>-</u>	<u>-</u>	<u>-</u>

If the Korean won has weakened/strengthened by 5% with all other variables held constant, the effect on profit before income tax for the year ended December 31, 2022, would have been increased/decreased by ₩ 12,633 million (2021: ₩ 1,851 million).

2) Credit risk

Credit risk arises from cash and cash equivalents, derivative financial instruments and deposits with banks or financial institutions, as well as credit exposures to customers, including outstanding receivables.

i) Risk management

For banks and financial institutions, only independently rated parties with a minimum rating of 'A' are accepted.

If corporate customers are independently rated, these ratings are used. Otherwise, if there is no independent rating, risk control assesses the credit quality of the customer, taking into account its financial position, past experience and other factors. Individual risk limits are set based on internal or external ratings in accordance with limits set by the Board. Sales to individual customers are required to be settled in cash or using major credit cards, mitigating credit risk.

The Group's investments in debt instruments are considered to be low risk investments.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

ii) Security

Some trade receivables are provided with guarantees or credit enhancements such as letters of credit that may require performance if the counterparty fails to comply with the contract.

iii) Impairment of financial assets

The Group has four types of financial assets that are subject to the expected credit loss model:

- trade receivables for sales of goods and provision of services, and
- other financial assets carried at amortized cost.

While cash equivalents are also subject to the impairment requirement, the identified impairment loss was immaterial.

- Non-financial services business

A. Trade receivables

The Group applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables. There are no customers exceeding their credit limits for the year, and all of the trade receivables are considered to have low credit risk. Management does not expect any losses upon if the above counterparties are in default under the terms of the agreements.

Details of loss allowance provision for trade receivables as of December 31, 2022 are as follows:

(in millions of Korean won)

	Current	3 months overdue	6 months overdue	9 months overdue	Over 9 months overdue	Total
Expected loss rate	0.88%	7.80%	59.49%	85.97%	86.16%	2.73%
Gross carrying amount	₩ 435,294	7,995	2,474	1,301	6,225	453,289
Impairment loss allowance	₩ (3,813)	(624)	(1,472)	(1,119)	(5,363)	(12,390)

Trade receivables are excluded when collection is no longer reasonably anticipated. Indicators that can no longer reasonably anticipate recovery include failure to comply with the debt adjustment with the consolidated entity and failure to pay contractual cash flows for more than 120 days.

Impairment on trade receivables is presented net amount of bad debt expenses in the consolidated income statement. The subsequent collection of the amount is recognized as a deduction for the same account.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

The changes in loss allowance for trade receivables at amortized costs for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning of the year	₩ 8,072	5,973
Changes in consolidation range	(133)	1,342
Increase recognized in profit or loss	4,783	2,293
Reversal	(38)	(40)
Write-off	(1,107)	(241)
Reclassification	843	(1,305)
Other (CTDs)	(30)	50
End of the year	<u>₩ 12,390</u>	<u>8,072</u>

Maximum exposure to credit risk of the Group as of December 31, 2022 are all carrying amounts.

B. Other financial assets at amortized cost

Other financial assets at amortized cost include uncollected, loans and other bonds.

Changes in the loss allowance for other financial assets measured at amortized cost are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning of the year	₩ 43,442	43,346
Increase recognized in profit or loss	996	289
Other (CTDs and Changes in consolidation range)	(5,626)	(193)
End of the year	<u>₩ 38,812</u>	<u>43,442</u>

Except for lease receivables, other financial assets at amortized costs are considered to have low credit risk, and the loss allowance recognized during the period was, therefore, limited to 12 months expected losses. Management considers to be low credit risk when they have a low risk of default and the issuer has a strong capacity to meet its contractual cash flow obligations in the near term.

The amounts recognized in profit or loss in relation to impairment in 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Trade receivables	₩	
-Changes in loss allowance of trade receivables	4,783	2,293
Other financial assets		
-Changes in loss allowance of other financial assets	996	289
Other current assets		
-Changes in loss allowance of other current assets	5,016	976
	<u>₩ 10,795</u>	<u>3,557</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

Maximum exposure to credit risk of the Group as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Cash and cash equivalents	₩ 4,780,115	5,231,504
Short-term financial instruments	1,210,213	1,573,559
Trade receivables	440,899	398,117
Current derivative financial assets	351	352
Financial assets at fair value through profit or loss	6,211	457,391
Non-current derivative financial assets	1,067,722	-
Other current financial assets	361,873	319,120
Long-term financial instruments	10,132	10,139
Other non-current financial assets	269,788	144,002
Total	<u>₩ 8,147,304</u>	<u>8,134,184</u>

- Financial services business

A. Other financial assets at amortized cost

Other financial assets at amortized cost include uncollected, loans and other bonds.

Changes in the loss allowance for other financial assets measured at amortized cost are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Beginning of the year	₩ 265	265
End of the year	<u>₩ 265</u>	<u>265</u>

There is no amount recognized in profit or loss in relation to impairment for the years ended December 31, 2022 and 2021.

Maximum exposure to credit risk of the Group as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Cash equivalents	₩ 55,665	94,196
Deposits	66,511	247,755
Financial assets at fair value through profit or loss	496,616	495,952
Financial assets at amortized costs	16,175	-
Other current financial assets	15,590	30,498
Total	<u>₩ 650,558</u>	<u>868,401</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

3) Liquidity risk

Cash flow forecasting is performed by the Group finance department. The Group finance department monitors rolling forecasts of the Group's liquidity requirements to ensure it has sufficient cash to meet operational needs while maintaining sufficient headroom on its undrawn committed borrowing facilities at all times so that the Group does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. Such forecasting takes into consideration the Group's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and, if applicable external regulatory or legal requirements.

- Non-financial services business

Details of the Group's liquidity risk analysis as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

	2022			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 1,373,954	-	-	1,373,954
Short-term and long-term borrowings ¹	1,127,965	105,870	1,073,221	2,307,056
Derivative liabilities	9,573	3,540	-	13,113
Other current financial liabilities	38,623	-	-	38,623
Deposits received	442,303	-	-	442,303
Short-term lease liabilities	248,075	-	-	248,075
Non-current trade and other payables	-	84,577	26,015	110,592
Other non-current financial liabilities	-	482	25,138	25,620
Long-term lease liabilities	-	119,157	2,062,091	2,181,248
Financial guarantee liabilities ²	907	5,552	-	6,459
	<u>₩ 3,241,400</u>	<u>319,178</u>	<u>3,186,466</u>	<u>6,747,043</u>

¹ For convertible bonds and exchangeable bonds, total cash flow is disclosed with the contractual early

² Cash flows from financial guarantee contracts that are not presented in the consolidated financial statements are presented.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(1) Financial risk factors, continued

(in millions of Korean won)

	2021			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 1,231,204	-	-	1,231,204
Short-term and long-term borrowings ¹	959,328	399,049	501,101	1,859,478
Other current financial liabilities	653,737	-	-	653,737
Deposits received	384,150	-	-	384,150
Short-term lease liabilities	172,084	-	-	172,084
Non-current trade and other payables	-	5,637	58,072	63,709
Other non-current financial liabilities	-	269	42,741	43,010
Long-term lease liabilities	-	192,825	1,625,097	1,817,922
Financial guarantee liabilities ²	-	-	4,872	4,872
	<u>₩ 2,746,767</u>	<u>597,780</u>	<u>2,231,883</u>	<u>7,389,481</u>

¹ For convertible bonds and exchangeable bonds, total cash flow is disclosed with the contractual early repayment date as maturity.

² Cash flows from financial guarantee contracts that are not presented in the consolidated financial statements are presented.

The table above analyses the Group's non-derivative financial liabilities into relevant maturity. The amounts disclosed in the table are the contractual undiscounted cash flows including interest.

- Financial services business

Details of the Group's liquidity risk analysis as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

	2022			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Other financial liabilities	₩ 394,287	-	-	394,287
Non-trade payables	15,925	-	-	15,925
Deposits received	18,087	-	-	18,087
Lease liabilities	1,481	697	256	2,434
	<u>₩ 429,780</u>	<u>697</u>	<u>256</u>	<u>430,734</u>

(in millions of Korean won)

	2021			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Other financial liabilities	₩ 49,080	-	-	49,080
Deposits received	598,311	-	-	598,311
Lease liabilities	2,377	4,031	5,098	11,506
	<u>₩ 649,768</u>	<u>4,031</u>	<u>5,098</u>	<u>658,897</u>

KAKAO CORP. AND SUBSIDIARIES
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4. Financial Risk Management, Continued

(2) Capital risk management

The Group's objectives when managing capital are to maintain an optimal capital structure. The Group monitors financial ratios such as debt-to-capital ratio, which is calculated by dividing total liabilities by total equity.

The debt-to-capital ratios as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Total liabilities (A)	₩ 9,431,629	9,189,586
Total equity (B)	13,531,862	13,589,972
Debt-to-capital ratio (A/B)	69.70%	67.62%

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

4. Financial Risk Management, Continued

(3) Offsetting financial assets and financial liabilities

Details of the Group's recognized financial assets subject to offsetting, enforceable master netting arrangements or similar agreements as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	2022				
	Gross assets	Gross liabilities offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Trade receivables ¹	₩ 1	-	1	-	1
Non-trade receivables ²	84,682	73,432	11,250	-	11,250

<i>(in millions of Korean won)</i>	2022				
	Gross liabilities	Gross assets offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Non-trade payables ²	₩ 84,682	56,963	27,719	-	27,719

¹ The amount presented includes the amount after offsetting trade receivables from media reps and agency fee.

² The amount of sales/purchase due to difference in consignment sales and settlement was offset and calculated.

<i>(in millions of Korean won)</i>	2021				
	Gross assets	Gross liabilities offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Trade receivables ¹	₩ 659	163	496	34	462
Non-trade receivables ²	59,935	33,303	26,632	-	26,632

<i>(in millions of Korean won)</i>	2021				
	Gross liabilities	Gross assets offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Non-trade payables ²	₩ 59,961	33,327	26,634	-	26,634

¹ The amount presented includes the amount after offsetting trade receivables from media reps and agency fee.

² The amount of sales/purchase due to difference in consignment sales and settlement was offset and calculated.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

5. Fair Value

(1) Fair value of financial instruments

There are no significant changes in the business environment and economic environment that affect the fair value of the consolidated entity's financial assets and financial liabilities during the current year.

(2) Fair value hierarchy

The Group classifies fair value measurements using a fair value hierarchy that reflects the significance of the inputs used in measurements.

- Quoted prices (unadjusted) in active markets for identical assets or liabilities that an entity can access at the measurement date (Level 1).
- All inputs other than quoted prices included in level 1 that are observable (either directly that is, prices, or indirectly that is, derived from prices) for the asset or liability (Level 2).
- Unobservable inputs for the asset or liability (Level 3).

Fair value hierarchy classifications of the financial assets and liabilities that are measured at fair value as of December 31, 2022 and 2021:

- Non-financial services business

(in millions of Korean won)

	2022			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss ¹	₩ 2,367	140,614	924,741	1,067,722
Financial assets at fair value through other comprehensive income ^{2,3}	706,350	-	743,217	1,449,567
Derivative financial assets ⁴	-	-	6,562	6,562
	<u>₩ 708,717</u>	<u>140,614</u>	<u>1,674,521</u>	<u>2,523,851</u>
Derivative financial liabilities	₩ -	-	13,113	13,113
	<u>₩ -</u>	<u>-</u>	<u>13,113</u>	<u>13,113</u>

¹ During 2022, the Group acquired shares of Smart Korea's UTC BioHealthcare Venture Investment Fund and others.

² During 2022, the Group acquired 806,400 shares of the former shares of the Japanese content company Kadokawa Corporation.

³ During 2022, the Group lost significant influence over Dunamu Inc. and reclassified the 5,181,167 shares held to financial assets at fair value through other comprehensive income.

⁴ During 2022, the stock options of Grip Company held by the Group was classified as derivative asset.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

5. Fair Value, Continued

(2) Fair value hierarchy, continued

(in millions of Korean won)

	2021			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss ⁵	₩ 377	-	606,932	607,309
Financial assets at fair value through other comprehensive income ^{1,2,3,4}	1,166,654	-	52,509	1,219,163
Derivative financial assets	-	-	352	352
	<u>₩ 1,167,031</u>	<u>-</u>	<u>659,793</u>	<u>1,826,824</u>
Financial liabilities at fair value through other comprehensive income	₩ -	-	542,900	542,900
Derivative financial liabilities	-	-	11,912	11,912
	<u>₩ -</u>	<u>-</u>	<u>554,812</u>	<u>554,812</u>

¹ During 2021, the Group acquired 474,000 shares of the former shares of the Japanese content company Kadokawa Corporation.

² During 2021, the Group sold 70,000 out of 200,323 shares of Assio Co., Ltd.

³ During 2021, the Group sold 38,073 out of 50,764 shares of Six Shop Co., Ltd. and reclassified the remaining equity shares into financial assets at fair value through other comprehensive income from investments in associates.

⁴ During 2021, Krafton Corp. was listed and was reclassified from Level 3 to Level 1.

⁵ During 2021, the Group participated in capital increase of Neptune Corp. and exercised conversion rights, and reclassified financial assets at fair value through profit or loss to investments in associates.

- Financial services business

(in millions of Korean won)

	2022			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss	₩ 236	494,161	2,219	496,616
Financial liabilities at fair value through profit or loss	₩ -	-	15,073	15,073

(in millions of Korean won)

	2021			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss	₩ -	494,405	1,547	495,952
Financial liabilities at fair value through profit or loss	₩ -	-	17,748	17,748

KAKAO CORP. AND SUBSIDIARIES
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5. Fair Value, Continued

(3) Valuation technique and inputs

The fair value of financial instruments traded in active markets is based on quoted market prices at the statement of financial position date. A market is regarded as active if quoted prices are readily and regularly available from an exchange, dealer, broker, a company in the same industry, pricing service, or regulatory agency, and those prices represent actual and regularly occurring market transactions on an arm's length basis. The quoted market price used for financial assets held by the Group is the current bid price. These instruments are included in Level 1. Instruments included in Level 1 consist primarily of KOSPI and KOSDAQ equity investments classified as trading securities or available-for-sale.

The fair value of financial instruments that are not traded in an active market (for example, over-the-counter derivatives) is determined by using valuation techniques. These valuation techniques maximize the use of observable market data where it is available and rely as little as possible on entity specific estimates. If all significant inputs required to fair value an instrument are observable, the instrument is included in Level 2.

If one or more of the significant inputs is not based on observable market data, the instrument is included in Level 3.

As of December 31, 2022, valuation technique and the inputs used for recurring and non-recurring fair value measurements and disclosed fair value that are categorized within Level 2, 3 of the fair value hierarchy are as follows:

- Non-financial services business

(in millions of Korean won)

	Fair value	Level	Valuation technique	Inputs
Financial assets at fair value through profit or loss				
Short-term financial instruments	₩ 140,614	2	NPV method	Discount rate
Compound financial instrument	648,897	3	Market value method	Market value and others
Securities and Funds	275,844	3		
	<u>₩ 1,065,355</u>			
Financial assets at fair value through other comprehensive income				
Non-listed equity securities ¹	₩ 743,217	3	DCF and NAV	Net asset value, Discount rate, estimated cash flow
Derivative financial assets and liabilities				
Derivative financial assets ²	₩ 6,562	3	Binominal tree method and others	Probability of risk neutral, increase in risk neutral, decrease in risk neutral
Derivative financial liabilities	13,113	3		

¹ Included equity securities of Dunamu Inc. reclassified during 2022.

² Classified the stock options of Grip Company held by the Group was classified as derivative asset in 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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5. Fair Value, Continued

(3) Valuation technique and inputs, continued

- Financial services business

(in millions of Korean won)

	Fair value	Level	Valuation technique	Inputs
Financial assets at fair value through profit or loss				
Other deposits	₩ 395,127	2	Market value method	Interest rate
Short-term financial instruments	99,035	2	Market value method	Interest rate
Compound financial instrument	405		Income approach method	Underlying
Securities	804	3	DCF	Estimated cash flow
Joint fund for damages	1,010	3	Cost method	
	<u>₩ 496,380</u>			
Financial liabilities at fair value through profit or loss				
Contingent consideration	₩ 15,073	3	DCF	Estimated cash flow

(4) Valuation processes for fair value measurements categorized within level 3

The financial division of the Group performs the fair value measurements required for financial reporting purposes, including level 3 fair values. This division reports to the Chief Financial Officer ("CFO") and the Audit Committee, and discusses valuation processes and results with CFO and Audit Committee at least once every year depending on the materiality.

The results of the sensitivity analysis for the effect on profit or loss (before income tax) or other comprehensive income (before income tax) from changes in fair value (1%) for each financial instrument for the year ended December 31, 2022 are as follows:

- Non-financial services business

(in millions of Korean won)

	2022	
	Favorable changes	Unfavorable changes
Financial assets¹		
Financial assets at fair value through profit or loss	₩ 5,388	(4,396)
Financial assets at fair value through other comprehensive income	38,336	(29,544)
	<u>₩ 43,724</u>	<u>(33,940)</u>

¹ Sensitivity analysis on the change of fair value is calculated by increasing or decreasing the discount rate, which is a major unobservable input, by 1% or increasing or decreasing the volatility of the underlying asset by 10%.

- Financial services business

(in millions of Korean won)

	2022	
	Favorable changes	Unfavorable changes
Financial liabilities¹		
Financial liabilities at fair value through profit or loss	₩ 735	(695)

¹ The fair value of contingent consideration is calculated by increasing or decreasing the investee company's cost of capital, which is a major unobservable input, by 1%.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

6. Segment Information

The financial information reported to the chief operating decision-maker to allocate resources to operating segment and to evaluate the performance of operating segment is consistent with the disclosed financial statements.

The following summary describes the operations of each reportable segment.

- (1) Kakao Corp.: Advertising, platform based service provision
- (2) Kakao Games Corp.: Game development and publishing
- (3) Kakao Entertainment Corp.: Entertainment management and contents production and distribution
- (4) Kakao Mobility Corp.: Database information provision
- (5) Kakaopay Corp.: Mobile platform based financial services
- (6) Kakao Piccoma Corp.: Platform provision and webtoon distribution
- (7) Kakao G Corp.: Investing blockchain business and technology development
- (8) Others: Application software development and distribution

(in millions of Korean won)

	2022				
	Kakao Corp.	Kakao Games Corp.	Kakao Entertainment Corp	Kakao Mobility Corp.	Kakaopay Corp.¹
Revenue	₩ 2,456,591	1,147,693	1,864,791	791,481	521,671
Revenue from intercompany transactions	(175,869)	(32,542)	(86,466)	(8,101)	(150,139)
Net revenue	2,280,722	1,115,151	1,778,324	783,380	371,532
Segment profit(loss) before income tax	1,879,253	(194,688)	(592,334)	(29,681)	(7,665)
Segment profit(loss) for the year	1,617,332	(196,108)	(629,795)	(27,695)	26,795
Segment assets	10,791,496	3,873,942	3,454,284	1,546,540	3,331,530
Segment liabilities	3,700,233	1,859,048	1,835,250	403,512	1,423,305
Segment depreciation	206,634	19,936	29,257	61,918	25,446
Segment amortization	18,255	63,555	99,175	2,395	13,737

¹ ₩ 50,078 million of financial services business revenue is included.

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6. Segment Information, Continued

(in millions of Korean won)

	2022				
	Kakao Piccoma Corp.	Kakao G Corp.	Others	Consolidation adjustments	Total
Revenue	₩ 531,245	106,364	319,691	(632,689)	7,106,837
Revenue from intercompany transactions	(3,011)	(28)	(176,533)	632,689	-
Net revenue	528,234	106,336	143,158	-	7,106,837
Segment profit(loss) before income tax	60,479	93,223	(68,978)	164,755	1,304,363
Segment profit(loss) for the year	33,592	85,920	(116,542)	269,079	1,062,578
Segment assets	826,467	367,280	2,642,504	(3,870,552)	22,963,492
Segment liabilities	139,620	101,674	531,219	(562,233)	9,431,629
Segment depreciation	5,690	3,547	28,783	(15,414)	365,798
Segment amortization	265	704	5,415	265	203,766

(in millions of Korean won)

	2021				
	Kakao Corp. ¹	Kakao Games Corp.	Kakao Entertainment Corp. ²	Kakao Mobility Corp.	Kakaopay Corp. ³
Revenue	₩ 2,669,167	1,012,481	1,424,925	546,464	458,647
Revenue from intercompany transactions	(290,484)	(42,196)	(161,399)	(6,567)	(126,664)
Net revenue	2,378,683	970,285	1,263,526	539,897	331,983
Segment profit(loss) before income tax	724,480	722,077	59,290	4,025	(25,951)
Segment profit(loss) for the year	622,608	520,158	38,525	27,078	(33,863)
Segment assets	10,024,652	4,304,187	3,711,659	1,087,970	3,432,709
Segment liabilities	3,470,448	1,883,697	1,561,324	254,538	1,637,071
Segment depreciation	137,748	11,229	22,021	21,397	13,380
Segment amortization	16,331	23,156	84,923	1,760	6,250

¹ It was calculated by adding the financial information of Kakao Commerce Corp. before the merger.

² It was calculated by adding the financial information of Kakao M Corp. before the merger.

³ ₩ 63,851 million of financial services business revenue is included.

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Notes to the Consolidated Financial Statements, Continued
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6. Segment Information, Continued

(in millions of Korean won)

	2021				
	Kakao Piccoma Corp.	Kakao G Corp.	Others	Consolidation adjustments	Total
Revenue	₩ 461,117	130,203	609,069	(1,175,404)	6,136,669
Revenue from intercompany transactions	(2,260)	(46,849)	(498,985)	1,175,404	-
Net revenue	458,857	83,354	110,084	-	6,136,669
Segment profit(loss) before income tax	45,775	89,073	527,874	147,051	2,293,694
Segment profit(loss) for the year	48,444	56,677	464,511	(97,985)	1,646,153
Segment assets	845,169	139,533	1,736,552	(2,502,872)	22,779,559
Segment liabilities	123,214	55,819	469,652	(266,177)	9,189,586
Segment depreciation	3,755	1,272	18,483	(1,405)	227,880
Segment amortization	148	36	2,599	160	135,363

For the years ended December 31, 2022 and 2021, the Group's revenues are primarily generated in Korea, and the most of non-current assets held by the group are located in Korea.

The geographic information below analyses the Group's revenue by the Company's country of domicile and other countries except for domestic revenues.

(in millions of Korean won)

	2022				
	North America	Asia	Europe	others	Total
Revenue	₩ 280,417	916,579	100,562	101,123	1,398,681

There was no external customer contributing more than 10% of the total revenue for the years ended December 31, 2022 and 2021.

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7. Financial Instruments by Category

Carrying amounts of financial assets and liabilities by category as of December 31, 2022 and 2021, are as follows:

- Non-financial services business

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Financial assets at fair value through profit or loss	₩ 1,067,722	607,309
Financial assets at fair value through other comprehensive income	1,449,567	1,219,163
Financial assets at amortized costs		
Cash and cash equivalents	4,780,244	5,231,504
Trade receivables, net	440,899	398,117
Short-term financial instruments	1,210,213	1,573,559
Long-term financial instruments	10,132	10,139
Other current financial assets	361,873	319,120
Other non-current financial assets	269,788	144,002
	<u>7,073,150</u>	<u>7,676,441</u>
Derivative financial assets		
Current derivative assets	351	352
Non-current derivative assets	6,211	-
	<u>6,562</u>	<u>352</u>
	<u>₩ 9,597,001</u>	<u>9,503,265</u>

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Financial liabilities at fair value through profit or loss ¹	₩ -	542,900
Financial liabilities at amortized costs		
Trade and other payables	1,373,954	1,230,985
Short-term borrowings	1,096,884	1,258,828
Deposits received	442,303	384,150
Other current financial liabilities	38,623	110,838
Non-current trade and other payables	110,592	63,708
Long-term borrowings	1,176,181	553,054
Other non-current financial liabilities ²	25,620	43,010
	<u>4,264,158</u>	<u>3,644,573</u>
Derivative financial Liabilities		
Current derivative financial liabilities	9,573	11,912
Non-current derivative financial liabilities	3,540	-
	<u>13,113</u>	<u>11,912</u>
	<u>₩ 4,277,270</u>	<u>4,199,385</u>

KAKAO CORP. AND SUBSIDIARIES
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7. Financial Instruments by Category, Continued

- Non-financial services business, continued

¹ The liabilities related to the acquisition of shares in Lionheart Studio Co., Ltd. by the Group have been paid during the current year.

² As of December 31, 2022, the Group recognized non-controlling interests in fund with maturity as financial liabilities amounting to ₩ 35,735 million (2021: ₩ 58,252 million).

Gains or losses of financial instruments by category for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022					
	Gain (loss) on valuation (other comprehensive income (loss))	Gain (loss) on valuation / disposal (profit or loss)	Interest income (expenses)	Dividend income	Impairment loss	Gain (loss) on foreign currency translation
Financial assets						
Financial assets at fair value through profit or loss	₩ -	31,201	90	5,941	-	2
Financial assets at fair value through other comprehensive income	(1,728,675)	10,409	-	50,273	20	-
Financial assets at amortized costs and other financial assets	-	-	118,694	-	(872)	(23,896)
Derivative financial assets	-	1,065	-	-	-	-
Financial liabilities						
Financial liabilities at fair value through profit or loss	-	(211,173)	-	-	-	-
Financial liabilities at amortized costs and other financial liabilities	-	-	(47,385)	-	-	(206)
Derivative financial liabilities	-	539	-	-	-	-

(in millions of Korean won)

	2021					
	Gain (loss) on valuation (other comprehensive income (loss))	Gain (loss) on valuation / disposal (profit or loss)	Interest income (expenses)	Dividend income	Impairment loss	Gain (loss) on foreign currency translation
Financial assets						
Financial assets at fair value through profit or loss	₩ -	35,085	42	17,834	-	66
Financial assets at fair value through other comprehensive income	368,152	-	-	20,744	-	-
Financial assets at amortized costs and other financial assets	-	-	36,847	-	(2,089)	29,800
Derivative financial assets	-	(6,686)	-	-	-	-
Financial liabilities						
Financial liabilities at fair value through profit or loss	-	-	-	-	-	-
Financial liabilities at amortized costs and other financial liabilities	-	-	(15,469)	-	9	(29,473)
Derivative financial liabilities	-	(44,402)	-	-	-	-

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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7. Financial Instruments by Category, Continued

- Financial services business

(in millions of Korean won)

	2022	2021
Financial assets at fair value through profit or loss	₩ 496,616	495,952
Financial assets at amortized costs		
Cash and cash equivalents	55,665	94,196
Deposits	66,511	247,755
Financial assets at amortized costs and other financial assets	16,175	-
Other financial assets	15,590	30,498
	<u>153,942</u>	<u>372,449</u>
	<u>₩ 650,558</u>	<u>868,401</u>

(in millions of Korean won)

	2022	2021
Financial liabilities at fair value through profit or loss	₩ 15,073	17,748
Financial liabilities at amortized costs		
Deposits received	394,287	598,311
Other financial liabilities	18,140	31,332
	<u>412,427</u>	<u>629,643</u>
	<u>₩ 427,450</u>	<u>647,391</u>

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Notes to the Consolidated Financial Statements, Continued
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7. Financial Instruments by Category, Continued

- Financial services business, continued

Gains or losses of financial instruments by category for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022			
	Gain (loss) on valuation /disposal (profit or loss)	Interest income (expenses)	Dividend income	Gain (loss) on foreign currency translation
Financial assets				
Financial assets at fair value through profit or loss	₩ 2,429	7,711	1,179	3,035
Financial assets at amortized costs and other financial assets	-	4,484	-	-
Derivative assets	(844)	-	-	-
Financial liabilities				
Financial liabilities at amortized costs and other financial liabilities	2,676	-	-	-
Financial liabilities at fair value through profit or loss	-	(1,456)	-	-

(in millions of Korean won)

	2021			
	Gain (loss) on valuation /disposal (profit or loss)	Interest income (expenses)	Dividend income	Gain (loss) on foreign currency translation
Financial assets				
Financial assets at fair value through profit or loss	₩ 1,430	3,203	2,524	16
Financial assets at amortized costs and other financial assets	-	133	-	-
Derivative assets	(39)	-	-	-
Financial liabilities				
Financial liabilities at amortized costs and other financial liabilities	(3,581)	-	-	-
Financial liabilities at fair value through profit or loss	-	(3,241)	-	(5)

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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8. Cash and Cash Equivalents, Short-term and Long-term Financial Instruments and Restricted Financial Instruments

Cash and cash equivalents comprise cash on hand, demand deposits and short-term, highly liquid investments that are readily convertible to known amounts of cash which are subject to an insignificant risk of changes in value.

(1) Non-financial services business

Details of cash and cash equivalents and short-term and long-term financial instruments as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Bank deposits and cash on hand and others	₩ 4,780,244	5,231,504
Short-term financial instruments ¹	1,210,213	1,573,559
Long-term financial instruments – time deposits and others	10,132	10,139
	<u>₩ 6,000,589</u>	<u>6,815,202</u>

¹ See Note 38 for information about restricted deposits and payment guarantees.

In addition, the Group's deposits of ₩ 6,107 million are pledged as collateral in relation to employees' bank loans (Note 38).

(2) Financial services business

Details of cash and cash equivalents and deposits as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Cash and cash equivalents	₩ 55,665	94,196
General instrument deposit	4,000	124,000
Separate investment deposit	33,103	121,232
Market derivatives transaction deposit	2,000	-
Deposit for opening a checking account	2	2
Other deposits	27,406	2,521
Others	-	-
	<u>₩ 122,176</u>	<u>341,951</u>

KAKAO CORP. AND SUBSIDIARIES
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8. Cash and Cash Equivalents, Short-term and Long-term Financial Instruments and Restricted Financial Instruments, Continued

Details of restricted financial instruments as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
General instrument deposit	₩ 4,000	4,000
Long-term financial instruments deposit	2	2
Derivatives transaction deposit	2,000	-
	<u>₩ 6,002</u>	<u>4,002</u>

The details of financial instruments that are reserved in accordance with the related laws as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>		<u>2022</u>	<u>2021</u>	<u>Purpose</u>
	<u>Category</u>	<u>2022</u>	<u>2021</u>	<u>Purpose</u>
Deposit	Separate investment deposit ¹	₩ 25,200	121,200	Separate depositing of customer's deposit
	Foreign currency Separate investment deposit	7,903	32	Separate depositing of customer's deposit
	Other deposits	1,500	2,500	Korea Exchange and securities market margin
Financial assets at fair value through profit or loss	Separate investment deposit (trust) ¹	395,127	494,405	Separate depositing of customer's deposit
	Joint funds for damages ²	1,010	1,214	Korea Exchange and Korea Securities Depository
		<u>₩ 430,739</u>	<u>619,351</u>	

¹ In accordance with Paragraph 4 in Article 74 of Financial Investment Services and Capital Markets Act, the Group separated customer's deposit and placed it in deposits with Korea Securities Finance Corp. in order to return the customer's deposit or to meet the demand of the customers. The deposits shall not be transferred to or provided as collateral and shall not be offset or seized by anyone.

² In accordance with Article 394 and Article 303 of Financial Investment Services and Capital Markets Act, the Group set aside the joint funds for damages in Korea Exchange and Korea Securities Depository to jointly compensate for losses incurred from default arising from transactions on the securities market.

9. Credit Quality of Financial Assets

The credit quality of financial assets that are neither past due nor impaired can be assessed by reference to external credit ratings (if available) or to historical information about counterparty default rates. Cash and cash equivalents are all deposited in the financial institutions with high credit ratings.

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10. Financial Assets

- Non-financial services business

(1) Financial assets at fair value through profit or loss and derivative financial assets

Financial assets mandatorily measured at fair value through profit or loss and derivative financial assets include the following classes of financial assets:

(in millions of Korean won)

	2022	2021
Financial assets at fair value through profit or loss		
Non-current		
Beneficiary securities and fund	₩ 224,747	127,564
Listed shares	2,367	372
Unlisted equity securities	54,497	-
Compound financial instruments	220,467	174,313
	<u>502,078</u>	<u>302,249</u>
Current		
Beneficiary securities	140,614	10,051
Listed shares	-	5
Compound financial instruments	425,030	295,004
	<u>565,644</u>	<u>305,060</u>
	<u>₩ 1,067,722</u>	<u>607,309</u>
Derivative financial assets		
Current derivative financial assets	₩ 351	352
Non-current derivative financial assets	6,211	-
	<u>₩ 6,562</u>	<u>352</u>

The amounts recognized in profit or loss are as follows:

(in millions of Korean won)

	2022	2021
Gain (loss) on financial assets at fair value through profit or loss	₩ 37,235	53,027
Gain (loss) on derivative financial assets	1,065	(6,686)

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Notes to the Consolidated Financial Statements, Continued
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10. Financial Assets, Continued

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

Equity investments at fair value through other comprehensive income comprise the following individual investments:

<i>(in millions of Korean won)</i>	2022	2021
Non-current		
Listed equity securities	₩ 706,350	1,166,654
FNC ENTERTAINMENT	3,510	5,298
SK TELECOM CO., LTD.	182,323	222,712
SK Square Co., Ltd.	83,426	165,111
Kadokawa CORP.	287,688	363,395
Action Square Co., Ltd.	3	6
VAIV company Inc	9,400	26,800
Krafton Corp. (formerly, Bluehole Corp.)	139,999	383,332
Unlisted equity securities ¹	743,217	52,509
	<u>₩ 1,449,567</u>	<u>1,219,163</u>

¹ See Note 5 for details of unlisted equity securities.

The amounts recognized in profit or loss are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Gain (loss) on financial assets at fair value through other comprehensive income	₩ 60,703	20,744

Upon disposal of these equity investments, any balance within the accumulated other comprehensive income for these equity investments is reclassified to retained earnings and is not reclassified to profit or loss.

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10. Financial Assets, Continued

(3) Trade Receivables, Other Current Financial Assets and Other Non-current Financial Assets

Trade receivables and allowance for doubtful accounts as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Trade receivables	₩ 453,289	406,189
Less: allowance for doubtful accounts (Note 4)	(12,390)	(8,072)
Trade receivables, net	<u>₩ 440,899</u>	<u>398,117</u>

There is no collateral held by the Group.

Details of other current financial assets and other non-current financial assets as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Other current financial assets		
Non-trade receivables	₩ 315,916	264,620
Accrued revenues	21,324	10,837
Short-term loans receivable	13,084	44,480
Short-term loans to employees	2,333	-
Leasehold Deposits	9,457	7,567
Others	5,951	2,436
	<u>368,065</u>	<u>329,940</u>
Other non-current financial assets		
Long-term non-trade receivables	32,803	42,332
Long-term loans receivable	31,848	2,665
Leasehold deposits	157,646	129,785
Long-term loans to employees	300	-
Others	79,811	1,843
	<u>302,408</u>	<u>176,625</u>
	<u>670,474</u>	<u>506,565</u>
Less: allowance for doubtful accounts (Note 4)	(38,812)	(43,442)
Other current financial assets and other non-current financial assets, net	<u>₩ 631,661</u>	<u>463,123</u>

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10. Financial Assets, Continued

- Financial services business

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

1) Financial assets mandatorily measured at fair value through profit or loss include the following classes of financial assets:

(In millions of Korean won)

	<u>2022</u>	<u>2021</u>
Financial assets at fair value through profit or loss		
Short-term financial instruments and Compound financial instruments	₩ 99,440	-
Listed shares	236	-
Equity securities	804	333
Others (money in trust etc.)	396,137	495,619
	<u>₩ 496,616</u>	<u>495,952</u>

2) The amounts recognized in profit or loss are as follows:

(In millions of Korean won)

	<u>2022</u>	<u>2021</u>
Gain on financial assets at fair value through profit or loss	₩ 13,177	7,174

(2) Other financial assets

(In millions of Korean won)

	<u>2022</u>	<u>2021</u>
Other financial assets		
Non-trade receivables	₩ 14,096	26,906
Accrued revenues	1,073	763
Leasehold deposits	687	3,094
	<u>15,855</u>	<u>30,763</u>
Less: allowance for doubtful accounts (Note 4)	(265)	(265)
Other financial assets, net	<u>₩ 15,590</u>	<u>30,498</u>

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11. Contract Assets and Liabilities

(1) Details of incremental costs (other current assets and other non-current assets), costs to fulfil a contract (other non-current assets), contract assets (other current assets) and contract liabilities (other current liabilities), recognized in relation to contracts with customers, as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Contract assets	₩ 46,497	13,789
Incremental costs	7,685	5,808
Costs to fulfill a contract	-	196
Contract liabilities	336,426	334,949
Refund liabilities	722	694

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11. Contract Assets and Liabilities, Continued

(2) Expenses and revenue recognized in relation to contract assets and contract liabilities

The following table shows how much of the revenue and expenses recognized in the current reporting period relates to carried-forward contract assets and contract liabilities.

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Expenses recognized that was included in the contract assets balance at the beginning of the year		
Incremental costs	₩ 5,526	5,052
Costs to fulfil a contract – platform	-	10,653
	<u>₩ 5,526</u>	<u>15,705</u>
Revenue recognized that was included in the contract liability balance at the beginning of the year		
Contract liabilities – platform	₩ 315,652	274,125

Classification of revenue from contracts with customers

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Timing of revenue recognition		
At a point in time	₩ 3,613,227	3,194,836
Over a period	3,493,610	2,941,833
	<u>₩ 7,106,837</u>	<u>6,136,669</u>

12. Trade and Other payables

Trade and other payables as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Trade and other payables		
Trade payables	₩ 94,417	69,748
Non-trade payables	1,274,889	1,157,104
Withhold deposits received	4,648	4,133
	<u>1,373,954</u>	<u>1,230,985</u>
Non-current trade and other payables		
Long-term non-trade payables	110,504	63,665
Withhold deposits received	87	43
	<u>110,592</u>	<u>63,708</u>
	<u>₩ 1,484,545</u>	<u>1,294,692</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

13. Other Financial Liabilities

(1) Non-financial services business

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

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Other current financial liabilities		
Accrued expenses	₩ 37,783	110,732
Leasehold Deposit Received	340	105
Financial liabilities at fair value through profit or loss	-	542,900
Others	500	-
	<u>38,623</u>	<u>653,737</u>
Deposits received		
Deposits received	442,303	384,150
Other non-current financial liabilities		
Long-term accrued expenses	13,098	43,010
Long-term leasehold Deposit Received	11,023	-
Others	1,500	-
	<u>25,620</u>	<u>43,010</u>
	<u>₩ 506,547</u>	<u>1,080,898</u>

(2) Financial services business

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

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Other financial liabilities		
Accrued expenses	₩ 2,216	2,195
Non-trade Payables	15,924	29,137
Financial liabilities at fair value through profit or loss	15,073	17,748
	<u>33,213</u>	<u>49,080</u>
Deposits received		
Deposits received	394,287	598,311
	<u>₩ 427,500</u>	<u>647,391</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

14. Other Assets and Liabilities

(1) Non-financial services business

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

(in millions of Korean won)

	2022	2021
Other current assets		
Advance payments	₩ 126,165	89,254
Prepaid expenses	84,888	78,945
Prepaid value added tax	7,185	7,744
Corporate tax refund receivable	9,921	5,591
Others	8,020	1,140
	<u>236,180</u>	<u>182,674</u>
Other non-current assets		
Long-term advance payments	339,399	326,361
Long-term prepaid expenses	13,970	12,668
Others	400	144
	<u>353,770</u>	<u>339,173</u>
	<u>₩ 589,950</u>	<u>521,847</u>

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

(in millions of Korean won)

	2022	2021
Other current liabilities		
Advances from customers	₩ 1,349,633	1,303,759
Deferred revenues	66,117	75,821
Withholdings	167,554	124,466
Value added tax payable	62,261	89,900
Government grants	116	262
Accrued expenses – short-term employee benefits liabilities	118,672	126,778
	<u>1,764,354</u>	<u>1,720,986</u>
Other non-current liabilities		
Long-term advances from customers	27,261	27,967
Long-term deferred revenues	41,406	-
Long-term employee benefits liabilities	1,439	2,522
Others	-	5
	<u>70,105</u>	<u>30,494</u>
	<u>₩ 1,834,459</u>	<u>1,751,481</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

14. Other Assets and Liabilities, continued

(2) Financial services business

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

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Other assets		
Advance payments	₩ 15,094	39,825
Prepaid expenses	1,808	910
Prepaid value added tax	278	33
	<u>₩ 17,181</u>	<u>40,767</u>

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

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Other liabilities		
Advances from customers	₩ 289	-
Deferred revenues	133	113
Withholdings	1,093	3,182
Value added tax payable	334	1,372
Accrued expenses – short-term employee benefits liabilities	4,040	9,385
	<u>₩ 5,890</u>	<u>14,052</u>

15. Inventories

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Merchandise	₩ 123,085	56,224
(Valuation allowance for merchandise)	(4,854)	(3,943)
Finished goods	4,631	7,076
(Valuation allowance for finished goods)	(554)	(489)
Raw materials	34,561	29,437
(Valuation allowance for raw materials)	(2,240)	(3,572)
Others	5,699	7,075
	<u>₩ 160,328</u>	<u>91,808</u>

Inventories recognized as an expense during the year ended December 31, 2022, amounted to ₩ 483,433 million (2021: ₩ 328,216 million). These were included in 'operating expenses'.

In 2022, the Group recognized unusual valuation loss of inventory of ₩ 11 million (2021: ₩ 2,529 million) as non-operating expense. Loss on valuation of inventories to net realizable value amounted to ₩ 61 million (2021: ₩ 5,607 million). These were recognized as an expense during the year ended December 31, 2022, and included in 'operating expenses' in profit or loss.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

16. Investments in Associates and Joint Venture

Investments in associates and joint venture as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

Name ¹	Location	2022			2021
		Percentage of ownership (%)	Acquisition cost	Book value	Book value
Associates					
Addcredit Corp. ^{3,8}	Korea	17.70%	₩ 300	-	30
DAUM Venture Fund ⁹	Korea	39.50%	1,186	-	-
Dunamu Inc. ^{3,6}	Korea	-	-	-	514,249
CNT TECH CO., LTD. ³	Korea	18.20%	5,001	6,948	5,418
Tide Square Co., Ltd. ¹⁵	Korea	22.40%	26,464	7,015	-
KakaoBank Corp.	Korea	27.20%	788,748	1,589,134	1,540,065
Korea Credit Data	Korea	22.60%	4,246	20,423	1,678
Kakao Style Corp. ⁷	Korea	51.10%	173,437	132,611	163,382
UTC Kakao SK Telecom ESG Fund ²	Korea	48.20%	6,000	5,710	1,925
Humanscape	Korea	22.40%	17,028	15,078	20,400
Grip Company ¹²	Korea	48.80%	177,077	164,121	180,000
D&C MEDIA CO.,LTD.	Korea	23.30%	33,789	42,426	41,495
mycelebs, inc ³	Korea	14.10%	5,000	-	-
DAIWAON. C. I. INC ³	Korea	19.80%	15,048	10,303	9,780
Haksan Publinsing Co., Ltd. ³	Korea	19.80%	14,653	11,632	10,595
SEOUL MEDIA.INC.	Korea	22.20%	10,000	7,374	6,764
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC. ⁹	Korea	20.00%	4	-	-
Super Comics.	Korea	20.00%	2,000	1,392	1,708
HongKong TXKP Limited	Hong Kong	49.00%	23,196	23,581	22,888
325 E&C	Korea	40.00%	2,400	1,819	2,006
UNION K-Culture Contents Investment Fund	Korea	33.30%	7,500	7,865	6,973
EDAM Entertainment Corp. ¹¹	Korea	-	-	-	12,098
Highup Entertainment	Korea	40.00%	4,000	3,510	3,480
Helios KDBC Video Digital Contents No. 2	Korea	29.80%	4,442	4,269	2,170
Metaverse Entertainment	Korea	39.20%	12,000	9,152	11,680
Atwater Capital Partners I, L.P. ²	USA	34.50%	1,181	1,753	709
Wyatt co., Ltd	Korea	24.20%	17,729	7,121	20,053
MANNACEA	Korea	21.90%	10,000	113	1,090
Deleo Korea Co., Ltd. ^{3,8}	Korea	9.00%	3,000	162	3,000
YANADU. ^{3,9}	Korea	17.00%	5,842	-	3,044
LINEWALKS Inc. ¹¹	Korea	-	-	-	3,071
Daeyoung Chaevi CO., Ltd ³	Korea	12.30%	7,500	7,500	7,500
Adlock Advertainment ³	Korea	12.80%	1,000	1,132	1,132
Stage five Co., Ltd. ⁵	Korea	34.20%	77,276	64,019	91,473
DEVOTION FOODS Inc. ^{3,8}	Korea	18.70%	3,000	2,155	3,000
JASON GROUP Co., Ltd. ^{3,8}	Korea	13.10%	29,997	17,236	29,396
MUSTIT. CO., Ltd. ³	Korea	4.40%	9,992	5,723	7,926
Nubility ³	Korea	7.80%	2,000	1,556	1,435
CLEON CO.,LTD ²⁰	Korea	-	-	-	1,600
KLleon Inc. ^{3,20}	USA	12.70%	1,600	640	-
Bluepoint Discovery Venture Fund No.2	Korea	20.80%	800	738	788
TNK Factory	Korea	34.90%	38,302	39,910	38,105
Atwater Whip SPV, LP ²	USA	26.60%	3,746	5,110	-
Japle Co., Ltd. ⁸	Korea	37.40%	500	-	130
KIDSPAY CO. Ltd. ¹⁶	Korea	-	-	-	46
Ocean Drive Studio Co., Ltd.	Korea	30.30%	19,501	3,359	11,852
Second Dive ³	Korea	19.80%	10,000	7,761	8,728
Neptune Co., Ltd. ^{2,8,13}	Korea	41.30%	383,191	193,064	296,893

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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(in millions of Korean won)

Name ¹	Location	2022		2021	
		Percentage of ownership (%)	Acquisition cost	Book value	Book value
Reality Magic	Korea	21.10%	5,556	4,557	5,328
Brokk Sindri ¹⁶	Korea	-	-	-	-
Loadstars ²	Korea	22.30%	82	11	70
Teins Valley	Korea	32.50%	500	404	531
RPG Gate Corp. ¹⁸	Korea	-	-	-	416
GC Social Marketing Inc. ²	USA	39.40%	3,578	3,570	1,118
DIGISONIC CO., LTD. ³	Korea	10.00%	100	55	165
InnoSignal CO., LTD. ³	Korea	14.50%	100	185	189
CHEQUER GLOBAL, Inc. ^{3,9}	USA	9.80%	400	-	-
EASYGO CO., LTD.	Korea	20.00%	100	92	93
DOZEN CO.,LTD ³	Korea	9.80%	547	2,276	1,199
The M Company ³	Korea	9.90%	884	1,167	1,060
DGT mobility. ²	Korea	33.90%	3,500	4,664	2,994
S&Tsolution Co.,Ltd.	Korea	20.00%	1,245	1,100	1,093
Anycall Mobility Corp	Korea	20.00%	1,000	1,026	1,018
Kakao-Shinhan 1st TNYT Fund ³	Korea	19.40%	5,970	4,747	5,076
Kakao Growth Hacking Fund ^{2,3}	Korea	15.30%	16,000	14,349	12,557
KIF-Kakao Wooribank Technology Financing Fund ^{3,19}	Korea	19.70%	12,450	22,180	18,722
K Cube NEO Fund ³	Korea	15.60%	2,520	1,981	1,732
ATU e-sports Growth PE Fund	Korea	25.10%	5,499	5,308	5,499
PEOPLEGUND COMPANY ⁶	Korea	-	-	-	255
LUXROBO CO., LTD. ³	Korea	6.60%	3,385	1,348	3,602
Skelter Labs, Inc. ³	Korea	10.90%	2,501	369	1,447
TOROOC Inc.	Korea	20.10%	2,500	66	201
Galux ³	Korea	4.80%	5,001	4,210	5,001
RECON Labs. ³	Korea	2.00%	500	382	500
Autonomous A2Z ³	Korea	10.50%	6,500	5,229	6,933
CLAIR, Inc. ³	Korea	2.40%	500	210	297
G&G ENTERPRISE CO.,LTD. ^{3,8}	Korea	11.50%	2,924	3,112	4,174
Socialbean Co., Ltd ³	Korea	2.40%	999	40	136
Caring Corp. ^{3,5}	Korea	10.30%	3,142	8,057	2,968
e.Form Works ⁹	Korea	40.20%	733	-	733
LOVO INC. ³	USA	17.30%	4,107	4,183	4,107
Romance Crew ⁹	Korea	20.00%	40	-	40
HitchMED Co., Ltd. ²	Korea	27.00%	1,725	1,447	-
MORE VISION ²	Korea	20.00%	1,500	1,676	-
Love Alarm Culture Industry Special Purpose Company Ltd. ²	Korea	30.00%	3	10	-
Catchers Culture Industry Special Purpose Company Ltd. ²	Korea	30.00%	3	1	-
GRAYGO Corp. ¹⁷	Korea	34.10%	68,247	71,005	-
TheCheat ¹⁰	Korea	23.60%	2,509	2,545	-
altimobility Corp. ^{2,3}	Korea	11.90%	5,600	2,882	-
TEEware Corp. ^{2,3}	Korea	17.00%	1,375	1,301	-
Let's go Together Kakao Games Win-win Fund ²	Korea	38.70%	6,000	5,942	-
Jeju-vision Venture Investment Association No.1. ²	Korea	21.90%	300	300	-
Enolink Holdings, Inc. ^{2,3}	USA	8.00%	7,264	6,348	-
Girl Rivers Cultural Industry Company Ltd. ²	Korea	30.00%	3	1	-
Others (69 companies) ^{2,4,5,8,9}	Korea and others	2.0%~49.0%	67,160	35,574	25,952
			2,214,227	2,647,325	3,204,956
Joint Venture					
DAUM KAKAO PHILIPPINES CORP. ⁸	Philippines	50.00%	1,072	-	182
Asankakao Medical Data Co., Ltd. ¹⁶	Korea	-	-	-	4,269
PHI digital healthcare Inc. ^{8,14}	Korea	50.00%	5,000	4,574	6,395

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Name ¹	Location	Percentage of ownership (%)	2022		2021
			Acquisition cost	Book value	Book value
			6,072	4,574	10,846
			₩ 2,220,299	2,651,898	3,215,802

¹ All investments in associates and joint venture are all unlisted securities excluding D&C MEDIA CO., LTD., Neptune Co., Ltd., and KakaoBank Corp.

² Newly and additionally acquired during 2022.

³ Although the Group holds less than 20% of equity shares, the Group is considered to have a significant influences as the Group holds voting power to participate in the investee's Board of Directors.

⁴ Small-sized entities invested by KAKAO Venture Fund, Kakao Digital Contents Fund, Kakao Game Growth Share Fund, KAKAO_CCVC Jeju Creative Economy Innovative Fund and Kakao Copilot 1 Fund with the ownership percentage of 2.0%~49.0% and classified as associates as the Group is considered to have a significant influence.

⁵ Partially disposed during 2022.

⁶ Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2022.

⁷ Although the equity interest exceeds 50%, considering related agreements, the Group has significant influence over the investee, thus recognized it as an associate.

⁸ Due to decrease in sales, the recoverable amount is less than the carrying amount as of December 31, 2022, thus, the Group recognized the amount of difference as an impairment loss during 2022.

⁹ The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

¹⁰ Reclassified from a financial instrument at fair value through other comprehensive income to an associate due to acquisition of additional shares during 2022.

¹¹ Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2022.

¹² Reclassified to a derivative asset from a stock purchase right related to stocks held by the Group during 2022.

¹³ Converted to 1,135,202 common shares as exercising the remaining convertible bond conversion right during 2022.

¹⁴ Spun off during 2022.

¹⁵ Resumed the use of the equity method, due to the amount of change in capital incurred by the investees exceeded the loss incurred during discontinued period of the equity method.

¹⁶ Disposed during 2022.

¹⁷ Reclassified from a subsidiary to an associate due to loss of control during 2022.

¹⁸ Excluded from the Group's associate due to loss of control on Ad (x) Inc.

¹⁹ The Group recovered some of the principal of investment through the first distribution during 2022.

²⁰ Flipped shares to KLeon Inc., a U.S. corporation during 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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16. Investments in Associates and Joint Venture, Continued

Changes in carrying amounts of investments in associates and joint venture for the years ended December 31, 2022 and 2021 are as follows:
(in millions of Korean won)

Name	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
Associates										
Addcredit Corp. ⁶	₩ 30	-	-	-	(30)	-	-	-	-	-
Dunamu Inc. ^{4,5}	514,249	-	-	(7,703)	-	(2,067,743)	16,345	1,193	1,543,659	-
CNTTECH CO., LTD.	5,418	-	-	-	-	-	1,188	614	(271)	6,948
Tide Square Co., Ltd. ¹²	-	-	-	-	-	-	(6,990)	(854)	14,859	7,015
KakaoBank Corp.	1,540,065	-	-	-	-	-	68,225	(16,790)	(2,366)	1,589,134
Korea Credit Data	1,678	-	-	-	-	-	(7,254)	-	25,999	20,423
Kakao Style Corp.	163,382	-	-	-	-	-	(31,335)	948	(383)	132,611
UTC Kakao SK Telecom ESG Fund ³	1,925	-	4,000	-	-	-	(215)	-	-	5,710
Humanscape	20,400	-	-	-	-	-	(1,100)	(4,448)	227	15,078
Grip Company ⁸	180,000	-	-	-	-	(2,922)	(12,913)	(43)	-	164,121
D&C MEDIA CO.,LTD.	41,495	-	-	-	-	-	921	10	-	42,426
DAIWAON. C. I. INC	9,780	-	-	-	-	-	528	(5)	-	10,303
Haksan Publinshing Co., Ltd.	10,595	-	-	-	-	-	1,081	(44)	-	11,632
SEOUL MEDIA.INC.	6,764	-	-	-	-	-	610	-	-	7,374
Super Comics.	1,708	-	-	-	-	-	(316)	-	-	1,392
HongKong TXKP Limited	22,888	-	-	-	-	-	(904)	1,597	-	23,581
325 E&C	2,006	-	-	-	-	-	(186)	-	-	1,819
UNION K-Culture Contents Investment Fund	6,973	-	-	-	-	-	892	-	-	7,865
EDAM Entertainment Corp. ⁷	12,098	(41,600)	-	-	-	-	659	-	28,843	-
Highup Entertainment	3,480	-	-	-	-	-	30	-	-	3,510
Helios KDBC Video Digital Contents No. 1 ³	2,170	-	2,202	-	-	-	(102)	-	-	4,269
Metaverse Entertainment	11,680	-	-	-	-	-	(3,072)	(15)	559	9,152
Atwater Capital Partners I, L.P. ³	709	-	470	-	-	-	504	69	-	1,753
Wyatt co., Ltd	20,053	-	-	-	-	-	(13,018)	87	-	7,121
MANNACEA	1,090	-	-	-	-	-	(977)	-	-	113
Deleo Korea Co., Ltd. ⁶	3,000	-	-	-	(303)	-	(2,535)	-	-	162
YANADU. ¹⁴	3,044	-	-	-	-	-	(5,862)	-	2,819	-

KAKAO CORP. AND SUBSIDIARIES
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(in millions of Korean won)

2022

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
LINEWALKS Inc. ⁷	3,071	(2,857)	-	-	-	-	(174)	-	(41)	-
Daeyoung Chaevi CO., Ltd	7,500	-	-	-	-	-	-	-	-	7,500
Adlock Advertainment	1,132	-	-	-	-	-	-	-	-	1,132
Stage five Co., Ltd. ⁴	91,473	-	-	(18,505)	-	-	(2,100)	(11)	(6,839)	64,019
DEVOTION FOODS Inc. ⁶	3,000	-	-	-	(229)	-	(616)	-	-	2,155
JASON GROUP Co., Ltd. ⁶	29,396	-	-	-	(11,370)	-	(774)	(16)	-	17,236
MUSTIT. CO., Ltd.	7,926	-	-	-	-	-	(5,253)	-	3,051	5,723
Nubility	1,435	-	-	-	-	-	(663)	-	784	1,556
CLEON CO., LTD ¹⁸	1,600	-	-	-	-	(651)	(949)	-	-	-
KLleon Inc. ¹⁸	-	-	-	-	-	651	(11)	-	-	640
Bluepoint Discovery Venture Fund No.2	788	-	-	-	-	-	(50)	-	-	738
TNK Factory	38,105	-	-	-	-	-	1,347	261	197	39,910
Atwater Whip SPV, LP ²	-	-	3,746	-	-	-	1,178	186	-	5,110
Japle Co., Ltd. ⁶	130	-	-	-	(31)	-	(99)	-	-	-
KIDSPAY CO. Ltd. ¹³	46	-	-	(22)	-	-	(24)	-	-	-
Ocean Drive Studio Co., Ltd.	11,852	-	-	-	-	-	(8,493)	-	-	3,359
Second Dive	8,728	-	-	-	-	-	(967)	-	-	7,761
Neptune Co., Ltd. ^{3,6,10}	296,893	-	88,493	-	(157,822)	21,853	(20,238)	(35,576)	(538)	193,064
Reality Magic	5,328	-	-	-	-	-	(770)	-	-	4,557
Brokk Sindri ¹³	-	-	-	-	-	-	-	-	-	-
Loadstars ³	70	-	67	-	-	-	(125)	-	-	11
Teins Valley	531	-	-	-	-	-	(127)	-	-	404
RPG Gate Corp. ¹⁷	416	(352)	-	-	-	-	(64)	-	-	-
GC Social Marketing Inc. ³	1,118	-	2,561	-	-	-	(45)	(63)	-	3,570
DIGISONIC CO., LTD.	165	-	-	-	-	-	(206)	-	97	55
InnoSignal CO., LTD.	189	-	-	-	-	-	(4)	-	-	185
EASYGO CO., LTD.	93	-	-	-	-	-	(1)	-	-	92
DOZEN CO.,LTD	1,199	-	-	-	-	-	1,082	-	(6)	2,276
The M Company	1,060	-	-	-	-	-	107	-	-	1,167
DGT mobility. ³	2,994	-	1,000	-	-	-	670	-	-	4,664
S&Tsolution Co.,Ltd.	1,093	-	-	-	-	-	7	-	-	1,100
Anycall Mobility Corp	1,018	-	-	-	-	-	8	-	-	1,026

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(in millions of Korean won)

Name	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
Kakao-Shinhan 1st TNYT Fund	5,076	-	-	-	-	-	(331)	2	-	4,747
Kakao Growth Hacking Fund ³	12,557	-	3,200	-	-	-	(1,408)	-	-	14,349
KIF-Kakao Wooribank Technology Financing Fund ¹⁶	18,722	-	-	(2,550)	-	-	4,069	1,939	-	22,180
K Cube NEO Fund	1,732	-	-	-	-	-	249	-	-	1,981
ATU e-sports Growth PE Fund	5,499	-	-	-	-	-	(192)	-	-	5,308
PEOPLEGUND COMPANY ⁵	255	-	-	-	-	-	(909)	(162)	816	-
LUXROBO CO., LTD.	3,602	-	-	-	-	-	(1,680)	8	(583)	1,348
Skelter Labs, Inc.	1,447	-	-	-	-	-	(2,192)	75	1,039	369
TOROOC Inc.	201	-	-	-	-	-	(288)	-	153	66
Galux	5,001	-	-	-	-	-	(564)	-	(226)	4,210
RECON Labs.	500	-	-	-	-	-	(136)	-	18	382
Autonomous A2Z	6,933	-	-	-	-	-	(1,705)	-	-	5,229
CLAIR, Inc	297	-	-	-	-	-	(130)	-	43	210
G&G ENTERPRISE CO.,LTD. ⁶	4,174	-	-	-	(1,030)	-	(34)	2	-	3,112
Socialbean Co., Ltd	136	-	-	-	-	-	(96)	-	-	40
Caring Corp. ⁴	2,968	-	-	(638)	-	-	(1,729)	-	7,456	8,057
e.Form Works ¹⁴	733	-	-	-	-	-	(833)	-	100	-
LOVO INC.	4,107	-	-	-	-	-	(347)	229	194	4,183
Romance Crew ¹⁴	40	-	-	-	-	-	(40)	-	-	-
HitchMED Co., Ltd. ²	-	-	1,725	-	-	-	(277)	(1)	-	1,447
MORE VISION ²	-	-	1,500	-	-	-	176	-	-	1,676
Love Alarm Culture Industry Special Purpose Company Ltd. ²	-	-	3	-	-	-	7	-	-	10
Catchers Culture Industry Special Purpose Company Ltd. ²	-	-	3	-	-	-	(2)	-	-	1
GRAYGO Corp. ¹⁵	-	68,247	-	-	-	-	(2,360)	-	5,118	71,005
TheCheat ⁹	-	-	1,499	-	-	1,009	37	-	-	2,545
altimobility Corp. ²	-	-	5,600	-	-	-	(2,718)	-	-	2,882
TEEware Corp. ²	-	-	1,375	-	-	-	(33)	123	(164)	1,301
Let's go Together Kakao Games Win-win Fund ²	-	-	6,000	-	-	-	(58)	-	-	5,942

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

(in millions of Korean won)

Name	2022									
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
Jeju-vision Venture Investment Association No.1. ²	-	-	300	-	-	-	-	-	-	300
Enolink Holdings, Inc. ²	-	-	7,264	-	-	-	(617)	(299)	-	6,348
Girl Rivers Cultural Industry Company Ltd. ²	-	-	3	-	-	-	(2)	-	-	1
Others (69 companies) ^{2,3,4,6}	25,952	-	16,552	(5,738)	(1,499)	(1,300)	(9,698)	(97)	11,402	35,574
	<u>3,204,956</u>	<u>23,438</u>	<u>147,563</u>	<u>(35,156)</u>	<u>(172,313)</u>	<u>(2,049,103)</u>	<u>(56,994)</u>	<u>(51,081)</u>	<u>1,636,015</u>	<u>2,647,325</u>
Joint Venture										
DAUM KAKAO PHILIPPINES CORP. ⁶	182	-	-	-	(182)	-	-	-	-	-
Asankakao Medical Data Co., Ltd. ¹³	4,269	-	-	(4,127)	-	-	(142)	-	-	-
PHI digital healthcare Inc. ^{6,11}	6,395	-	-	(83)	(1,245)	-	(493)	-	-	4,574
	<u>10,846</u>	<u>-</u>	<u>-</u>	<u>(4,210)</u>	<u>(1,427)</u>	<u>-</u>	<u>(635)</u>	<u>-</u>	<u>-</u>	<u>4,574</u>
₩	<u>3,215,802</u>	<u>23,438</u>	<u>147,563</u>	<u>(39,367)</u>	<u>(173,740)</u>	<u>(2,049,103)</u>	<u>(57,629)</u>	<u>(51,081)</u>	<u>1,636,015</u>	<u>2,651,898</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

16. Investments in Associates and Joint Venture, Continued

¹ Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2022.

² Newly acquired and established during 2022.

³ Additionally acquired during 2022.

⁴ Partially disposed during 2022.

⁵ Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2022.

⁶ Due to decrease in sales, the recoverable amount is less than the carrying amount as of December 31, 2022, thus, the Group recognized the amount of difference as an impairment loss during 2022.

⁷ Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2022.

⁸ Reclassified to a derivative asset from a stock purchase right related to stocks held by the Group during 2022.

⁹ Reclassified to associates from financial instruments measured at fair value through other comprehensive income as the Group acquired significant influence through additional acquisitions during 2022.

¹⁰ Converted to 1,135,202 common shares as exercising the remaining convertible bond conversion right during 2022.

¹¹ Spun off during 2022.

¹² Resumed the use of the equity method, due to the amount of change in capital incurred by the investees exceeded the loss incurred during discontinued period of the equity method.

¹³ Disposed during 2022.

¹⁴ The use of equity method was ceased due to a decrease in the carrying amount resulted from sluggish sales.

¹⁵ Reclassified from a subsidiary to an associate due to loss of control during 2022.

¹⁶ The Group recovered some of the principal of investment through the first distribution during 2022.

¹⁷ Excluded from the Group's associate due to loss of control on Ad (x) Inc.

¹⁸ Flipped shares to KLleon Inc., a U.S. corporation during 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

16. Investments in Associates and Joint Venture, Continued

(in millions of Korean won)

2021

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
Associates										
Addcredit Corp.	₩ 138	-	-	-	-	-	(108)	-	-	30
Tapas Media, Inc. ⁹	10,907	(10,361)	-	-	-	-	(482)	(64)	-	-
DAUM Venture Fund ^{6,7}	5,276	-	-	(8,656)	-	-	3,376	4	-	-
Dunamu Inc. ^{5,6}	73,848	-	-	(124,301)	-	-	488,938	2,513	73,251	514,249
CNT TECH CO., LTD.	4,581	-	-	-	-	-	895	(58)	-	5,418
Korea Credit Data	3,284	-	-	-	-	-	(4,221)	-	2,615	1,678
MANNACEA	2,354	-	-	-	-	-	(1,501)	-	237	1,090
Left Right Co., Ltd. ^{4,19}	67	-	-	(30)	(32)	-	(5)	-	-	-
LUXROBO CO., LTD. ⁵	5,236	-	-	(894)	-	-	(649)	-	(91)	3,602
Deleo Korea Co., Ltd.	3,000	-	-	-	-	-	-	-	-	3,000
Skelter Labs, Inc.	2,630	-	-	-	-	-	(2,128)	2	943	1,447
TOROOC Inc.	482	-	-	-	-	-	(393)	-	112	201
DIGISONIC CO., LTD.	104	-	-	-	-	-	(382)	-	443	165
D&C MEDIA CO.,LTD.	38,211	-	-	-	-	-	3,033	251	-	41,495
K Cube NEO Fund	2,081	-	-	-	-	-	(349)	-	-	1,732
InnoSignal CO., LTD.	164	-	-	-	-	-	25	-	-	189
CLAIR, Inc.	351	-	-	-	-	-	(200)	-	146	297
KIF-Kakao Wooribank Technology Financing Fund	12,358	-	-	-	-	-	6,254	110	-	18,722
ADSOTA CORP. ¹⁶	656	(677)	-	-	-	-	(7)	28	-	-
YANADU.	3,175	-	-	-	-	-	(3,227)	-	3,096	3,044
NOWBUSKING COMPANY ⁴	2,156	-	-	(2,156)	-	-	-	-	-	-
LINEWALKS Inc.	3,255	-	-	-	-	-	(184)	-	-	3,071
CHEQUER Inc.	191	-	-	-	-	-	(222)	31	-	-
Wyatt co., Ltd (formerly, Hasys co.,ltd)	17,709	-	-	-	-	-	2,259	(132)	217	20,053
mycelebs, inc	5,000	-	-	-	-	-	(5,000)	-	-	-
DAIWAON. C. I. INC ²⁰	8,733	-	-	-	169	-	873	5	-	9,780
Haksan Publinshing Co., Ltd. ²⁰	8,923	-	-	-	875	-	515	282	-	10,595

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

(in millions of Korean won)

2021

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
PEOPLEFUND COMPANY	4,732	-	-	-	-	-	(5,587)	-	1,110	255
SEOUL MEDIA.INC. ¹⁹	7,031	-	-	-	(883)	-	616	-	-	6,764
GC Social Marketing Inc.	1,005	-	-	-	-	-	116	(3)	-	1,118
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	1	-	-	-	-	-	(1)	-	-	-
Tide Square Co., Ltd.	10,510	-	-	-	-	-	(11,299)	789	-	-
EASYGO CO., LTD.	95	-	-	-	-	-	(2)	-	-	93
G&G ENTERPRISE CO.,LTD.	4,265	-	-	-	-	-	(89)	(2)	-	4,174
KakaoBank Corp.	940,889	-	-	-	-	-	56,886	(10,532)	552,822	1,540,065
325 E&C	2,138	-	-	-	-	-	(132)	-	-	2,006
UNION K-Culture Contents Investment Fund ³	4,698	-	2,500	-	-	-	(225)	-	-	6,973
EDAM Entertainment Corp	11,526	-	-	-	-	-	572	-	-	12,098
Daeyoung Chaevi CO., Ltd	7,500	-	-	-	-	-	-	-	-	7,500
Ocean Drive Studio Co., Ltd. ³	7,107	-	9,498	-	-	-	(4,753)	-	-	11,852
Socialbean Co., Ltd	356	-	-	-	-	-	(330)	-	110	136
DOZEN CO.,LTD ³	695	-	52	-	-	-	452	-	-	1,199
Super Comics.	1,893	-	-	-	-	-	(185)	-	-	1,708
Stage five Co., Ltd. ³	91,660	-	2,000	-	-	-	(1,303)	(13)	(871)	91,473
Adlock Advertainment	1,132	-	-	-	-	-	-	-	-	1,132
Second Dive	9,523	-	-	-	-	-	(802)	-	7	8,728
Lionheart Studio ⁹	20,318	(705,345)	-	-	-	-	27,368	-	657,659	-
KROSS PICTURES ⁹	5,880	(6,250)	-	-	-	-	398	(28)	-	-
DGT mobility.	2,556	-	-	-	-	-	438	-	-	2,994
DEVOTION FOODS Inc.	3,000	-	-	-	-	-	-	-	-	3,000
Japle Co., Ltd.	500	-	-	-	-	-	(370)	-	-	130
ATU e-sports Growth PE Fund I	5,499	-	-	-	-	-	-	-	-	5,499
S&Tsolution Co.,Ltd.	1,100	-	-	-	-	-	(7)	-	-	1,093
Radish Media. Inc ⁹	30,972	(44,680)	16,459	-	-	-	(3,165)	414	-	-
Kakao-Shinhan 1st TNYT Fund ³	2,339	-	3,582	-	-	-	(856)	11	-	5,076
Kakao Growth Hacking Fund ³	3,188	-	9,600	-	-	-	(231)	-	-	12,557

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

(in millions of Korean won)

2021

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
Atwater Whip SPV, LP ⁴	12,200	-	-	(12,200)	-	-	-	-	-	-
KIDSPAY CO. Ltd. ¹⁹	502	-	-	-	(27)	-	(429)	-	-	46
Way2Bit Co., Ltd. ¹³	5,012	(6,708)	-	-	-	-	1,696	-	-	-
Loadstars	15	-	-	-	-	-	(76)	-	131	70
Teins Valley	500	-	-	-	-	-	31	-	-	531
JASON GROUP Co., Ltd. ⁶	29,997	-	-	(131)	-	-	(470)	-	-	29,396
PLANETS CO. LTD. ¹⁶	700	(692)	-	-	-	-	67	(75)	-	-
Anycall Mobility Corp.	1,004	-	-	-	-	-	14	-	-	1,018
Highup Entertainment ²	-	-	4,000	-	-	-	(520)	-	-	3,480
Helios KDBC Video Digital Contents No. ¹²	-	-	2,240	-	-	-	(70)	-	-	2,170
Neptune Co., Ltd. ⁸	-	-	193,520	-	-	79,325	(8,800)	33,249	(401)	296,893
FM Ad ^{8,16}	-	(39)	-	-	-	20	19	-	-	-
Caring Corp. ²	-	-	4,002	-	-	-	(1,034)	-	-	2,968
MUSTIT. CO., Ltd. ²	-	-	9,992	-	-	-	(2,066)	-	-	7,926
RPG Gate Corp. ²	-	-	500	-	-	-	(84)	-	-	416
NBT Inc ⁴	923	-	-	(923)	-	-	-	-	-	-
Ad X Co., Ltd. ^{9,12}	17,719	(17,440)	-	-	-	-	(279)	-	-	-
SHOH ENTERPRISE PTE. LTD ¹⁰	3,892	-	-	-	-	(3,892)	-	-	-	-
Sixshop ^{5,11}	1,385	-	-	(761)	-	(254)	(370)	-	-	-
Kakao Style Corp. ²	-	-	173,437	-	-	-	(10,612)	557	-	163,382
UTC Kakao SK Telecom ESG Fund ²	-	-	2,000	-	-	-	(75)	-	-	1,925
HongKong TXKP Limited ¹⁵	-	23,196	-	-	-	-	(1,457)	1,149	-	22,888
Nubility ²	-	-	2,000	-	-	-	(565)	-	-	1,435
CLEON CO.,LTD ²	-	-	1,600	-	-	-	-	-	-	1,600
Reality Magic ¹⁸	-	-	3,000	-	-	2,555	(227)	-	-	5,328
Brokk Sindri ¹⁴	-	-	-	-	-	-	-	-	-	-
The M Company ²	-	-	884	-	-	-	176	-	-	1,060
Autonomous A2Z ²	-	-	6,500	-	-	-	158	-	275	6,933
13MILE.CO.LTD ⁴	-	-	-	-	-	-	-	-	-	-

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

(in millions of Korean won)

2021

Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal	Impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others ¹	Ending balance
Humanscape ²	-	-	17,028	-	-	-	(1,076)	4,448	-	20,400
Grip Company ²	-	-	180,000	-	-	-	-	-	-	180,000
Metaverse Entertainment ²	-	-	12,000	-	-	-	(320)	-	-	11,680
Atwater Capital Partners I, L.P. ^{3,8}	-	-	478	-	-	233	(12)	10	-	709
Romance Crew ¹⁷	-	40	-	-	-	-	-	-	-	40
Bluepoint Discovery Venture Fund No.2 ²	-	-	800	-	-	-	(12)	-	-	788
TNK Factory ¹⁵	-	38,105	-	-	-	-	-	-	-	38,105
Galux ²	-	-	5,001	-	-	-	-	-	-	5,001
RECON Labs. ²	-	-	500	-	-	-	-	-	-	500
e.Form Works ²	-	-	733	-	-	-	-	-	-	733
LOVO INC. ²	-	-	4,107	-	-	-	-	-	-	4,107
Others (50 companies) ^{3,5,9}	22,383	-	6,699	(3,967)	(472)	(3,374)	(7,907)	(234)	12,819	25,947
	1,493,210	(730,851)	674,712	(154,019)	(370)	74,613	510,319	32,712	1,304,630	3,204,956
Joint Venture										
DAUM KAKAO PHILIPPINES CORP.	176	-	-	-	-	-	(25)	31	-	182
Asankakao Medical Data Co., Ltd.	4,500	-	-	-	-	-	(231)	-	-	4,269
PHI digital healthcare Inc.	6,531	-	-	-	-	-	30	-	(166)	6,395
USABANG CULTURE INDUSTRIAL Ltd. ⁴	2	-	-	(2)	-	-	-	-	-	-
	11,209	-	-	(2)	-	-	(226)	31	(166)	10,846
₩	1,504,419	(730,851)	674,712	(154,021)	(370)	74,613	510,093	32,743	1,304,464	3,215,802

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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16. Investments in Associates and Joint Venture, Continued

¹ Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2021.

² Newly acquired and established during 2021.

³ Additionally acquired during 2021.

⁴ Disposed during 2021.

⁵ Partially disposed during 2021.

⁶ The Group received dividend income from Dunamu Inc. amounting to ₩ 4,255 million, JASON GROUP Co., Ltd. amounting to ₩ 131 million, and DAUM Venture Fund amounting to ₩ 2,605 million and deducted it from the carrying amount of investments in associates.

⁷ Collected partial amount of investments from the fifth and sixth distribution.

⁸ Reclassified to associates from financial instruments measured at fair value through profit or loss as the Group acquired significant influence through additional acquisitions during 2021.

⁹ Reclassified to a subsidiary from an associate due to acquisition of additional shares during 2021.

¹⁰ Reclassified to a financial instrument at fair value through profit or loss from an associate due to loss of significant influence during 2021.

¹¹ Reclassified to a financial instrument at fair value through other comprehensive income from an associate due to loss of significant influence during 2021.

¹² As Ad X Co., Ltd. was reclassified as a subsidiary, it was included to an associate.

¹³ It was merged with Friendsgames Co., Ltd. during 2021.

¹⁴ Included to an associate as Way2Bit Co., Ltd. was merged with Friendsgames Co., Ltd. during 2021.

¹⁵ Reclassified from a subsidiary to an associate due to loss of control during 2021.

¹⁶ As TNK Factory was reclassified from a subsidiary to an associate, it was excluded from the Group's associate during 2021.

¹⁷ As Gleline is included as a subsidiary it was included as an associate during 2021.

¹⁸ Reclassified from a financial instrument at fair value through profit or loss to an associate due to acquisition of additional shares during 2021.

¹⁹ Due to decrease in sales, the recoverable amount is less than the carrying amount as of December 31, 2021, thus, the Group recognized the amount of difference as an impairment loss during 2021.

²⁰ As the recoverable amount is determined to exceed the carrying amount through assessment, the Group recognized the reversal of impairment during 2021.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

16. Investments in Associates and Joint Venture, Continued

Fair value of investments in associates that has a quoted market price as of December 31, 2022 and 2021, is as follows:

(in millions of Korean won)

Company	2022		2021	
	Fair value	Book value	Fair value	Book value
Associates				
KakaoBank Corp.	₩ 3,147,670	1,589,134	7,642,490	1,540,065
Neptune Co., Ltd.	193,064	193,064	289,472	296,893
D&C MEDIA CO.,LTD	64,179	42,426	117,424	41,495

The tables below provide a reconciliation of the summarized financial information presented to the carrying amount of its interest in material associates and joint venture.

(in millions of Korean won)

	2022				
	Net assets at the end of the year (a)	The Group's share in % (b)	The Group's share in KRW (a*b)	Goodwill and etc.	Book value
KakaoBank Corp.	₩ 5,706,214	27.20%	1,550,450	38,684	1,589,134
Stage five Co., Ltd ¹	21,336	31.30%	6,681	57,338	64,019
D&C MEDIA CO.,LTD. ²	72,954	23.30%	16,992	25,434	42,426
Neptune Co., Ltd. ²	392,388	41.30%	161,998	31,066	193,064
Kakao Style Corp. ¹	33,741	53.40%	18,005	114,606	132,611
Grip Company	148,050	48.80%	72,295	91,825	164,121

¹ The Group's share in net asset is calculated by taking into account of conditions of the investing companies' preferred shares.

² The equity interest percentage excluding treasury shares is used.

(in millions of Korean won)

	2021				
	Net assets at the end of the year (a)	The Group's share in % (b)	The Group's share in KRW (a*b)	Goodwill and etc.	Book value
KakaoBank Corp.	₩ 5,494,586	27.26%	1,497,886	42,179	1,540,065
Dunamu Inc.	3,337,693	15.33%	511,668	2,580	514,248
Stage five Co., Ltd ¹	226,371	9.72%	22,007	69,465	91,472
D&C MEDIA CO.,LTD. ³	67,732	23.27%	15,761	25,734	41,495
Neptune Co., Ltd. ²	394,036	32.63%	128,559	168,334	296,893
Kakao Style Corp.	81,924	51.32%	42,043	121,339	163,382
Grip Company ¹	122,264	57.00%	69,688	110,312	180,000

¹ The Group's share in net asset is calculated by taking into account of conditions of the investing companies' preferred shares.

² Reclassified to associates from financial instruments measured at fair value through profit or loss as the Group acquired significant influence through additional acquisitions during 2021.

³ The equity interest percentage excluding treasury shares is used.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

16. Investments in Associates and Joint Venture, Continued

A summary of financial information on the associates and joint venture for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)

		2022									
		Current asset	Non-current asset	Financial asset	Current liability	Non-current liability	Financial liability	Revenue	Profit (loss)	Other comprehensive income (loss)	Total Comprehensive income (loss)
KakaoBank Corp.		-	-	39,516,079	-	-	33,800,969	1,605,801	263,091	(74,267)	188,823
Stage five Co., Ltd	₩	20,502	12,338	-	198,668	2,998	-	85,672	(22,898)	237	(22,661)
D&C MEDIA CO.,LTD.		61,362	33,666	-	16,721	2,679	-	61,242	5,367	-	5,367
Neptune Co., Ltd.		48,712	384,133	-	20,110	23,504	-	29,356	(159,966)	1,413	(158,553)
Kakao Style Corp.		69,508	28,922	-	59,545	4,514	-	101,841	(50,043)	1,008	(49,035)
Grip Company.		164,656	7,156	-	17,047	5,139	-	13,132	(26,824)	44	(26,780)
	₩	<u>364,740</u>	<u>466,215</u>	<u>39,516,079</u>	<u>312,091</u>	<u>38,834</u>	<u>33,800,969</u>	<u>1,897,044</u>	<u>8,727</u>	<u>(71,565)</u>	<u>(62,839)</u>

(in millions of Korean won)

		2021									
		Current asset	Non-current asset	Financial asset	Current liability	Non-current liability	Financial liability	Revenue	Profit (loss)	Other comprehensive income (loss)	Total Comprehensive income (loss)
KakaoBank Corp.		-	-	36,040,068	-	-	30,518,698	1,064,933	204,124	(35,543)	168,582
Dunamu Inc.	₩	8,805,516	1,612,397	-	6,948,331	243,695	-	3,705,506	2,234,272	1,343	2,235,614
Stage five Co., Ltd		32,994	5,286	-	7,985	1,710	-	51,194	(9,111)	18	(9,093)
D&C MEDIA CO.,LTD.		63,274	22,991	-	16,656	640	-	67,422	15,111	-	15,111
Neptune Co., Ltd.		44,083	421,571	-	24,712	52,772	-	20,308	70,053	120	70,173
Kakao Style Corp.		100,834	27,717	-	41,764	4,776	-	65,235	(35,108)	(8)	(35,115)
Grip Company.		187,283	886	-	38,434	26,982	-	7,006	(35,605)	-	(35,605)
	₩	<u>9,233,984</u>	<u>2,090,848</u>	<u>36,040,068</u>	<u>7,077,882</u>	<u>330,575</u>	<u>30,518,698</u>	<u>4,981,604</u>	<u>2,443,736</u>	<u>(34,070)</u>	<u>2,409,667</u>

The accumulated loss that was not recognized due to discontinuance of equity method of accounting is ₩ 7,427 million as of December 31, 2022 (2021: ₩ 10,966 million).

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

17. Property and Equipment

(1) Non-financial services business

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

(in millions of Korean won)

	2022							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construction in progress	Total
Beginning balance	₩ 98,630	47,369	6,612	241,637	10,726	104,652	45,290	554,916
Acquisition	3,223	2,706	2,591	138,349	3,255	97,521	218,409	466,054
Changes in scope of consolidation	8,823	1,563	7,764	8,538	8	1,019	540	28,255
Disposals	(1,007)	(56)	(176)	(300)	(1,135)	(14,024)	(94)	(16,991)
Depreciation	-	(1,730)	(3,862)	(92,846)	(3,630)	(60,020)	-	(162,088)
Impairment	-	-	-	-	-	-	-	-
Transfer	257	-	(120)	3,978	(7)	86,184	(82,179)	8,112
Others ¹	(30)	(62)	-	62	9	8,038	(862)	7,156
Ending balance	₩ 109,896	49,790	12,810	299,418	9,026	223,352	181,104	885,397
December 31, 2022								
Acquisition cost	₩ 109,896	62,449	30,450	671,788	18,925	390,786	181,104	1,465,448
Government grants	-	-	-	(390)	(76)	(1,963)	-	(2,428)
Accumulated depreciation	-	(12,659)	(17,690)	(371,981)	(9,823)	(165,464)	-	(557,616)
Accumulated impairment	-	-	-	-	-	(6)	-	(6)
Net book value	₩ 109,896	49,790	12,810	299,418	9,026	223,352	181,104	885,397

¹ Others include currency translation effects.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

17. Property and Equipment, Continued

(in millions of Korean won)

	2021							
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Construction in progress	Total
Beginning balance	₩ 69,318	39,046	1,583	189,711	12,054	90,630	28,326	430,668
Acquisition	11,610	2,740	1,227	120,826	2,135	45,198	32,901	216,637
Changes in scope of consolidation	12,319	7,196	1	2,542	529	3,920	-	26,507
Disposals	(1)	(178)	-	(326)	(601)	(1,938)	-	(3,044)
Depreciation	-	(1,415)	(1,301)	(73,199)	(3,728)	(39,369)	-	(119,012)
Transfer	5,393	-	5,102	2,108	312	5,959	(17,242)	1,632
Others ¹	(9)	(20)	-	(25)	25	252	1,305	1,528
Ending balance	<u>₩ 98,630</u>	<u>47,369</u>	<u>6,612</u>	<u>241,637</u>	<u>10,726</u>	<u>104,652</u>	<u>45,290</u>	<u>554,916</u>
December 31, 2021								
Acquisition cost	₩ 98,630	57,873	8,232	530,690	19,299	236,686	45,290	996,700
Government grants	-	-	-	(56)	-	(1,027)	-	(1,083)
Accumulated depreciation	-	(10,504)	(1,620)	(288,997)	(8,573)	(131,001)	-	(440,695)
Accumulated impairment	-	-	-	-	-	(6)	-	(6)
Net book value	<u>₩ 98,630</u>	<u>47,369</u>	<u>6,612</u>	<u>241,637</u>	<u>10,726</u>	<u>104,652</u>	<u>45,290</u>	<u>554,916</u>

¹ Others include currency translation effects.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

17. Property and Equipment, Continued

(2) Financial services business

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

(in millions of Korean won)

	2022			
	Land	Buildings	Equipment¹	Total
Beginning balance	₩ 240	515	11,028	11,782
Acquisition	-	-	7,544	7,544
Disposal	(240)	(513)	(76)	(827)
Depreciation	-	(2)	(3,459)	(3,461)
Ending balance	<u>₩ -</u>	<u>-</u>	<u>15,037</u>	<u>15,037</u>
December 31, 2022				
Acquisition cost	₩ -	-	20,912	20,912
Accumulated depreciation	-	-	(5,875)	(5,875)
Net book value	<u>₩ -</u>	<u>-</u>	<u>15,038</u>	<u>15,038</u>

¹ Assets under construction are included.

(in millions of Korean won)

	2021			
	Land	Buildings	Equipment¹	Total
Beginning balance	₩ 240	529	5,081	5,850
Acquisition	-	-	7,445	7,445
Depreciation	-	(14)	(1,499)	(1,513)
Ending balance	<u>₩ 240</u>	<u>515</u>	<u>11,028</u>	<u>11,782</u>
December 31, 2021				
Acquisition cost	₩ 240	539	15,204	15,983
Accumulated depreciation	-	(24)	(4,176)	(4,201)
Net book value	<u>₩ 240</u>	<u>515</u>	<u>11,028</u>	<u>11,782</u>

¹ Assets under construction are included.

(3) Some land and buildings of the Group's property and equipment are provided as collateral in relation to the loan agreement (Note 38).

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

18. Investment Properties

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

(in millions of Korean won)

	2022	
	Buildings	
Beginning balance	₩	101,296
Depreciation		(404)
Transfer		(80,015)
Ending balance	₩	<u>20,878</u>
December 31, 2022		
Acquisition cost	₩	22,112
Accumulated depreciation		(1,234)
Net book value	₩	<u>20,878</u>

(in millions of Korean won)

	2021	
	Buildings	
Beginning balance	₩	-
Acquisition ¹		102,127
Depreciation		(830)
Ending balance	₩	<u>101,296</u>
December 31, 2021		
Acquisition cost	₩	102,127
Accumulated depreciation		(830)
Net book value	₩	<u>101,296</u>

¹Among the leasehold assets acquired during the previous period, the space sublease as an operating lease was recognized as investment real estate

(2) The Group provides some of the licensed assets held as lease users to third parties as operating leases, classifying the licensed assets as investment real estate, and amortizing the operating lease period by a fixed number of years.

(3) During the current term, rental income from operating leases generated from investment real estate is ₩ 398 million, and related operating expenses (including maintenance and repair costs) are ₩ 396 million. These revenues and expenses are included in operating income and operating expenses, respectively.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

19. Intangible Assets

(1) Non-financial services business

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

(in millions of Korean won)

	2022						
	Goodwill	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets ²	Total
Beginning balance	₩ 4,900,150	204	70,081	57,561	386,296	933,503	6,347,795
Acquisition	-	218	1,357	959	32,428	231,746	266,709
Transfer ¹	29,572	1,036	(24,291)	-	31,940	130,751	169,007
Changes in scope of consolidation	176,394	42	(45)	11,722	(427)	(121,105)	66,582
Disposal	-	(156)	(193)	(6)	(3,457)	(70,055)	(73,867)
Amortization	-	(278)	(9,364)	(15,658)	(32,053)	(134,360)	(191,714)
Impairment	(701,516)	(856)	(6)	(5,282)	(11,305)	(17,936)	(736,900)
Other	72,604	17	885	(6)	7,589	93,650	174,741
Ending balance	₩ 4,477,204	228	38,425	49,290	411,011	1,046,195	6,022,352
December 31, 2022							
Acquisition cost	₩ 6,203,923	18,434	79,578	95,622	487,380	1,518,406	8,403,343
Accumulated amortization	-	(17,982)	(41,071)	(40,369)	(68,854)	(378,761)	(547,037)
Government grants	-	-	(3)	-	-	(111)	(114)
Accumulated impairment	(1,726,718)	(224)	(80)	(5,964)	(7,515)	(93,339)	(1,833,840)
Net book value	₩ 4,477,204	228	38,425	49,290	411,011	1,046,195	6,022,352

¹ Long-term advance payments which qualify for recognizing assets are reclassified into intangible assets.

² Includes ₩ 85,337 million of cryptocurrency held by the Group as of December 31, 2022.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

(in millions of Korean won)

	2021						
	Goodwill	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets ²	Total
Beginning balance	₩ 2,693,533	266	27,399	18,495	371,429	240,431	3,351,553
Acquisition	-	-	6,170	11,646	14,240	163,266	195,322
Transfer ¹	-	-	(19,041)	-	-	20,027	986
Changes in scope of consolidation	2,457,950	148	65,176	35,621	736	659,310	3,218,941
Disposal	-	-	(30)	(3)	(287)	(20,658)	(20,978)
Amortization	-	(210)	(7,661)	(8,198)	(1)	(114,059)	(130,129)
Impairment	(288,011)	-	(1,934)	-	185	(1,861)	(291,621)
Other	36,678	-	2	-	(6)	(12,953)	23,721
Ending balance	₩ 4,900,150	204	70,081	57,561	386,296	933,503	6,347,795
December 31, 2021							
Acquisition cost	₩ 5,951,227	22,382	79,605	85,861	386,436	1,290,505	7,816,016
Accumulated amortization	-	(19,940)	(7,872)	(27,618)	-	(266,286)	(321,716)
Government grants	-	-	(4)	-	-	(59)	(63)
Accumulated impairment	(1,051,077)	(2,238)	(1,648)	(682)	(140)	(90,657)	(1,146,442)
Net book value	₩ 4,900,150	204	70,081	57,561	386,296	933,503	6,347,795

¹ Long-term advance payments which qualify for recognizing assets are reclassified into intangible assets.

² Includes ₩ 63,060 million of cryptocurrency held by the Group as of December 31, 2021.

Management reviews sales performance based on region and type of sales, and manages goodwill at sales level.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

19. Intangible Assets, Continued

(2) Financial services business

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

(in millions of Korean won)

			2022			
	Development costs	Others	Goodwill	Membership	Total	
Beginning balance	₩ 10,829	9,260	12,567	572	33,228	
Acquisitions	7,028	2,837	-	1,581	11,446	
Disposal	-	(1)	-	(511)	(512)	
Amortization	(9,706)	(2,225)	-	(121)	(12,052)	
Reclassification ¹	38,252	200	-	-	38,452	
Ending balance	₩ 46,403	10,071	12,567	1,520	70,561	
December 31, 2022						
Acquisition cost	₩ 63,196	15,385	12,567	1,727	92,875	
Accumulated amortization	(16,793)	(5,314)	-	(206)	(22,314)	
Net book value	₩ 46,403	10,071	12,567	1,520	70,561	

¹ Reclassified the amounts classified prepayments in 2021 as intangible assets during 2022.

(in millions of Korean won)

			2021			
	Development costs	Others	Goodwill	Membership	Total	
Beginning balance	₩ 14,412	8,416	12,567	639	36,034	
Acquisitions	-	2,429	-	-	2,429	
Amortization	(3,583)	(1,585)	-	(67)	(5,235)	
Ending balance	₩ 10,829	9,260	12,567	572	33,228	
December 31, 2021						
Acquisition cost	₩ 17,916	12,482	12,567	693	43,658	
Accumulated amortization	(7,087)	(3,222)	-	(121)	(10,430)	
Net book value	₩ 10,829	9,260	12,567	572	33,228	

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

19. Intangible Assets, Continued

(3) The following is a summary of goodwill allocation for cash generating units (“CGU”s) operated by management for the years ended December 31, 2022 and 2021:

(in millions of Korean won)

	2022				
	Beginning balance	Changes in scope of consolidation¹	Impairment²	Other adjustments³	Ending balance
Internet portal service and other service	₩ 1,081,856	-	(70,718)	-	1,081,856
Music service	302,079	-	(602,457)	-	231,361
Other mobile service	1,356,976	150,908	-	71,900	977,328
Game business	1,418,770	(24,574)	-	30,277	1,424,472
Commerce service	270,913	-	-	-	270,913
Financial services ³	12,567	-	-	-	12,567
Entertainment service	469,556	50,061	(28,342)	-	491,275
	<u>₩ 4,912,717</u>	<u>176,394</u>	<u>(701,516)</u>	<u>102,177</u>	<u>4,489,771</u>

¹ Included the amounts increased through the acquisition of equity shares in KM Park and EDAM Entertainment during 2022.

² Included the amount of impairment of TAPAS ENTERTAINMENT, INC. (formerly, Radish Media, Inc.) during 2022.

³ Included foreign currency effects from acquisition of foreign companies.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

19. Intangible Assets, Continued

(in millions of Korean won)

		2021					
		Beginning balance	Increase ¹	Changes in scope of consolidation	Impairment	Other adjustments ²	Ending balance
Internet portal service and other service	₩	1,081,856	-	-	-	-	1,081,856
Music service		500,575	-	-	(198,496)	-	302,079
Other mobile service		336,127	1,017,440	(5,697)	(27,390)	36,496	1,356,976
Game business		114,835	1,327,901	-	(24,148)	182	1,418,770
Commerce service		277,901	-	(6,988)	-	-	270,913
Financial services		12,567	-	-	-	-	12,567
Entertainment service		382,239	125,407	(114)	(37,976)	-	469,556
	₩	<u>2,706,100</u>	<u>2,470,748</u>	<u>(12,799)</u>	<u>(288,010)</u>	<u>36,678</u>	<u>4,912,717</u>

¹ Included the amounts increased by the acquisition of shares in 49 companies including AD X Co., Ltd. during 2021.

² Included foreign currency effects from acquisition of foreign companies.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

19. Intangible Assets, Continued

(4) The Group annually tests impairment of its goodwill. The recoverable amounts of CGU or CGUs have been determined based on value-in-use calculations. These calculations use cash flow projections after tax based on financial budgets approved by management covering a five-year period.

The following table sets out major assumption, operating income rate, revenue growth rate, perpetual growth rate and discount rate used in the value-in-use calculations for those CGUs that have significant goodwill allocated to them.

	2022			
	Internet portal service and other service¹	Music Service	Financial services	Other mobile service, game business, commerce service, other contents service, entertainment service and others
Operating income rate	13.2% ~ 24.0%	10.3% ~ 11.9%	(-)51.9% ~ 33.6%	(-)309.2% ~ 85.6%
Revenue growth rate	6.9% ~ 8.0%	1.9% ~ 7.3%	27.2% ~ 68.4%	(-)80.9% ~ 246.6%
Perpetual growth rate	1.00%	1.00%	1.00%	0.0% ~ 1.0%
discount rate	10.50%	12.80%	15.60%	8.4% ~ 17.3%

¹ When estimating the recoverable amount, if a perpetual growth rate applied to CGU is lower than the management's estimate by 0.5%, the recoverable amount will be reduced by 3.4%. If the discount rate applied to the estimation is higher than the management's estimate by 0.5%, the recoverable amount will decrease by 5.2%.

	2021			
	Internet portal service and other service¹	Music Service	Financial services	Other mobile service, game business, commerce service, other contents service, entertainment service and others
Operating income rate	17.7% ~ 25.2%	11.4% ~ 12.3%	(-)77.4% ~ 29.6%	(-)1,192.3% ~ 4,462.4%
Revenue growth rate	5.3% ~ 12.3%	0.9% ~ 4.9%	5.9% ~ 25.0%	(-)85.58% ~ 3,441.6%
Perpetual growth rate	1.00%	1.00%	1.00%	0.0% ~ 1.0%
discount rate	11.74%	11.68%	16.95%	10.6% ~ 18.6%

¹ When estimating the recoverable amount, if a perpetual growth rate applied to CGU is lower than the management's estimate by 0.5%, the recoverable amount will be reduced by 3.0%. If the discount rate applied to the estimation is higher than the management's estimate by 0.5%, the recoverable amount will decrease by 4.4%.

These assumptions were used for each cash flow generation unit within the operating segment.

The discount rate is the discount rate that reflects the specific risk associated with the segment to which the CGUs (group) belongs.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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19. Intangible Assets, Continued

As a result of impairment assessment for goodwill, the Group determined that the carrying amount of the music service division and other mobile services and entertainment service cash-generating units will not exceed the recoverable amount, and did not recognize impairment loss on goodwill.

The following is a summary of digital assets amount recognized in the consolidated statements of financial position for the years ended December 31, 2022 and 2021:

(5) Digital assets held by the Group as of December 31, 2022 are as follows:
(in unit, millions of Korean won)

Digital assets	Accounts	Acquisition Methods	Amount on hand	2022	
				Cost of acquisition	Book value
KLAY	Other intangible assets	Block rewards / Paid acquisition	972,344,459	₩ 50,120	49,173
WEMIX	Other intangible assets	Block rewards / Paid acquisition	6,534,882	3,569	3,136
USDC	Other intangible assets	Paid acquisition	2,352,293	2,985	2,985
USDT	Other intangible assets	Paid acquisition	1,270,210	1,435	1,435
BORA	Other intangible assets	Paid acquisition	339,690,643	522	522
Ethereum	Other intangible assets	Paid acquisition	380	98	98
Bitcoin	Other intangible assets	Paid acquisition	38	1,204	839
Others	Other intangible assets	Paid acquisition	295,817,568	28,356	27,148
Others	Other intangible assets	Free acquisitions/ Staking Rewards ¹	135,171	-	-
Total			1,618,145,646	₩ 88,289	85,337

¹ The Group did not recognize the cost due to difficulty for evaluating the market price of a token that is not listed on a centralized exchange.

(6) Information regarding digital assets held by the Group as of December 31, 2022, which were not recognized in the consolidated financial statements is as follows.

Digital assets	Reasons	2022
		Quantity on hand
KLAY ¹	Uncirculated supply out of a total supply of 10 billion units	7,498,653,764
BORA	Uncirculated supply	212,000,000
	For marketing and investment purposes to build and activate the BORA ecosystem	115,992,664
	To compensate employees and advisors for BORA development	5,246,316
	Others	659,499
tBORA	Bora Portal Fees: Fees paid by token holders for using services and goods on the Bora Portal.	843,564
BID	Game tokens available in "Birdie Shot" and issued based on BORA Token	132,352
BSLT	Game tokens available in "Archiworld" and issued based on BORA Token	1,102,940
Total		7,834,631,099

¹ A portion of the uncirculated amount of KLAY is scheduled to be retired during 2023.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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20. Leases

(1) Non-financial services business

1) Amounts recognized in the consolidated statements of financial position

The consolidated statements of financial position show the following amounts relating to leases:

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Right-of-use assets		
Properties	₩ 1,599,597	1,297,868
Machinery	105,873	94,069
Vehicles	10,121	7,297
Total	<u>₩ 1,715,592</u>	<u>1,399,234</u>

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Lease liabilities		
Current	₩ 244,391	169,531
Non-current	1,643,416	1,318,155
Total	<u>₩ 1,887,807</u>	<u>1,487,685</u>

Additions to the right-of-use assets for the year ended December 31, 2022 is ₩ 316,358 million. (2021: ₩ 1,134,943 million). The amount does not include any right-of-use asset that have been derecognized due to sublease.

2) The consolidated statements of other comprehensive income show the following amounts relating to leases:

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Depreciation of right-of-use assets ¹		
Properties	₩ 162,504	79,669
Machinery	43,182	31,132
Vehicles	4,548	3,985
Total	<u>₩ 210,234</u>	<u>114,786</u>
Interest expense relating to lease liabilities (included in finance cost)	₩ 62,238	17,540
Expense relating to short-term leases (included in operating expenses)	4,458	4,686
Expense relating to leases of low-value assets that are not short-term leases (included in operating expenses)	1,575	1,572
Expense relating to variable lease payments not included in lease liabilities (included in operating expenses)	18,500	14,954
Income from subleases of right-of-use assets	6,584	1,251

¹ Depreciation in 2022 consists of depreciation in operating expense of ₩ 202,057 million (2021: ₩ 109,913 million) and product cost of ₩ 8,177 million (2021: ₩ 6,498 million).

The total cash outflow for leases for the year ended December 31, 2022 is ₩ 209,292 million (2021: ₩ 103,691 million).

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20. Leases, Continued

3) Changes in lease liabilities

Changes in lease liabilities for the year ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022	2021
Beginning balance	₩ 1,487,685	352,206
Changes in scope of consolidation	(106,556)	7,173
Increase	665,778	1,247,103
Payments	(184,759)	(102,217)
Disposals	(31,554)	(34,440)
Amortization	62,238	17,540
Others	(5,025)	320
Ending balance	₩ 1,887,807	1,487,685

4) Maturity analysis of lease receivables

The following table sets out a maturity analysis of lease receivables, showing the undiscounted lease payments to be received after the reporting date.

(in millions of Korean won)

	2022
Less than one year	₩ 10,428
One to two years	10,702
Two to three years	10,983
Three to four years	11,061
Four to five years	10,949
More than five years	46,676
Total undiscounted lease receivables	₩ 100,799
Unearned finance income	(15,253)
Net investment in the lease	₩ 85,546

The following table sets out a maturity analysis of lease payments, showing the undiscounted lease payments to be received after the reporting date.

(in millions of Korean won)

	2022
Less than one year	₩ 130
One to two years	45
Two to three years	47
Three to four years	48
Four to five years	16
Total	₩ 286

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20. Leases, Continued

(2) Financial services business

1) Amounts recognized in the consolidated statements of financial position

The consolidated statements of financial position show the following amounts relating to leases:
(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Right-of-use assets		
Properties	₩ 1,282	10,390
Machinery	1,625	507
Vehicles	186	303
Total	₩ <u>3,093</u>	<u>11,200</u>

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Lease liabilities	₩ 2,327	10,266

Additions to the right-of-use assets for the year ended December 31, 2022 is ₩ 8,107 million (2021: ₩ 8,996 million).

2) Amounts recognized in the consolidated statement of comprehensive income

The consolidated statement of other comprehensive income shows the following amounts relating to leases:

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Depreciation of right-of-use assets		
Properties	₩ 792	1,222
Machinery	513	118
Vehicles	173	287
Total	₩ <u>1,478</u>	<u>1,627</u>
Interest expense relating to lease liabilities (included in finance cost)	₩ 101	200
Expense relating to short-term leases (included in operating expenses)	354	416
Expense relating to leases of low-value assets that are not short-term leases (included in operating expenses)	985	386

The total cash outflow for leases for the year ended December 31, 2022 is ₩ 4,355 million (2021: ₩ 2,276 million).

KAKAO CORP. AND SUBSIDIARIES
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20. Leases, Continued

3) Changes in lease liabilities

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

(in millions of Korean won)

		2022	2021
Beginning balance	₩	10,266	3,304
Increase		6,395	8,289
Payments		(3,017)	(1,474)
Disposal		(1,449)	(52)
Amortization		101	199
Others		(9,969)	-
Ending balance	₩	2,327	10,266

21. Borrowings, Bonds and Lease Liabilities

Short-term borrowings and lease liabilities as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

	Lender	Interest rate	Date of maturity	Amount	
				2022	2021
Current portion of long-term borrowings	THE KUMAMOTO				
	DAI-ICHI SHINKIN			₩	-
	BANK and others				125
	Discount on issuance of bonds			-	-
	Net			-	-
Convertible bonds	Leo Partners				
	Investment				1,400
	Discount on issuance of bonds				-
	Net				1,509
Exchangeable bonds ^{1,2}	12th foreign currency exchangeable bonds	0.00%	April 2023	28,768	344,981
	Discount on issuance of bonds			(57)	(2,801)
	Net			₩	28,710

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For the years ended December 31, 2022 and 2021

21. Borrowings, Bonds and Lease Liabilities, Continued

(in millions of Korean won)

	Lender	Interest rate	Date of maturity	Amount	
				2022	2021
Loans for operation capital	NongHyup Bank	4.4%~6.5%	January 2023 ~ June 2023	8,340	470
Loans for operation capital	Shinhan Bank	4.4%~7.9%	March 2023 ~ November 2023	158,800	56,500
Loans for operation capital	Woori Bank	1.8%~6%	May 2023 ~ July 2023	30,019	33,596
Loans for operation capital	Kookmin Bank	5.5%~8.2%	April 2023 ~ November 2023	192,271	124,174
Loans for operation capital ³	KB Securities and Korea Investment & Securities Co., Ltd. and others	1.00%~8.90%	January 2023 ~ June 2026	665,626	681,707
Redeemable convertible preferred shares ⁴				13,118	18,567
	Total			<u>₩ 1,096,884</u>	<u>1,258,828</u>

¹ During the year ended December 31, 2021, 106,763 shares of 12th foreign currency exchangeable bonds were exchanged with the treasury shares of the Group.

² During the year ended December 31, 2022, early redemption rights were exercised to repay \$268,300,000 of the 12th Foreign Currency Exchangeable Bonds.

³ Included the amount of long-term borrowings which will be repaid within one year.

⁴ Included ₩ 1,009 million of convertible bonds issued by the subsidiary.

KAKAO CORP. AND SUBSIDIARIES
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21. Borrowings, Bonds and Lease Liabilities, Continued

Long-term borrowings and long-term lease liabilities as of December 31, 2022 and 2021, are as follows:

(In millions of Korean won)

	Lender	Interest rate	Date of maturity	Amount	
				2022	2021
Exchangeable bonds	Anchor Equity Partners GP (Cayman), Ltd.	-	-	₩ -	1,126
Loans for operation capital	THE KUMAMOTO DAI-ICHI SHINKIN BANK and others	-	-	-	1,020
Loans for operation capital	Kookmin Bank	2.50%	June 2025	179,710	-
Loans for operation capital	Woori Bank	3.50%	June 2025	45,941	19
Loans for operation capital	Industrial Bank of Korea and others	1.00%~5.50%	July 2024~ April 2031	489,612	54,149
Long-term borrowing	U.S. Small Business Administration Disaster Assistance	-	-	-	178
Convertible bonds	Hana Bank and others	0.00%	March 2026	460,918	496,563
	Total			₩ 1,176,181	553,054

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21. Borrowings, Bonds and Lease Liabilities, Continued

Movements in the borrowings for the years ended December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 1,811,882	598,220
Changes in scope of consolidation	19,282	21,489
Additions	1,974,150	1,703,066
Repayments	(1,561,148)	(463,263)
Conversion to ordinary shares	(41,699)	(86,437)
Amortization of present value discounts	6,101	6,418
Others ¹	64,497	32,388
Ending balance	₩ 2,273,065	1,811,882

¹ As conversion rights and early redemption rights embedded in the redeemable convertible preferred shares issued by the subsidiary during the years ended December 31, 2022 and 2021 meet the terms of separation of embedded derivatives, and separately accounted for as derivative liabilities.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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21. Borrowings, Bonds and Lease Liabilities, Continued

Details of exchangeable bonds issued by the Group are as follows:

		Details
Type		12th guaranteed private exchangeable bonds
Principal amount		USD 22.7 million
Interest rate	Coupon rate	0%
	Yield rate	0%
Date of maturity		April 28, 2023
Redemption at maturity		1) Redemption at maturity: Unless previously redeemed, repurchased and cancelled or exchanged, 100% of principal amount will be redeemed
		2) Early redemption : put or call option is exercised
Exchange details	Exchange ratio	100%
	Exchange price (in Korean won) ¹	₩ 95,359 (per share)
	Exchange into	Ordinary shares of Kakao Corp.(treasury shares)
	Exchange period	From January 1, 2021 to April 18, 2023 (both inclusive)
	Exchange price adjustments	Subject to adjustment in certain circumstances as described in the agreement
Investor's early redemption right (Put Option)		Until and unless previously redeemed, repurchased and cancelled, or exchanged, on October 28, 2022, each of the bondholders has the right, at the option of such holder, to require the Company to redeem all or a portion of principal amount. And the bondholders may claim early redemption if: - a change of control occurs with respect to Kakao corp., or - the shares officially cease to be listed or admitted for trading or are suspended for a period of at least 30 consecutive trading days.
Issuer's early redemption right (Call Option)		The Company may, at its option at any time on or after April 28, 2022, until the 30 th six business day prior to the maturity date, redeem the bonds if the closing price of a share for each of 20 trading days in the period of 30 consecutive trading days ending on the trading day immediately prior to the date of our redemption notice, is at least 130% of the prevailing exchange price. And the Company may claim early redemption if: - at least 90% of the initial principal amount of the bonds have been redeemed, repurchased and cancelled, or exchanged, or - certain changes relating to taxation in Korea that the Company becomes obliged to gross up for any payments on the bonds

¹ During the year ended December 31, 2022, exchange price was adjusted due to cash dividends

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

21. Borrowings, Bonds and Lease Liabilities, Continued

Details of convertible bonds issued by the Group are as follows:

		Detail
Type		1 st non-guaranteed private convertible bonds ¹
Principal amount		₩ 500,000 million
Interest rate	Coupon rate	0%
	Yield rate	0%
Date of maturity		March 31, 2026
Conversion details	Conversion price (in Korean won)	₩ 52,100 (per share)
	Conversion period	From one year after the date of issuance to one month before the maturity date of repayment
	Conversion price adjustments	Adjusted in the event of issuance of stock-related bonds below the conversion price, capital increase with and without consideration, stock dividends and other occasions prescribed in the agreement

¹ Convertible bonds issued by Kakao Games Corp., a subsidiary of the Parent Company.

In addition to the above, as of December 31, 2022, there was one convertible bond issued by a subsidiary, XL Games, and the amount of ₩ 1,009 million was recorded in short-term borrowings.

The Group recognized the entire financial instrument as a liability because the reason for the loss of the due profit of convertible bonds falls under the conditional settlement clause.

Details of redeemable convertible preferred shares issued by subsidiaries as of December 31, 2022, are as follows:

	Issuers	
	METABORA Co., Ltd (Formerly, Friendsgames Co., Ltd) ¹	Life MMO Corp. ²
Date of issue	May 4, 2018	February 24, 2020
Value at issue (in millions of Korean won)	₩ 7,000	₩ 7,500
Dividend rate for preferred shares	1% of issue value	0%
Guaranteed yield upon redemption	8%	5%
Conversion period	From the day after issuance date to the day before 10 years from issuance date a) 1 preferred share for 1 ordinary share	From the day after issuance date to 5 years from issuance date a) 1 preferred share for 1 ordinary share
Conversion rate	b) anti-dilution (includes certain adjustments in IPO offering price)	b) anti-dilution (includes certain adjustments in IPO offering price)
Redemption period	Redeemable from one year after issuance date	Redeemable from one year after issuance date

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

21. Borrowings, Bonds and Lease Liabilities, Continued

	<u>Issuers</u>
	<u>Life MMO Corp.²</u>
Date of issue	March 17, 2020
Value at issue (<i>in millions of Korean won</i>)	₩ 1,645
Dividend rate for preferred shares	0%
Guaranteed yield upon redemption	5%
Conversion period	From the day after issuance date to 5 years from issuance date
	a) 1 preferred share for 1 ordinary share
Conversion rate	b) anti-dilution (includes certain adjustments in IPO offering price)
Redemption period	Redeemable from one year after issuance date

¹ As of December 31, 2022, conversion rights and early redemption rights in relation to the above redeemable convertible preferred shares meet the terms of separation of embedded derivatives and are considered as the one compound embedded derivatives, separate from the main contract, and derivative liabilities of ₩ 8,708 million are separately recognized.

² As of December 31, 2022, conversion rights and early redemption rights in relation to the above redeemable convertible preferred shares meet the terms of separation of embedded derivatives and are considered as the one compound embedded derivatives, separate from the main contract, and derivative liabilities of ₩ 3,266 million are separately recognized.

Other than the above redeemable convertible preferred shares, METABORA Co., Ltd have issued three redeemable convertible preferred shares as of December 31, 2022 and they are recognized as ₩ 3,691 million of short-term borrowings.

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22. Net Defined Benefit Liabilities

- Non-financial services business

Net defined benefit liabilities recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Present value of funded defined benefit obligation	₩ 302,208	248,131
Fair value of plan assets	(353,143)	(254,428)
Liability (asset) in the consolidated statements of financial position	<u>₩ (50,934)</u>	<u>(6,297)</u>

Changes in the defined benefit obligations for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 248,131	184,715
Increase due to change in scope of consolidation	871	2,763
Current service cost	71,578	57,141
Past service cost	1,421	15,502
Interest cost	7,502	4,556
Remeasurement:		
Actuarial loss from change in demographic assumptions	1,799	1,860
Actuarial loss (gain) from change in financial assumptions	(38,245)	(7,413)
Actuarial loss from experience adjustments	37,350	9,266
Benefits paid	(27,540)	(23,018)
Transfer from affiliated companies	268	2,372
Others	(925)	387
Ending balance	<u>₩ 302,208</u>	<u>248,131</u>

Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 254,428	174,402
Increase due to change in scope of consolidation	(1,047)	(166)
Interest income	7,688	3,987
Contribution	120,729	95,639
Payments from plans	(25,138)	(17,312)
Transfer from affiliated companies	(158)	(261)
Remeasurement:		
Revenue from plan assets(excluding amounts included in interest income)	(2,434)	(1,500)
Others	(925)	(362)
Ending balance	<u>₩ 353,143</u>	<u>254,428</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

22. Net Defined Benefit Liabilities, Continued

- Non-financial services business, Continued

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>		2022	2021
Current service cost		₩ 71,578	57,141
Past service cost		1,421	15,502
Net interest cost		(186)	569
Total		<u>₩ 72,812</u>	<u>73,212</u>

Total service cost from defined benefit plan amounting to ₩ 72,812 million and ₩ 73,212 million is included in operating expenses for the years ended December 31, 2022 and 2021, respectively. In addition, total service cost from defined contribution plan was ₩ 11,397 million and ₩ 4,851 million for the years ended December 31, 2022 and 2021, respectively.

Principal assumptions on actuarial valuation as of December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	3.5% ~ 6.51%	2.2% ~ 4.2%
Salary growth rate	3.56% ~ 7.2%	3.8% ~ 7.0%

The sensitivity analysis of the defined benefit obligations as of December 31, 2022 to changes in the weighted principal assumptions is:

	Effect on defined benefit obligations		
	Changes in principal assumption	changes in the amount of liabilities	changes in the amount of liabilities
Discount rate	1%	6.2% decrease	7.2% increase
Salary growth rate	1%	7.4% increase	6.2% decrease

The Group is exposed to the most significant risk through changes in bond yields, which was used as a discount rate. A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated. The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

22. Net Defined Benefit Liabilities, Continued

- Non-financial services business, Continued

Plan assets as of December 31, 2022 and 2021 consist of the following:

<i>(in millions of Korean won)</i>	2022	2021
Equity linked bond	₩ 3,296	6,568
Time deposits	185,015	69,333
Financial instruments with fixed rate	159,464	125,525
Interest guarantee insurance	3,940	2,865
Others	1,427	50,137
Total	<u>₩ 353,143</u>	<u>254,428</u>

Expected contributions to post-employment benefit plans for the year ended December 31, 2023 are ₩ 81,477 million.

The weighted average duration of the defined benefit obligation is 3.65 ~ 11.51 years.

The Group annually reviews the level of fund accumulated in the plan and operates a policy to compensate for any deficit in the fund.

- Financial services business

Net defined benefit liabilities recognized in the consolidated statements of financial position as of December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Present value of funded defined benefit obligation	₩ 2,608	1,480
Fair value of plan assets	(2,898)	(1,142)
Liability in the consolidated statements of financial position	<u>₩ (289)</u>	<u>338</u>

Changes in the defined benefit obligations for the years ended December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 1,480	432
Current service cost	1,199	603
Interest cost	50	12
Remeasurement:		
Actuarial loss (gain) from changes in demographic assumptions	35	-
Actuarial loss (gain) from change in financial assumptions	(736)	20
Actuarial loss (gain) from empirical adjustments	754	-
Benefits paid	(315)	(3)
Transfer from affiliated companies	141	415
Ending balance	<u>₩ 2,608</u>	<u>1,480</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

22. Net Defined Benefit Liabilities, Continued

- Financial services business, Continued

Changes in the fair value of plan assets for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 1,142	240
Interest income	33	5
Contribution	1,876	480
Payments from plans	(297)	-
Remeasurement:		
Revenue from plan assets(excluding amounts included in interest income)	2	1
Amount of payment and transfer due to transfer of affiliated companies	141	415
Ending balance	<u>₩ 2,898</u>	<u>1,142</u>

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Current service cost	₩ 1,199	603
Net interest cost	17	7
Total	<u>₩ 1,216</u>	<u>610</u>

Total service cost from defined benefit plan amounting to ₩ 1,216 million (2021: ₩ 610 million) is included in operating expenses for the year ended December 31, 2022. In addition, the retirement benefit recognized as an expense in relation to the defined contribution plan is ₩ 607 million (2021 : ₩ 678 million).

Principal assumptions on actuarial valuation as of December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	6.03%~6.13%	3.66%~3.67%
Salary growth rate	4%	5%~6%

The sensitivity analysis of the defined benefit obligations as of December 31, 2021 to changes in the weighted principal assumptions is:

	Effect on defined benefit obligations		
	Changes in principal assumption	Changes in the amount of liabilities	Changes in the amount of liabilities
Discount rate	1%	6.0% decrease	6.0% increase
Salary growth rate	1%	7.0% increase	6.0% decrease

The Group is exposed to the most significant risk through changes in bond yields, which was used as a discount rate. A decrease in corporate bond yields will increase plan liabilities, although this will be partially offset by an increase in the value of the plans' bond holdings.

The above sensitivity analyses are based on a change in an assumption while holding all other assumptions constant. In practice, this is unlikely to occur, and changes in some of the assumptions may be correlated.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

22. Net Defined Benefit Liabilities, Continue

- Financial services business, Continued

The sensitivity of the defined benefit obligation to changes in principal actuarial assumptions is calculated using the projected unit credit method, the same method applied when calculating the defined benefit obligations recognized on the consolidated statement of financial position.

Plan assets as of December 31, 2022 and 2021 consist of the following:

<i>(in millions of Korean won)</i>	2022	2021
Interest guarantee insurance	₩ 1,873	1,042
Time deposits	1,024	100
Total	<u>₩ 2,898</u>	<u>1,142</u>

Expected contributions to post-employment benefit plans for the year ending December 31, 2022, is ₩ 2,375 million.

The weighted average duration of the defined benefit obligation is 5.56~6.19 years.

The Group annually reviews the level of fund accumulated in the plan and operates a policy to compensate for any deficit in the fund.

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Notes to the Consolidated Financial Statements, Continued
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23. Other Long-term Employee Benefits Liabilities

- Non-financial services business

Changes in other long-term employee benefits liabilities for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 67,927	53,832
Increase due to change in scope of consolidation	(169)	(777)
Current service cost	19,951	15,139
Interest cost	1,570	947
Remeasurement of the benefit liabilities	(9,840)	950
Benefits paid	(2,957)	(2,003)
Transfer from affiliated companies	-	4
Others	(3,313)	(165)
Ending balance	<u>₩ 73,168</u>	<u>67,927</u>

The amounts recognized on the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Current service cost	₩ 19,951	15,139
Interest cost	1,570	947
Remeasurement of the benefit liabilities	(9,840)	(950)
Total	<u>₩ 11,681</u>	<u>17,036</u>

Principal assumptions on actuarial valuation in relation to other long-term employee benefits liabilities for the years ended December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	3.7%~6.0%	0.3%~3.9%
Salary growth rate	4.0%~7.0%	4.0%~6.4%

- Financial services business

Changes in other long-term employee benefits liabilities for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Beginning balance	₩ 1,020	264
Current service cost	725	584
Interest cost	24	6
Remeasurement of the benefit liabilities	588	166
Salary payment amount	(14)	-
Ending balance	<u>₩ 2,342</u>	<u>1,020</u>

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Notes to the Consolidated Financial Statements, Continued
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23. Other Long-term Employee Benefits Liabilities, continued

- Financial services business, continued

The amounts recognized on the consolidated statements of comprehensive income for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022	2021
Current service cost	₩ 725	584
Interest cost	24	6
Remeasurement of the benefit liabilities	588	166
Total	<u>₩ 1,336</u>	<u>756</u>

Principal assumptions on actuarial valuation in relation to other long-term employee benefits liabilities for the year ended December 31, 2022 and 2021 are as follows:

	2022	2021
Discount rate	5.63%~5.67%	3.01%~3.04%
Salary growth rate	4.0%	5.0%~6.0%

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24. Income Tax Expense and Deferred Tax

Income tax expense for the years ended December 31, 2022 and 2021 consists of:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Current tax:		
Current tax on profit for the year	₩ (108,938)	168,693
Adjustments due to changes in estimates related to prior years	19,013	30,907
Current tax charged directly to equity	(4,201)	44,211
	<u>(94,126)</u>	<u>243,811</u>
Deferred tax:		
Changes in temporary differences	(526,071)	487,616
Increase (decrease) in temporary differences due to change in scope of consolidation	(3,902)	(61,496)
Deferred tax charged or credited directly to equity	865,885	(22,391)
	<u>335,912</u>	<u>403,730</u>
Income tax expense	<u>₩ 241,786</u>	<u>647,540</u>

Reconciliation between actual income tax expense and amount computed by applying the statutory tax rate to profit before income tax for the years ended December 31, 2022 and 2021 follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Profit (loss) before income tax	₩ 1,304,363	2,293,694
Income tax expense computed at statutory tax rate	176,573	555,074
Adjustments:		
Non-taxable income	(141,914)	(260,332)
Non-deductible expenses	152,779	30,488
Changes in valuation allowance of deferred income tax asset	49,445	271,918
Adjustments due to changes in estimates related to prior years	19,013	30,907
Effects of the tax system for recirculation of corporate income	5,087	2,453
Tax credits	(19,198)	17,032
Income tax expense	<u>₩ 241,786</u>	<u>647,540</u>

KAKAO CORP. AND SUBSIDIARIES
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24. Income Tax Expense and Deferred Tax, Continued

Income tax effects related to components of other comprehensive income (expenses) for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	2022		
	Before tax	Tax effect	After tax
Other comprehensive income (expense):			
Gain on valuation of equity instruments at fair value through other comprehensive income	₩(2,250,879)	(522,204)	(1,782,675)
Remeasurement of the net defined benefit liabilities	(3,389)	(1,177)	(2,212)
Share of other comprehensive income of associates	(51,081)	2,047	(49,034)
	<u>₩(2,305,349)</u>	<u>525,428</u>	<u>(1,779,921)</u>

<i>(in millions of Korean won)</i>	2021		
	Before tax	Tax effect	After tax
Other comprehensive income (expense):			
Gain on valuation of equity instruments at fair value through other comprehensive income	₩ 485,689	(117,537)	368,152
Remeasurement of the net defined benefit liabilities	(4,276)	(1,693)	(5,968)
Share of other comprehensive income of associates	45,405	(10,988)	34,417
Change of retained earnings in equity method	(824)	200	(624)
	<u>₩ 525,995</u>	<u>(130,018)</u>	<u>395,977</u>

The aggregate current and deferred tax relating to items that are reflected directly to equity for the years ended December 31, 2022 and 2021, is as follows:

<i>(in millions of Korean won)</i>	2022		
	Before tax	Tax effect	After tax
Other reserves:			
Gain on disposal of treasury shares	₩ 16,547	(4,201)	12,346
Other component of equity	-	20,164	-
Others	(1,380,573)	320,293	(1,060,280)
	<u>₩ (1,364,026)</u>	<u>336,256</u>	<u>(1,047,934)</u>

<i>(in millions of Korean won)</i>	2021		
	Before tax	Tax effect	After tax
Other reserves:			
Gain on disposal of treasury shares	₩ 18,974	(4,668)	14,306
Other component of equity	-	148,191	-
Others	(34,360)	8,316	(26,044)
	<u>₩ (15,386)</u>	<u>151,839</u>	<u>(11,738)</u>

KAKAO CORP. AND SUBSIDIARIES
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24. Income Tax Expense and Deferred Tax, Continued

Deferred tax assets (liabilities) recognized in the consolidated statements of financial position as of December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Deferred tax assets		
Deferred tax assets to be recovered after more than 12 months	₩ 1,138,082	573,240
Deferred tax assets to be recovered within 12 months	174,346	40,467
	<u>1,312,428</u>	<u>613,707</u>
Deferred tax liabilities		
Deferred tax liabilities to be settled after more than 12 months	(1,454,063)	(1,288,487)
Deferred tax liabilities to be settled within 12 months	(17,186)	(10,113)
	<u>(1,471,250)</u>	<u>(1,298,600)</u>
Deferred tax liabilities, net	<u>₩ (158,821)</u>	<u>(684,893)</u>

The gross movement in the deferred tax assets (liabilities) for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Beginning balance	₩ (684,893)	(197,277)
Changes in scope of consolidation	(3,902)	(61,496)
Deferred income tax charged to profit or loss	(335,912)	(403,730)
Deferred income tax charged to other comprehensive income	525,428	(130,018)
Deferred income tax charged to other equity	340,457	107,628
Ending balance	<u>₩ (158,821)</u>	<u>(684,893)</u>

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24. Income Tax Expense and Deferred Tax, Continued

Changes in deferred income tax assets and liabilities for the years ended December 31, 2022 and 2021 without taking into consideration the offsetting of balances within the same tax jurisdiction are as follows:

(in millions of Korean won)

	2022					
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Deferred tax liabilities						
Accrued revenue	₩ (8,869)	2	1,761	-	-	(7,105)
Property and equipment	(82,977)	-	75,697	-	-	(7,280)
Intangible assets	(162,745)	(4,432)	(123,596)	-	-	(290,773)
Financial assets at fair value through profit or loss	(37,088)	-	(6,490)	-	-	(43,578)
Financial assets at fair value through other comprehensive income	(170,686)	(156)	(514,744)	522,204	-	(163,382)
Plan assets	(48,334)	(9)	(19,273)	-	-	(67,615)
Derivative instruments	(1,245)	-	(117)	-	-	(1,362)
Lease	(272,237)	(13,696)	(240,977)	-	-	(526,910)
Investments in subsidiaries and associates	(338,340)	(22)	15,167	2,047	-	(321,149)
Goodwill	(39,732)	-	28,995	-	-	(10,737)
Others	(176,079)	(639)	145,359	-	-	(31,359)
	<u>(1,338,332)</u>	<u>(18,950)</u>	<u>(638,219)</u>	<u>524,251</u>	<u>-</u>	<u>(1,471,250)</u>
Deferred tax assets						
Property and equipment	8,915	-	596	-	-	9,510
Advances from customers	8,510	-	(1,327)	-	-	7,183
Intangible assets	15,982	83	(715)	-	-	15,349
Allowance for doubtful accounts	3,707	19	(4,539)	-	-	8,265
Other payables	22,581	380	12,238	-	-	35,199
Provisions	14,953	263	2,784	-	-	18,000
Government grants	-	-	548	-	-	548
Defined benefit liabilities	45,503	438	10,628	-	-	56,569
Other long-term employee benefits liabilities	26,680	-	(1,275)	1,177	-	26,583
Financial assets at fair value through profit or loss	424	(8)	3,510	-	-	3,927

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For the years ended December 31, 2022 and 2021

(in millions of Korean won)

	2022					
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Financial assets at fair value through other comprehensive income	₩ 2,379	-	517	-	-	2,896
Derivative instruments	5,668	-	(1,050)	-	-	4,618
Lease	343,853	13,689	184,961	-	-	542,502
Share-based compensation	103,980	-	(84,839)	-	20,164	39,305
Others	50,303	186	171,193	-	320,293	541,975
	653,439	15,049	302,307	1,177	340,457	1,312,428
Deferred tax assets (liabilities), net	₩ (684,893)	(3,902)	(335,912)	525,428	340,457	(158,821)

(in millions of Korean won)

	2021					
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Deferred tax liabilities						
Accrued revenue	₩ (1,708)	(323)	(6,839)	-	-	(8,869)
Property and equipment	(7,226)	(12)	(75,739)	-	-	(82,977)
Intangible assets	(115,572)	(97,949)	50,776	-	-	(162,745)
Financial assets at fair value through profit or loss	(26,027)	(7)	(11,054)	-	-	(37,088)
Financial assets at fair value through other comprehensive income	(53,602)	453	-	(117,536)	-	(170,685)
Plan assets	(31,327)	(2,662)	(14,345)	-	-	(48,334)
Derivative instruments	(257)	-	(988)	-	-	(1,245)
Lease	(69,423)	(6,099)	(196,715)	-	-	(272,237)
Investments in subsidiaries and associates	(82,497)	-	(245,054)	(10,789)	-	(338,340)
Others	(22,175)	-	(157,552)	-	3,647	(176,080)
	(409,813)	(106,599)	(657,510)	(128,325)	3,647	(1,298,600)
Deferred tax assets						
Property and equipment	2,259	310	6,346	-	-	8,915
Advances from customers	9,671	60	(1,221)	-	-	8,510
Intangible assets	5,475	5,268	5,239	-	-	15,982
Allowance for doubtful accounts	4,450	3,913	(4,656)	-	-	3,707

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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(in millions of Korean won)

	2021					
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Other payables	₩ 16,951	14,785	(9,155)	-	-	22,581
Provisions	4,359	375	10,219	-	-	14,953
Government grants	24	-	(24)	-	-	-
Defined benefit liabilities	34,066	3,600	9,529	(1,691)	-	45,504
Other long-term employee benefits liabilities	23,479	819	2,382	-	-	26,680
Financial assets at fair value through profit or loss	1,233	55	(864)	-	-	424
Financial assets at fair value through other comprehensive income	1,705	155	519	-	-	2,379
Derivative instruments	2,082	2,078	1,508	-	-	5,668
Lease	71,688	5,908	266,257	-	-	343,853
Goodwill	8,727	-	(48,459)	-	-	(39,732)
Others	-	-	-	-	103,980	103,980
	26,369	7,775	16,159	-	-	50,303
	212,538	45,101	253,779	(1,691)	103,980	613,707
Deferred tax assets (liabilities), net	₩ (197,276)	(61,496)	(403,730)	(130,018)	107,627	(684,893)

The Group did not recognize deferred income tax asset of W 592,040 million as of December 31, 2022, related to the investments in subsidiaries and associates considering the possibility of realization(scheduled not to be disposed of, etc.). As of December 31, 2022, the deferred tax assets of unrecognized deductible temporary differences arising from subsidiaries' net loss carryforwards and others amount to W 63,608 million.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

25. Provisions

- Non-financial services business

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

(in millions of Korean won)

		2022					
		Beginning balance	Changes in scope of consolidation	Increase	Decrease	Foreign currency exchange rate differences	Ending balance
Current							
Provision for mileage	₩	1,022	7,581	2,528	(366)	-	10,764
Provision for restoration		449	6	1,126	(376)	(1)	1,204
Provision for returns		2,251	366	3,229	(3,534)	-	2,311
Other provisions		7,521	(624)	6,683	(7,285)	-	6,295
		11,243	7,329	13,565	(11,561)	(1)	20,574
Non-current							
Provision for mileage		-	-	226	-	-	226
Provision for restoration		51,994	(1,308)	19,407	(3,114)	63	66,982
Other provisions		-	2,944	-	-	-	2,944
		51,994	1,637	19,633	(3,114)	63	70,152
	₩	63,177	8,966	33,197	(14,675)	61	90,726

(in millions of Korean won)

		2021					
		Beginning balance	Changes in scope of consolidation	Increase	Decrease	Foreign currency exchange rate differences	Ending balance
Current							
Provision for mileage	₩	552	(107)	1,065	(488)	-	1,022
Provision for restoration		58	24	342	25	-	449
Provision for returns		1,165	1,162	1,264	(1,340)	-	2,251
Other provisions		4,083	795	19,787	(17,144)	-	7,521
		5,858	1,874	22,458	(18,947)	-	11,243
Non-current							
Provision for restoration		19,594	(60)	33,961	(1,355)	(206)	51,934
	₩	25,452	1,814	56,419	(20,302)	(206)	63,177

- Financial services business

(in millions of Korean won)

		2022				
		Beginning balance	Increase	Interest expense	Reversal	Ending balance
Provision for restoration	₩	1,151	131	17	(175)	1,124

(in millions of Korean won)

		2021				
		Beginning balance	Increase	Interest expense	Reversal	Ending balance
Provision for restoration	₩	229	915	7	-	1,151

KAKAO CORP. AND SUBSIDIARIES
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26. Derivative Financial Instruments

The carrying amounts of derivative financial assets, liabilities and commitments as of December 31, 2022 and 2021, are as follows:

(a) Derivative financial assets

<i>(in millions of Korean won)</i>	2022	2021
Call option (Grip Company)	₩ 3,156	-
Call option (Super Comics)	351	135
Call option (A)	1,481	-
Currency forward	1,575	-
Others	-	218
	<u>₩ 6,562</u>	<u>352</u>

(b) Derivative financial liabilities

<i>(in millions of Korean won)</i>	2022	2021
Redemption right and conversion right (Metabora Co., Ltd.) ¹	8,708	6,732
Early redemption right and conversion right (Life MMO Corp.) ²	3,265	5,177
Convertible bond's early redemption right (XLGAMES Inc.) ³	68	3
Put option (A)	1,071	-
	<u>₩ 13,113</u>	<u>11,912</u>

¹ Redemption right and conversion right granted to redeemable convertible preferred shares issued by Metabora Co., Ltd (Note 21).

² Redemption right and conversion right granted to redeemable convertible preferred shares issued by Life MMO Corp.(Note 21).

³ Redemption right and conversion right granted to convertible bonds issued by XLGAMES Inc. (Note 21).

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27. Share Capital and Share Premium

As of December 31, 2022, the Parent Company's total number of issued and outstanding ordinary shares are 445,923,698 shares and 445,423,689 shares, respectively.

The Parent Company may grant stock options to its employees and directors of the Parent Company and its affiliates who contribute or have capabilities to contribute to the establishment, management, overseas business and technical innovation of the Group, with the resolution of special shareholders meeting or board of directors up to 15% of total number of issued stocks. As of December 31, 2022, the number of outstanding stock options among granted is 7,583,620 shares (Note 28).

The Parent Company is authorized to issue convertible bonds and bonds with warrants into registered ordinary shares for up to the total par value of ₩ 500 billion to investors other than current shareholders, with the resolution of the board of directors. As of December 31, 2022, there is no convertible bonds issued.

The Parent Company may issue various classes of shares which are different in respect of their particulars as to the dividend, voting rights, conversion and redemption rights up to 50% of the total number of shares issued. The Parent Company has only issued ordinary shares and no other classes having the above conditions as of December 31, 2022.

Changes in share capital and additional paid-in capital during the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won, except number of shares)</i>		Number of ordinary shares	Share capital	Additional paid-in capital	Total
Description	(in shares)				
At January 1, 2021	Beginning balance	443,009,990	₩ 44,301	5,609,516	5,653,817
At January 8, 2021	Exercise of conversion right	294,645	29	6,967	6,996
At January 22, 2021	Exercise of conversion right	210,460	21	4,976	4,997
At January 22, 2021	Exercise of stock options	333,240	33	7,788	7,821
At February 5, 2021	Exercise of conversion right	42,090	4	995	999
At February 23, 2021	Exercise of stock options	132,675	13	3,156	3,169
At March 3, 2021	Exercise of conversion right	210,460	21	4,976	4,997
At March 23, 2021	Exercise of stock options	75,745	8	1,944	1,951
At May 4, 2021	Exercise of stock options	47,870	5	1,144	1,149
At May 25, 2021	Exercise of stock options	72,410	7	1,786	1,794
At June 23, 2021	Exercise of stock options	530,645	53	14,749	14,802
At July 26, 2021	Exercise of stock options	246,910	25	6,290	6,314
At August 24, 2021	Exercise of stock options	285,040	29	7,625	7,654
At September 23, 2021	Exercise of stock options	369,140	37	16,793	16,830
At October 26, 2021	Exercise of stock options	336,926	34	11,744	11,778
At November 23, 2021	Exercise of stock options	86,631	9	2,794	2,803
At December 23, 2021	Exercise of stock options	121,113	12	2,922	2,934
At December 31, 2021	Ending balance	<u>446,405,990</u>	<u>₩ 44,641</u>	<u>5,706,165</u>	<u>5,750,805</u>
At January 1, 2022	Beginning balance	446,405,990	₩ 44,641	5,706,165	5,750,805
At January 24, 2022	Exercise of stock options	56,061	6	1,622	1,627
At February 22, 2022	Exercise of stock options	160,845	16	4,366	4,382
At March 23, 2022	Exercise of stock options	147,510	15	4,392	4,406
At April 25, 2022	Exercise of stock options	1,057,477	106	26,210	26,315
At May 3, 2022 ¹	Retirement of treasury stock	(3,239,741)	(324)	-	(324)
At May 24, 2022	Exercise of stock options	734,355	73	29,751	29,825
At June 23, 2022	Exercise of stock options	125,794	13	5,603	5,616

KAKAO CORP. AND SUBSIDIARIES
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(in millions of Korean won, except number of shares)

	Description	Number of ordinary shares (in shares)	Share capital	Additional paid-in capital	Total
At July 25, 2022	Exercise of stock options	201,335	20	8,409	8,430
At August 24, 2022	Exercise of stock options	161,556	16	5,983	5,999
At September 21, 2022	Exercise of stock options	10,479	1	515	516
At October 24, 2022	Exercise of stock options	14,327	1	539	541
At November 22, 2021	Exercise of stock options	74,399	7	2,958	2,965
At December 22, 2021	Exercise of stock options	13,302	1	579	580
At December 31, 2021	Ending balance	445,923,689	₩ 44,592	5,797,092	5,841,684

¹ During 2022, retired 3,239,741 treasury shares held by the Parent Company and recognized the difference between the acquisition price and the par value as loss from capital reduction.

The Parent Company retired its treasury shares of 500,000 shares after the stock split) by appropriating retained earnings. Therefore, the total par value of capital stocks issued differs from the total par value of capital stocks outstanding.

(In millions of Korean won, except for number of shares and par value)

Capital stocks outstanding				
Stocks issued (in shares)	Par value (in Korean won)	Total par value	Share capital	Difference
445,423,689	₩ 100	45,542	45,592	50

In 2022, 174,722 shares of treasury shares of the Parent Company were paid to employees (Note 28), and 3,239,741 shares of treasury shares were retired. As a result, treasury stock decreased from 12,139,090 shares to 8,724,627 shares as of December 31, 2021.

KAKAO CORP. AND SUBSIDIARIES
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28. Share-based compensation

Details of the Parent Company's stock options as of December 31, 2022, are as follows:

(a) Share-based payment transactions with cash alternatives

- Grant method: Issuance of new ordinary shares, treasury shares or payment of cash.
The Company will determine in its discretion grant method at the time of exercise and accounted as equity-settled stock option based on the assumption that it will be granted based on the issuance of new stock or grant of treasury shares in the future.
- Vesting period:
18th, 21st, 22nd, 24th, 41st tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
19th, 25th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 150% of exercise price. If the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.
27th, 31st, 32nd tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to seven years from grant date exceeds 150% of exercise price. If the average price of the shares calculated at the end of each month within two years to seven years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.
28th, 30th, 35th, 36th, 37th, 38th, 42nd, 43rd, 44th, 45th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

KAKAO CORP. AND SUBSIDIARIES
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28. Share-based compensation, continued

(b) Equity-settled stock option

- Type of shares issued through exercise of stock option: registered ordinary shares
- Grant method: Issuance of new ordinary shares, treasury shares.
- Vesting period:
 - 33rd, 48th tranches : The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
 - 34th, 46th, 47th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

(c) Cash-settled stock option

- Vesting period:
 - 5th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date.
 - 7th, 9th, 10th tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years, exercisable from three years to seven years after grant date. The requisite service period of remaining 40% of granted quantity is four years, exercisable from four years to seven years after grant date.

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28. Share-based compensation, Continued

(d) Grant of treasury shares

- 2nd tranches – Grant date: October 1, 2021
The requisite service period is two years, limited to 30% of granted quantity. The requisite service period of remaining 30% of granted quantity is three years. The requisite service period of remaining 40% of granted quantity is four years.
- 3rd tranches – Grant date: November 3, 2021
30% of shares are granted on the initial grant date. 30% of shares are granted at one year after the initial grant date. 40% of shares are granted at two years after the initial grant date. However, if the requisite service period (one year after each grant date) is not met, cash equivalent to the amount paid must be returned.

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28. Share-based compensation, Continued

Details of the Parent Company's equity-settled stock options outstanding as of December 31, 2022, are as follows

Tranche	Grant date ³	Exercise price (in Korean won)	Number of shares (in shares)							
			Outstanding as of January 1, 2022	Granted	Forfeited	Exercised	Adjusting quantities for treasury stock retirements ¹	Outstanding as of December 31, 2022 ²	Exercisable as of December 31, 2022	
18 th	March 2, 2017	₩ 17,194	114,080	-	-	28,505	656	84,919	84,919	
19 th	March 2, 2017	17,194	640,000	-	-	299,819	2,643	337,538	337,538	
21 st	May 2, 2017	17,849	123,100	-	-	44,978	663	77,459	77,459	
22 nd	September 28, 2017	26,491	22,010	-	-	4,830	143	17,037	17,037	
24 th	August 31, 2018	24,856	436,300	-	-	146,865	2,400	287,035	287,035	
25 th	August 31, 2018	24,856	247,930	-	-	172,190	1,263	74,477	74,477	
26 th	October 31, 2018	20,262	600,000	-	-	600,000	-	-	-	
27 th	May 16, 2019	25,061	259,350	-	-	195,933	1,417	62,000	62,000	
28 th	May 16, 2019	25,061	1,271,875	-	-	279,796	8,658	983,421	417,519	
29 th	February 25, 2020	35,809	340,000	-	-	338,333	1,667	-	-	
30 th	May 06, 2020	34,862	3,252,500	-	87,965	387,932	23,587	2,753,016	583,147	
31 st	May 06, 2020	34,862	840,000	-	-	173,329	6,100	660,571	660,571	
32 nd	September 24, 2020	75,786	50,000	-	-	-	363	49,637	-	
33 rd	May 4, 2021	114,871	441,100	-	41,298	-	4,099	395,703	-	
34 th	September 1, 2021	151,376	200,000	-	100,000	-	726	99,274	-	
35 th	March 22, 2019	28,123	312,664	-	4,170	73,511	1,782	233,201	62,968	
36 th	July 2, 2019	28,123	12,191	-	-	4,554	91	7,546	631	
37 th	October 17, 2019	28,123	19,734	-	778	2,964	125	15,867	5,917	
38 th	November 15, 2019	28,123	15,233	-	-	2,100	104	13,029	4,635	
41 st	September 3, 2018	58,379	2,724	-	-	200	20	2,504	2,504	
42 nd	May 9, 2019	62,455	7,094	-	-	1,601	51	5,442	1,503	
43 rd	November 15, 2019	64,367	19,755	-	1,217	-	146	18,392	10,276	
44 th	June 23, 2020	75,207	60,694	-	1,259	-	477	58,958	17,710	
45 th	March 5, 2021	224,258	10,305	-	-	-	79	10,226	-	
46 th	November 3, 2021	125,085	592,015	-	105,681	-	4,298	482,036	-	
47 th	December 15, 2021	124,320	365,341	-	42,837	-	2,574	319,930	-	
48 th	March 29, 2022	101,958	-	575,300	35,199	-	5,699	534,402	-	
			10,255,995	575,300	420,404	2,757,440	69,831	7,583,620	2,707,846	

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28. Share-based compensation, Continued

¹ During 2022, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

² Outstanding shares include the number of spun-off movers (170,980 shares of Melon Company / 1,980 shares of Kakao Entertainment Corp.).

³ It is prepared based on the initial grant date for the 35th~45th, tranches, which were succeeded from the merger with Kakao Commerce Co., Ltd.

In addition to the aforementioned stock options, the Group granted equity-settled stock options in relation to the shares of its subsidiaries such as Kakao Entertainment Corp., Kakao Games Corp., Kakao Mobility Corp., Kidsnote Inc., METABORA Co., Ltd., XLGAMES Inc., Life MMO Corp., Sena Technology Inc., Kakaopay Corp., Kakao Enterprise Corp., Starship entertainment co.,ltd, KAKAO BRAIN Corp., Daon Creative inc., Kakao VX Corp., Groud X Corp., TAPAS ENTERTAINMENT, INC(formerly, Radish Media, Inc.), Kross Pictures, KM parking and space Corp. (formerly, Myvalet) , and Legendaries Corp.(Formerly, BATTLE ENTERTAINMENT CORP.), Lionheart Studio Corp., EDAM Entertainment Corp, Kakao Piccoma Corp., Voithru Inc, SamyangCNC Co.,Ltd, Kakaopay Securities Corp. KW Books, Inc.,

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28. Share-based compensation, Continued

Compensation costs of the Parent Company's equity-settled stock options are calculated by applying a fair value approach using Black-Scholes model, Binomial model and LSMC (Least Square Monte-Carlo) model. The related assumptions are as follows:–

Tranche	Fair value of option at grant date ² (in Korean won)	Stock price at grant date (in Korean won)	Expected volatility	Expected dividends	Expected maturity	Risk free Interest rate	
18 th	₩	3,039	17,060	11.00%	-	2~3 years	2.14%
19 th		1,752	17,060	11.00%	0.17%	2~3 years	2.14%
21 st		3,859	18,520	11.00%	0.16%	2~3 years	2.13%
22 nd		6,246	27,900	11.00%	0.11%	2~3 years	2.30%
24 th		5,493	25,000	14.00%	0.12%	2~3 years	2.25%
25 th		1,066	25,000	14.00%	0.12%	2~3 years	2.25%
26 th		2,831	18,320	13.00%	0.16%	2~3 years	2.18%
27 th		2,165	26,700	12.00%	0.10%	2~4 years	1.80%
28 th		6,044	26,700	12.00%	0.10%	2~4 years	1.80%
29 th		13,658	37,100	31.00%	0.07%	2~4 years	1.40%
30 th		16,809	39,900	33.00%	0.06%	2~4 years	1.40%
31 st		8,463	39,900	33.00%	0.06%	2~4 years	1.40%
32 nd		10,077	70,400	36.00%	0.04%	2~4 years	1.28%
33 rd		50,632	115,500	38.00%	0.03%	2~3 years	1.99%
34 th		62,742	150,400	35.00%	0.02%	2~4 years	1.86%
35 ^{th 1}		6,115	27,917	14.93%	-	2~4 years	1.91%
36 ^{th 1}		5,748	27,921	14.74%	-	2~4 years	1.57%
37 ^{th 1}		5,732	27,921	14.75%	-	2~4 years	1.55%
38 ^{th 1}		5,902	27,921	14.79%	-	2~4 years	1.72%
41 ^{st 1}		12,919	56,945	16.10%	-	2~3 years	2.24%
42 ^{nd 1}		22,200	62,018	30.17%	-	2~4 years	1.82%
43 ^{rd 1}		26,661	63,912	37.08%	-	2~4 years	1.72%
44 ^{th 1}		16,779	74,669	17.80%	-	2~4 years	1.24%
45 ^{th 1}		55,388	222,634	18.85%	-	2~4 years	1.70%
46 th		54,511	124,500	37.70%	0.02%	2~4 years	2.41%
47 th		49,180	118,500	37.36%	0.03%	2~4 years	2.14%
48 th		49,207	105,500	38.00%	0.03%	2~4 years	2.94%

¹ For the 35th~45th, tranches, which were succeeded from the merger with Kakao Commerce Corp., the fair value and the weighted average share price are adjusted by the ratio agreed upon at the time of the merger.

² During 2022, The fair value was adjusted for the retirement of treasury stock.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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28. Share-based compensation, Continued

Details of the Parent Company's cash-settled stock options outstanding as of December 31, 2022, are as follows:

(In Korean won, except number of shares)

Tranche	Grant date	Exercise price	Number of shares (in shares)						
			Outstanding as of January 1, 2022	Granted	Cancelled	Exercised	Adjusting quantities for treasury stock retirements ¹	Outstanding as of December 31, 2022	Exercisable as of December 31, 2022
5 th	August 31, 2018	₩ 24,856	15,000	-	-	5,000	73	15,000	15,000
7 th	May 16, 2019	25,061	10,500	-	-	4,467	76	10,500	-
9 th	September 1, 2021	151,376	25,000	-	-	-	182	25,000	-
10 th	October 13, 2022	57,840	-	110,000	-	-	-	25,000	-
			50,500	110,000	-	9,467	331	50,500	15,000

¹During 2022, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

In addition to the aforementioned stock options, the Group granted cash-settled stock options in relation to the shares of its subsidiaries such as Kakao Entertainment Corp., Kakaopay Corp.

The fair value of the Group's cash-settled stock options was determined using LSMC (Least Square Monte-Carlo) option pricing model.

Details of the Parent Company's stock options of granted treasury shares outstanding as of December 31, 2022, are as follows:

(In Korean won, except number of shares)

Tranche	Grant date	Closing price at grant date	Number of shares (in shares)				
			Outstanding as of January 1, 2022	Cancelled	Exercised	Adjusting quantities for treasury stock retirements ¹	Outstanding as of December 31, 2022
2 nd	October 1, 2021	₩ 116,500	357,030	4,256	133,033	1,967	217,774
3 rd	November 3, 2021	124,500	101,528	2,222	-	805	98,501
			458,558	6,478	133,033	2,772	316,275

¹During 2022, the number of grants and exercise prices were adjusted due to the retirement of treasury shares.

Share-based compensation recognized as expenses for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022	2021
Equity-settled stock option ¹	₩ 126,897	94,657
Cash-settled stock option ²	(860)	23,230
Grant of treasury shares	32,527	30,133
	₩ 158,565	148,020

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

28. Share-based compensation, Continued

¹ Amounts for 2022 include ₩ 74,860 million (2021: ₩ 44,138 million) of share-based compensation recognized as expenses for the shares of subsidiaries.

² Amounts for 2022 include ₩ (-)139 million (2021: ₩ 15,583 million) of share-based compensation recognized as expenses for the shares of subsidiaries.

29. Other Components of Equity

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

(in millions of Korean won)

	2022	2021
Treasury shares	₩ (1,034)	(1,034)
Loss from capital reduction	(80,996)	-
Stock options	128,491	83,534
Other capital adjustments	(5,430)	(5,430)
	<u>₩ 41,031</u>	<u>77,070</u>

As of December 31, 2022, the Group holds 8,724,627 treasury shares for the purpose of stabilizing stock prices and enhancing shareholder value, and the amount is accounted for as capital adjustment.

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Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

30. Accumulated Other Comprehensive Income

Accumulated other comprehensive income as of December 31, 2022 and 2021, consists of:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Translation adjustments, net of tax	₩ 70,320	36,333
Shares of other comprehensive income (loss) of associates, net of tax	(18,657)	12,688
Equity instruments at fair value through accumulated other comprehensive income, net of tax	(1,285,746)	338,075
Remeasurement of defined benefit obligation, net of tax	(16,625)	(15,271)
	<u>₩ (1,250,708)</u>	<u>371,825</u>

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

<i>(in millions of Korean won)</i>	January 1, 2022	Increase (Decrease)	Reclassification to retained earnings	December 31, 2022
Translation adjustments, net of tax	₩ 36,333	33,987	-	70,320
Shares of other comprehensive income (loss) of associates, net of tax	12,688	(31,345)	-	(18,657)
Equity instruments at fair value through accumulated other comprehensive income, net of tax	338,075	(1,622,830)	(991)	(1,285,746)
Remeasurement of defined benefit obligation, net of tax	(15,271)	(1,349)	(5)	(16,625)
	<u>₩ 371,825</u>	<u>(1,621,537)</u>	<u>(996)</u>	<u>(1,250,708)</u>

Other comprehensive income in the table above represents amount net of tax.

<i>(in millions of Korean won)</i>	January 1, 2021	Increase (Decrease)	Reclassification to retained earnings	December 31, 2021
Translation adjustments, net of tax	₩ 9,653	26,680	-	36,333
Shares of other comprehensive income (loss) of associates, net of tax	(2,861)	15,548	-	12,688
Equity instruments at fair value through accumulated other comprehensive income, net of tax	89,979	262,743	(14,647)	338,075
Remeasurement of defined benefit obligation, net of tax	(11,320)	(3,950)	(1)	(15,271)
Revaluation surplus	1,126	(1,126)	-	-
	<u>₩ 86,577</u>	<u>299,895</u>	<u>(14,648)</u>	<u>371,825</u>

Other comprehensive income in the table above represents amount net of tax.

KAKAO CORP. AND SUBSIDIARIES
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31. Retained Earnings

Retained earnings as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Legal reserve ¹	₩ 17,983	15,653
Other reserve	200	200
Change of retained earnings in equity method	-	(624)
Retained earnings before appropriation	<u>3,028,275</u>	<u>1,694,370</u>
	<u>₩ 3,046,458</u>	<u>1,709,599</u>

¹ The Commercial Code of the Republic of Korea requires the Parent Company to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit.

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32. Operating Expenses

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

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Salaries	₩ 1,203,847	1,015,868
Retirement benefit expense	86,032	79,471
Compensation cost of share-based payments	158,565	148,020
Welfare	219,742	159,984
Travel and transportation expense	18,394	11,715
Taxes and dues	21,732	15,169
Rental expense	25,576	11,804
Commission	924,088	740,981
Sales-related expenses	2,170,934	2,149,058
Cost of goods sold	483,433	328,216
Advertising expense	478,226	432,210
Depreciation	365,798	227,880
Amortization	203,766	135,363
Bad debt expenses	10,795	3,557
Expenses for events	7,097	3,023
Others	148,495	79,433
	<u>₩ 6,526,521</u>	<u>5,541,752</u>

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33. Other Non-Operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2022 and 2021 are as follows:

(in millions of Korean won)

	2022	2021
Other non-operating income		
Gain on disposal of property and equipment	₩ 8,091	3,379
Gain on disposal of intangible assets	90,938	16,276
Gain on disposal of equity method investments ¹	1,701,991	1,624,823
Gain on disposal of joint venture investment	30	-
Gain on disposal of investments in subsidiaries	163,539	47,674
Gain on foreign currency transactions	6,989	5,299
Gain on foreign currency translation	1,784	513
Miscellaneous income	37,916	25,996
Rent income	174	71
Reversal of allowance for doubtful accounts (non-operating income)	803	394
Reversal of impairment loss on intangible assets	2	2,231
Reversal of provision for restoration	430	55
Gain on disposal of assets held for sale	-	1,515
Government grant income	292	135
Gain on bargain purchases	-	5,068
Gain on change in lease	247	-
Gain on debt forgiveness	303	-
	₩ 2,013,527	1,733,429
Other non-operating expenses		
Loss on disposal of property and equipment	₩ 27,525	680
Loss on disposal of intangible assets	43,445	7,391
Loss on abandonment of property and equipment	3,078	491
Impairment losses on property and equipment	871	-
Impairment losses on intangible assets	735,708	294,353
Impairment losses on other assets	-	3,221
Impairment losses on equity method investments	173,740	370
Loss on disposal of equity method investments	24,322	5,386
Loss on disposal of investments in subsidiaries	6,531	4,954
Donations	24,822	15,217
Service fees	13,306	43,612
Loss on foreign currency transactions	9,536	5,724
Loss on foreign currency translation	1,441	468
Miscellaneous losses	45,443	17,424
Loss on change in lease	2,325	-
Other bad debt expenses	1,675	2,483
Increase of other provision	-	2,944
Others	14,079	2,529
	₩ 1,111,461	407,247

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Notes to the Consolidated Financial Statements, Continued

For the years ended December 31, 2022 and 2021

1During the current year, the group lost significant influence on Dunamu Inc. and reclassified its shares as financial assets measured by fair value through other comprehensive income, including about ₩ 15,326 billion in difference between the existing carrying amount and the fair value at the time of reclassification

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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34. Finance Income and Costs

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

	<u>2022</u>	<u>2021</u>
Finance income		
Interest income	₩ 122,729	36,889
Dividend income	56,214	38,578
Gain on valuation of derivatives	4,697	5,180
Gain on derivative transactions	47	33
Gain on valuation of financial assets at fair value through profit or loss	68,503	44,302
Gain on valuation of financial liabilities at fair value through profit or loss	2,676	-
Gain on disposal of financial assets at fair value through profit or loss	5,863	12,916
Gain on disposal of financial assets at fair value through other comprehensive income	14,150	-
Gain on foreign currency transactions	9,378	3,524
Gain on foreign currency translation	48,256	36,388
Fund finance costs	10,237	-
Other finance income	20	9
	<u>₩ 342,770</u>	<u>177,819</u>
Finance costs		
Interest expense	₩ 109,871	39,390
Loss on valuation of derivative financial instruments	2,988	56,102
Loss on foreign currency transactions	152	3,808
Loss on foreign currency translation	70,439	35,333
Loss on valuation of financial assets at fair value through profit or loss	11,294	22,054
Loss on valuation of financial liabilities at fair value through profit or loss	33,057	3,581
Loss on disposal of financial assets at fair value through profit or loss	-	80
Loss on disposal of financial liabilities at fair value through profit or loss	10,108	-
Loss on disposal of financial assets at fair value through other comprehensive income	211,173	-
Loss on repayment of borrowings	3,741	2,000
Loss on transaction of derivative financial instruments	1,167	199
Fund finance costs	3,820	151,769
Other finance costs	5,349	1,001
	<u>₩ 463,160</u>	<u>315,317</u>

35. Earnings per Share

Basic earnings per share is calculated by dividing the profit attributable to equity holders of the Parent Company by the weighted average number of ordinary shares outstanding, excluding the treasury shares during the year.

Basic earnings per share for the years ended December 31, 2022 and 2021 is calculated as follows:

	<u>2022</u>	<u>2021</u>
<i>(in millions of Korean won, except number of shares per share data)</i>		
Profit (loss) attributable to equity holders of the Parent Company	₩ 1,352,936	1,392,152
Weighted average number of ordinary shares outstanding (in shares)	435,565	432,145
Basic earnings (loss) per share (in Korean won)	<u>₩ 3,106</u>	<u>3,221</u>

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Notes to the Consolidated Financial Statements, Continued
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35. Earnings per Share, Continued

Diluted earnings per share is calculated by adjusting the weighted average number of ordinary shares outstanding to assume conversion of all dilutive potential ordinary shares. The Group has stock options, exchangeable bonds and convertible bonds as dilutive potential ordinary shares. For the share options, a calculation is done to determine the number of shares that could have been acquired at fair value (determined as the average annual market share price of the Group's shares) based on the monetary value of the subscription rights attached to outstanding share options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the share options are exercised. The convertible bond and exchangeable bond are assumed to have been converted into ordinary shares, and the net profit is adjusted to eliminate the interest expense less the tax effect.

Diluted earnings per share for the years ended December 31, 2022 and 2021, is calculated as follows:

<i>(in millions of Korean won, except number of shares and per share data)</i>	<u>2022</u>	<u>2021</u>
Profit (loss) attributable to equity holders of the Parent Company	₩ 1,352,935	₩ 1,392,152
Interest cost for convertible bonds (net of tax)	1,377	1,500
Adjustment of net profit to consider possible	<u>(2,181)</u>	<u>-</u>
	1,352,131	1,393,652
Weighted average number of ordinary shares outstanding (in shares)	435,564,814	432,145,902
Adjustment for:		
Stock options	4,171,404	7,329,442
Exchangeable bonds	<u>2,895,724</u>	<u>3,573,436</u>
Weighted average number of diluted potential ordinary shares (in shares)	7,067,128	10,902,878
Weighted average number of ordinary shares (in shares) for diluted earnings per share	442,631,942	443,048,780
Diluted earnings (loss) per share (in Korean won)	<u>₩ 3,055</u>	<u>₩ 3,146</u>

36. Dividends

Dividends paid by the Parent Company for the years ended December 31, 2022 and 2021, are ₩ 22,990 million (₩ 53 per share after the stock split) and ₩ 12,902 million (₩ 30 per share after the stock split), respectively.

The dividend to the shareholders of the Parent Company in respect of the year ended December 31, 2022, of ₩ 60 per share, amounting to total dividends of ₩ 26,202 million, is to be proposed at the annual general shareholders' meeting on March 28, 2023. The Group's consolidated financial statements as of December 31, 2022, do not reflect this dividend payable.

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37. Cash Generated from Operations

Details of cash generated from operations for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Profit (loss) before income tax	₩ 1,304,363	2,293,694
Adjustments :		
Bad debt expense	10,795	3,557
Depreciation	377,665	237,767
Amortization	203,766	135,363
Impairment losses on property and equipment	871	-
Impairment losses on intangible assets	735,706	291,621
Gain on disposal of property and equipment	19,191	(2,699)
Loss on abandonment of property and equipment	3,078	491
Gain (loss) on disposal of intangible assets	(47,493)	(8,885)
Retirement benefit expense	74,029	73,822
Compensation cost of share-based payments	158,742	148,020
Interest income	(134,950)	(40,226)
Interest expense	111,327	42,624
Dividend income	(56,215)	(41,102)
Share of net loss (profit) of associates	57,629	(510,093)
Loss on disposal of equity method investments	24,322	5,386
Gain on disposal of equity method investments	(1,702,021)	(1,624,823)
Gain on disposal of investments in subsidiaries	(163,539)	(47,674)
Loss on disposal of investments in subsidiaries	6,531	4,954
Impairment losses on equity method investments	173,740	370
Gain on disposal of financial assets at fair value through profit or loss	(5,863)	(12,916)
Loss on disposal of financial assets at fair value through profit or loss	10,108	80
Gain on valuation of financial assets at fair value through profit or loss	(69,817)	(45,746)
Loss on valuation of financial assets at fair value through profit or loss	33,095	24,399
Gain on valuation of financial liabilities at fair value through profit or loss	(2,676)	-
Loss on valuation of financial liabilities at fair value through profit or loss	-	3,581
Loss on disposal of financial assets at fair value through profit or loss	211,173	-
Gain on disposal of financial assets at fair value through other comprehensive income	(14,150)	-
Loss on disposal of financial assets at fair value through other comprehensive income	3,741	-
Impairment losses on other assets	-	3,721
Gain on valuation of derivative financial instruments	(4,697)	(5,180)
Loss on valuation of derivative financial instruments	2,988	56,102
Gains on transaction of derivative financial instruments	(47)	(33)
Loss on transaction of derivative financial instruments	152	199
Other bad debt expenses	872	2,089
Other long-term employee benefits	13,017	17,792
Gain on foreign exchange translations	(53,324)	(36,907)
Loss on foreign exchange translations	13,760	35,805
Loss on valuation of inventory	(356)	94
Loss on inventory shrinkage	429	2,974
Others	99,451	688,582
Changes in operating assets and liabilities		
Trade receivables	(69,034)	(19,847)

KAKAO CORP. AND SUBSIDIARIES
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<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Inventories	(73,437)	(11,020)
Other current financial assets	(94,915)	(45,112)
Other current assets	(81,391)	(129,064)
Other non-current financial assets	5,906	(165)
Other non-current assets	11,892	(339,415)
Trade payables and other payables	64,245	457,572
Other current liabilities	(38,837)	56,430
Other current financial liabilities and deposits received	(20,324)	33,559
Other non-current liabilities	9,494	3,502
Other non-current financial liabilities	(14,250)	(260)
Net defined benefit liabilities	(121,094)	(98,712)
Other long-term employee benefit liabilities	(2,957)	(2,000)
Other financial assets (financial services business)	181,466	(339,056)
Other assets (financial services business)	(193)	(899)
Deposits received (financial services business)	(204,853)	220,462
Net defined benefit liabilities (financial services business)	(1,881)	(483)
Other financial liabilities (financial services business)	(11,199)	4,702
Other liabilities (financial services business)	(6,568)	1,416
Others	7,765	(630)
Cash generated from operations	<u>₩ 935,230</u>	<u>1,487,783</u>

Significant transactions not affecting cash flows for the years ended December 31, 2022 and 2021 are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Provision for restoration to specific property and equipment account	₩ 4,253	50
Write-offs of trade receivables	1,107	241
Change of other payables related to acquisition of property and equipment	20,742	7,863
Change of non-trade receivables related to disposal of property and equipment	(524)	716
Change of other payables related to acquisition of intangible assets	212	381
Transfer from advanced payments and long-term advanced payments to property and equipment	7,413	1,355
Transfer from advanced payments and long-term advanced payments to intangible assets	169,319	755
Conversion of convertible bonds	36,410	18,000
Conversion of exchangeable bonds	0	9,792
Conversion of redeemable convertible preferred shares	5,290	58,645
Transfer to current portion of long-term borrowings	53,057	346,816
Change of non-trade payables related to payment of lease liabilities	22,739	19,738
Transfer from financial assets at fair value through other comprehensive income to investments in associates ¹	524,083	-

¹ During 2022, reclassified the shares of Dunamu Inc. as financial assets at fair value through other comprehensive income due to losing significant influence.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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37. Cash Generated from Operations, Continued

Changes in net liabilities arising from financial activities for the years ended December 31, 2022, are as follows:

(in millions of Korean won)

	Liabilities from financing activities			Total
	Short-term borrowings	Long-term borrowings	Lease liabilities	
At January 1, 2022	(1,258,828)	(553,054)	(1,497,952)	(3,309,834)
Acquisition - lease	-	-	(672,172)	(672,172)
Disposal - lease	-	-	33,003	33,003
Cash flows	296,089	(709,091)	187,776	(225,227)
Exchange differences	(68,727)	2,556	14,994	(51,176)
Changes in consolidation scope	(12,882)	(6,400)	106,556	87,275
Transfer from/to current portion	(53,057)	53,057	-	-
Unwind of discount	(4,391)	(861)	(62,339)	(67,592)
Conversion of convertible bond	5,290	36,410	-	41,699
Others	(379)	1,204	-	825
At December 31, 2022	(1,096,884)	(1,176,181)	(1,890,134)	(4,163,200)

38. Commitments and Contingencies

The Group has provided the following guarantees as of December 31, 2022 and 2020:

(in millions of Korean won)

Beneficiary	Guarantor	Amount		Guaranteed item
		2022	2021	
Employees ¹	Shinhan Bank	₩ 5,552	4,872	Employee loans
Customers ²	Korea Investment Savings Bank, etc.	52,000	54,004	Guarantee for sales instalment
Kakao Games Europe B.V.	KEB Hana Bank, etc.	729,648	-	Guarantee for loan payments
		₩ 787,200	58,876	

¹ The Group provided its employees payment guarantee with banks for the employees' bank loans related to their welfare and the Group's deposits of ₩ 6,107 million are pledged as collateral.

² Debt guarantee provided for the customer's instalment amount for financial institutions among the purchase amount. In relation to such debt guarantee financial instruments of ₩ 15,490 million of the Group are provided as collateral.

In addition to the above, the Group has opened a letter of credit of CNY 5,000,000 to guarantee the borrowing of IX CHINA CO., LTD.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

38. Commitments and Contingencies, continued

The Group has been provided the following guarantees by others as of December 31, 2022 and 2021:

(in millions of Korean won)

Guarantor	Details	Amount		Beneficiary
		2022	2021	
Seoul Guarantee Insurance and others	Performance guarantee and others	₩ 177,759	151,686	Korea Financial Telecommunications & Clearings Institute, Korea Investment & Securities Corporation, etc.
Korea Credit Guarantee Fund	Guarantee for borrowings and others	11,225	131	Industrial Bank of Korea, etc.
Shinbo Corp.	Guarantee for payment of construction	918	-	Kakao Space Corp.
		<u>₩ 189,902</u>	<u>152,817</u>	

As of December 31, 2022, the Group is involved in 38 lawsuits amounting to ₩ 111,335 million as a defendant or co-defendant. The Group recognizes related liabilities when it is highly probable that there will be an outflow of resources embodying economic benefits in order to fulfil obligations pursuant to law. The Group does not expect that these cases would have a material impact on its consolidated financial statements.

The Group's agreements with financial institutions and commitments as of December 31, 2022 and 2021, are as follows:

(in millions of Korean won)

Financial Institution	Agreements	2022	
		Maximum limit	Amount executed
Kookmin Bank	Facility loans	₩ 4,000	1,000
Kookmin Bank	Short-term borrowings	15,000	15,000
Kookmin Bank	Loans for operation capital	80,000	15,800
Kookmin Bank	Limit loan agreement	22,000	-
Kookmin Bank	Limit loans for operation capital	10,000	-
Korea Development Bank	Limit loan agreement	40,000	-
VOLKSBANK	Loans for operation capital	1,351	1,182
Industrial Bank of Korea	KOSME Loan Agreement	100	-
Industrial Bank of Korea	Long-term borrowings	500	500
NongHyup Bank	General Business Loans	2,000	2,000
NongHyup Bank	Limit loans for operation capital	4,000	-
Korea Development Bank	Loans for operation capital	3,000	2,600
Shinhan Bank	Loans for operation capital	36,000	8,300
Shinhan Bank	General loans	2,400	2,400
Shinhan Bank	Limit loan agreement	29,000	-
Shinhan Bank	Limit loans for operation capital	200,100	-
Shinhan Bank	Long-term borrowings	560	560
Woori Bank	KOSME Loan Agreement	19	19
KEB Hana Bank ¹	Loans for operation capital	11,000	11,000
KEB Hana Bank	Receivables secured loans	40	-

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KEB Hana Bank	Loans for daily transactions	3,000	-
Korea Securities Finance Corp	Retail Banking loans	50,000	-
Korea Securities Finance Corp	Loans for acquisition	80,000	-
Korea Securities Finance Corp	Loans for daily transactions	30,000	-
Hanmi Bank	Short-term borrowings	6,337	5,449
Kprea SMEs and Startups Agency	Long-term borrowings	1,300	1,300
Ryan Mobility 1st Co.	Limit loan agreement	50,000	50,000
NongHyup Bank	Limit loan agreement	6,000	6,000

¹ ₩ 4,000 million of time deposit and ₩ 2,000 million of MMT(Korea Securities Finance Corp) is held as collateral with respect to the agreement.

(in millions of Korean won)

Financial Institution	Agreements	2021	
		Maximum limit	Amount executed
Shinhan Bank	Limit loans for operation capital	₩ 200,100	-
Shinhan Bank	Borrowing agreement	1,000	1,000
Woori Bank Shenzhen	Loans for operation capital	3,563	3,563
VOLKSBANK	Loans for operation capital	1,342	1,342
Kookmin Bank	Facility loans	4,000	4,000
Woori Bank	KOSME Loan Agreement	53	53
Shinhan Bank	Loans for operation capital	1,000	1,000
Industrial Bank of Korea	Loans for operation capital	170	160
KEB Hana Bank	Loans for operation capital	650	259
Kookmin Bank	Loans for operation capital	104,674	104,674
NongHyup Bank	Loans for operation capital	470	470
Shinhan Bank	Loans for operation capital	35,000	35,000
Woori Bank	Loans for operation capital	30,000	30,000
Citi Bank	Loans for operation capital	20,000	20,000
Shinhan Bank	Loans for operation capital	20,000	20,000
Korea Investment & Securities Co., Ltd.	Loans for operation capital	290,000	290,000
KB Securities	Loans for operation capital	320,000	320,000
Shinhan Investment Corp.	Loans for operation capital	50,000	50,000
Korea Development Bank	Limit loan	40,000	-
Shinhan Bank	Limit loan	25,000	-
Kookmin Bank	Limit loan	22,000	-
Korea Securities Finance Corp	Loans for daily transactions	30,000	-
Korea Securities Finance Corp	Loans for acquisition	80,000	-
KEB Hana Bank ¹	Overdraft loans	3,000	-
Korea Securities Finance Corp	Distribution finance loans	10,000	-
THE KUMAMOTO DAI-ICHI SHINKIN BANK	Loans for operation capital	1,145	1,145
Kookmin Bank	Short-term borrowings	15,500	15,500
Kookmin Bank	Limit loans for operation capital	10,000	-
Shinhan Bank	Long-term borrowings	624	624
Industrial Bank of Korea	Long-term borrowings	500	500
Industrial Bank of Korea	Short-term borrowings	1,200	1,020

¹ ₩ 4,000 million of time deposit is held as collateral with respect to the agreement.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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38. Commitments and Contingencies, Continued

In accordance with the shareholder agreements in relation to Kakaopay Corp., a subsidiary, if there are difficulties in management and operation of Kakaopay Corp. due to changes in governance structure, the non-controlling interest investors of the subsidiary may request the Group to purchase those shares at fair value for a period of time described in the agreements. The management of the Group believes that the Group can control prerequisites for investors to claim the purchase and therefore, as of December 31, 2022, the Group believes that the possibility for non-controlling interest investors to exercise the put option is remote.

In accordance with the agreements with non-controlling interests of some subsidiaries including Kakao Entertainment Corp., the Group is required to obtain a consent from investors, when the Group intends to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer or other methods to third party other than stipulated manners in the agreements such as exercise of tag-along right.

In connection with the 12th Foreign Currency Exchangeable Bonds, the Company deposited the shares to be exchanged with the Korea Securities Depository. As of December 31, 2022, 3,452,122 shares were deposited, but due to the additional deposit of 2,017 shares due to the adjustment of the exchange value based on dividends during the year and the recovery of 3,184,692 shares due to the early redemption of exchangeable bonds, a total of 269,447 shares were deposited as of December 31, 2022.

During 2022, a fire at SK C&C's Pangyo data center, where the Group is a tenant, temporarily disrupted the services provided by the Group. The Group considers that it is possible that additional economic benefits may be accrued as compensation for losses to customers, but the amount cannot be reliably estimated as of December 31, 2022.

During the year ended December 31, 2022, the Company entered into a loan agreement with a subsidiary, KAKAO Enterprise Corp.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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38. Commitments and Contingencies, Continued

Financial instruments restricted as of December 31, 2022 and 2021:

(in millions of Korean won)

	2022	2021	Purpose of restriction
Cash and cash equivalents	₩ 395	-	Restrictions on withdrawals related to customer complaints
	8,000	8,000	Withdrawal restriction in relation to firm banking ¹
	1,880	1,350	Pledged as collateral for Shinhan Card and etc. ²
	1,407	300	Payment guarantee for office lease
	3,200	3,200	Pledged as collateral for a franchise contract
	500	500	Pledged as collateral for loan services
Short-term financial instruments	1	100	Pledged for payment guarantee for Daehan Bank
	-	-	Investment related pledged deposit and etc
	2	2	Withdrawal restriction for Korea Investment Savings Bank
	11,000	-	Providing collateral for stock option loans
	50,000	-	Providing collateral for a shareholder association loan
	-	40	Deposit for checking account
	297	-	Payment guarantee for employee's loan
Long-term financial instruments	6,107	5,359	Payment guarantee for employee's loan
	15	-	Deposits
	4,000	4,000	Provision of collateral for KEB Hana Bank overdraft
Deposits and financial assets at fair value through profit or loss	33,103	121,232	Separate investment deposit (ordinary deposit) ³
	2,000	-	Market derivative instrument transaction deposit
	2	2	Deposits for opening checking accounts and others
	2,510	3,714	Deposit for security transactions for Korea Exchange Market
	395,127	494,405	Separate investment deposit (financial asset) ³
	<u>₩ 519,545</u>	<u>642,305</u>	

¹ The withdrawal is restricted in relation to the firm banking contract with DGB Daegu Bank and Industrial Bank of Korea.

² Pledged as collateral in relation to covering expected loss incurred to credit card companies about business cooperation agreements with Shinhan Card and other credit card companies for 'Automated Payment via Kakao Pay'.

³ Deposited separately at Korea Securities Finance Corp. to meet the customer's requests such as return of investment deposit under Section 4 of Article 74 of Financial Investment Services and Capital Markets Act. It cannot be transferred or provided as collateral and cannot be offset or seized by anyone.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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38. Commitments and Contingencies, Continued

The following assets are pledged as collateral in relation to guarantees for contract fulfilment and borrowings as of December 31, 2022:

(in millions of Korean won)

Asset	Book value	Collateralized amount	Type of Guarantee	Secured party
Land, buildings and others ₩	27,171	21,674	Collateral for facility loans	Kookmin Bank, KEB Hana Bank

The Group entered into an agreement to pay incentives to shareholders of non-controlling interests of Kakaopay Securities Corp., a subsidiary, for earnings generated from fiscal year 2018 to 2021. These earnings are calculated in accordance with the agreement and incentives are paid in dividends and bonus through discussion between shareholders. The Group pays incentives unless the entity subject to payment recognizes net loss and to extent it is permitted under laws or regulations (including unenforceable guidelines and administrative guidance of government organization).

There is a possibility of an outflow of resources with economic benefits in relation to the payment of performance remuneration for past performance and executives of subsidiaries. However, as of December 31, 2021, the Group has not recognized any related liabilities as it is not highly probable that it is related to the obligation to pay.

As of December 31, 2022, other commitments of the Group are as follows:

(1) The Group pledged shares held by some shareholders who have participated in the Group's paid-in capital increase as collateral.

(2) In accordance with the agreements between shareholders of some subsidiaries and associates including STARSHIP ENTERTAINMENT CORP., the Group is required to obtain written consent from interested parties and investors when the Group intends to dispose of all or part of investments in subsidiaries or associates by transfer, sale, providing collateral, or other means before certain period or conditions are met.

(3) In accordance with the agreements between shareholders of STARSHIP ENTERTAINMENT CORP., a subsidiary, if the listing of STARSHIP ENTERTAINMENT CORP. is not completed within five years from the date of the capital increase of STARSHIP ENTERTAINMENT CORP. in December 2019, the investors who participated in the capital increase can request the Group to purchase shares of STARSHIP ENTERTAINMENT CORP. In relation to this, the Group recognized the amount to purchase the additional shares as liabilities.

(4) The Group entered into an agreement between shareholders granting a put option in relation to equity investment in Kakao Entertainment Co., Ltd., a subsidiary, and the Group accounts for the amount as financial liabilities.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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38. Commitments and Contingencies, Continued

(5) As of December 31, 2022, the Group is obligated to purchase certain shares held by the counterparty in connection with the purchase of shares of Daon Creative inc, Soundist Entertainment Co., Ltd., RS MEDIA Co., Ltd., Feelyeon Management, PAGE LAB Inc., and Legendaries Corp (formerly, Battle Entertainment) at an agreed price or a specific price at a certain time when the counterparty expresses its intention to sell, and the Group has recorded the amount as a financial liability.

(6) With respect to Kakao VX, a subsidiary, the investors of Kakao VX can request to sell their shares under the provisions of subscription agreement relating to redeemable convertible preferred shares. The investors may request to sell their shares during a specified period under limited circumstances where the Group fails to perform important obligations stated in the contract due to wilful misconduct or gross negligence. The Group expects that the likelihood of the circumstances that allow investors' request to sell their shares is remote.

(7) Some shareholders of a subsidiary may request the Group to purchase all or part of their shares in the subsidiary when certain conditions are satisfied according to the agreement. The management of the Group believes that there is currently no possibility of a purchase request.

(8) KAKAO Entertainment Corp, a subsidiary, has entered into a funding agreement with Helios-KDBC Video Digital Contents No. 1 New Technology Business Investment Fund.

(9) As of December 31, 2021, Kakao Games Corp., a subsidiary, has entered into the shareholders agreement with a stakeholders (existing shareholders) in relation to Lionheart Studio, Inc. Conditions such as pre-emptive purchase rights, drag-along rights, tag-along rights for equity shares, pre-emptive purchaser rights for assets, and rights to appoint directors are stipulated in the contract.

(10) Kakao Games Corp, a subsidiary, has the right to subscribe for new shares, preferential purchase rights, and co-sale rights to the shares of XL Games, Ocean Drive Studio Co., Ltd, and Second Dive Corp. through shareholders' agreements, and in the case of Ocean Drive Studio Co., Ltd, the right to acquire additional shares and the obligation to purchase the shares of the major shareholders.

(11) Kakao Games Corp, a subsidiary, has covenants regarding preferential purchase rights, co-sale rights, seller's purchase rights, and warrants in the shareholders' agreement entered into during the acquisition of Sena Technologies Inc..

(12) Kakao Enterprise Corp., a subsidiary of the Group, entered into a contract with Company A in 2021, and acquired a call option which allows Company A to acquire all of Company B's stocks (78.29% of Company B's total issued stock) held by Company A from the 24th month to the 36th month after Company A's acquisition of the stocks of Company B. If the Group does not exercise the call option, Company A grants a put option to sell all of Company B's stock held by Company A from the 36th month to the 48th month after the acquisition of Company B's stock.

KAKAO CORP. AND SUBSIDIARIES
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38. Commitments and Contingencies, Continued

(13) Kakao Enterprises Corp., a subsidiary of the Group, acquired shares of e.Form Works and classified them as investments in associates. The share acquisition contract includes a provision in which Kakao Enterprises Corp. will receive 20% of the shares of e.Form Works from Ion Communications Co., Ltd., the major shareholder of e.Form Works, depending on whether e.Form Works achieves the KPI.

(14) As of December 31, 2022, Kakao G Corp. acquired a stake in TEE.Ware and classified it as an investment in an associate. The acquisition agreement includes a provision that some of the existing shareholders of the associate may sell all of their shares to the Group when certain conditions are met.

(15) Kakao Mobility Corp., a subsidiary, has a separate decision-making body under the Board of Directors (the Committee), which is composed of the Parent Company and the non-controlling shareholder investors. As of December 31, 2022, pursuant to the shareholders' agreement, the non-controlling shareholder investors agreed to delay the exercise of its right to appoint a majority of the Committee. Accordingly, as of the date of these consolidated financial statements, the Parent Company constitutes the majority of the Committee.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
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39. Business Combinations

In 2022, the Group acquired the shares of 17 companies including Nextlevelstudio Inc., which became its subsidiaries. Details of the percentage of ownership acquired, the consideration paid and goodwill recognized thereto are as follow:—

(in millions of Korean won)

Company	Percentage of ownership acquired (%)	Consideration	Goodwill
Nextlevelstudio Inc	61.2%	₩ 3,500	1,752
Today's Pickup Corp. ²	100.0%	17,000	17,083
MZPlaying Inc. ²	100.0%	5,100	4,560
RS Solutions Corp.	100.0%	12,000	11,676
Sandwichtime Corp. ³	100.0%	150	437
EDAM Entertainment Corp.	52.5%	54,705	45,064
OOTB CO.,LTD.	100.0%	3,500	4,084
Whynotme Production Corp. ⁴	100.0%	3,000	6,229
KM PARK.CO.,Ltd	100.0%	65,000	58,981
WithONE's Inc	100.0%	2,000	2,476
Beagle Co., Ltd	100.0%	11,250	10,130
Neozensoft CO.,LTD. ⁵	100.0%	15,533	8,722
SAKURA Exchange BitCoin, Inc. ⁶	-	11,269	3,391
LINEWALKS Inc.	100.0%	24,470	21,002
Korea freight forwarders association Corp.	49.0%	1,147	2,180
Voithru Inc. and other ¹	72.0%	21,099	16,817
Total		<u>₩ 250,722</u>	<u>214,582</u>

¹ Presented as a provisional amount since the amount of consideration allocation related to the business combination has not been finalized at this time.

² Merged with Kakao Mobility Corp., a subsidiary, in 2022.

³ Merged with Nextlevelstudio Inc., a subsidiary, in 2022.

⁴ Merged with SamyangCNC Co.,Ltd, a subsidiary, in 2022.

⁵ Merged with Kakao healthcare Corp., a subsidiary, in 2022.

⁶ During the year ended December 31, 2022, included as a subsidiary through the acquisition of control and then sold and excluded as a subsidiary due to loss of control.

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Notes to the Consolidated Financial Statements, Continued
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39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows:

<i>(in millions of Korean won)</i>	Nextlevelstudio Inc	Today's Pickup Corp.	MZPlaying Inc	RS Solutions Corp.
Consideration transferred				
Cash and cash equivalents	₩ 3,500	17,000	5,100	12,000
Total	<u>3,500</u>	<u>17,000</u>	<u>5,100</u>	<u>12,000</u>
Assets acquired and liabilities assumed				
Cash and cash equivalents	2,394	104	448	440
Trade receivables	-	203	214	158
Property and equipment	544	48	5	28
Right-of-use assets	360	178	-	-
Intangible assets	3	10	42	-
Other assets	164	180	-	285
Trade payables	-	(48)	(132)	(108)
Borrowings	(178)	(500)	-	(150)
Other financial liabilities	(24)	-	-	-
Lease liabilities	(222)	(168)	-	-
Net defined benefit liabilities	-	(36)	(12)	(167)
Other liabilities	(186)	(52)	(25)	(162)
Net identifiable assets acquired	<u>₩ 2,854</u>	<u>(83)</u>	<u>540</u>	<u>324</u>
Non-controlling interests	<u>(1,106)</u>	<u>-</u>	<u>-</u>	<u>-</u>
Goodwill	<u>₩ 1,752</u>	<u>17,083</u>	<u>4,560</u>	<u>11,676</u>

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Notes to the Consolidated Financial Statements, Continued
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39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows:

<i>(in millions of Korean won)</i>	Sandwich time Corp.	EDAM Entertainment Corp.	OOTB CO.,LTD.	Whynotme Production Corp.
Consideration transferred				
Cash and cash equivalents	₩ 150	13,105	3,500	3,000
Shares and others	-	41,600	-	-
Total	<u>150</u>	<u>54,705</u>	<u>3,500</u>	<u>3,000</u>
Assets acquired and liabilities assumed				
Cash and cash equivalents	70	8,680	299	265
Trade receivables	-	2,110	459	15
Inventories	-	172	-	-
Property and equipment	12	9,118	162	283
Right-of-use assets	-	270	91	198
Intangible assets	1	13,929	96	-
Deferred tax assets	-	-	165	-
Other assets	70	10,131	396	597
Trade and other payables	(63)	-	(1)	-
Borrowings	(205)	(2,400)	(1,200)	(1,000)
Other financial liabilities	(171)	(3,861)	(47)	(266)
Lease liabilities	-	(272)	(94)	(199)
Net defined benefit liabilities	-	(160)	(33)	(104)
Deferred tax liabilities	-	(3,422)	-	-
Other liabilities	-	(15,587)	(878)	(3,017)
Net identifiable assets acquired	<u>(287)</u>	<u>18,707</u>	<u>(584)</u>	<u>(3,229)</u>
Non-controlling interests	-	(9,066)	-	-
Goodwill	<u>₩ 437</u>	<u>45,064</u>	<u>4,084</u>	<u>6,229</u>

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Notes to the Consolidated Financial Statements, Continued
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39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows:

<i>(in millions of Korean won)</i>	KM PARK.CO.,Ltd	WithONE's Inc	Beagle Co., Ltd	Neozensoft CO.,LTD.
Consideration transferred				
Cash and cash equivalents	₩ 65,000	2,000	11,250	15,533
Total	<u>65,000</u>	<u>2,000</u>	<u>11,250</u>	<u>15,533</u>
Assets acquired and liabilities assumed				
Cash and cash equivalents	1,526	294	886	383
Trade receivables	2,339	-	18	799
Inventories	37	-	-	-
Property and equipment	18,109	-	20	82
Right-of-use assets	53,538	-	-	-
Intangible assets	1,152	1	1,957	8,293
Other assets	10,516	10	7	299
Trade and other payables	(3,381)	-	(36)	(266)
Borrowings	(14,000)	(400)	-	(234)
Lease liabilities	(55,378)	-	-	-
Net defined benefit liabilities	(1,724)	(60)	(1,114)	-
Deferred tax liabilities	-	-	(430)	(1,824)
Other liabilities	(6,715)	(321)	(189)	(722)
Net identifiable assets acquired	<u>6,019</u>	<u>(476)</u>	<u>1,120</u>	<u>6,811</u>
Goodwill	<u>₩ 58,981</u>	<u>2,476</u>	<u>10,130</u>	<u>8,722</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

39. Business Combinations, Continued

Details of the consideration transferred, fair value of the acquired identifiable assets and liabilities at the acquisition date, and non-controlling interests in relation to business combinations in 2022, are as follows:

<i>(in millions of Korean won)</i>	SAKURA Exchange BitCoin, Inc.	LINEWALKS Inc.	Korea freight forwarders association Corp.	Voithru Inc. and other ¹
Consideration transferred				
Cash and cash equivalents	₩ 11,269	24,470	1,147	21,099
Total	11,269	24,470	1,147	21,099
Assets acquired and liabilities assumed				
Cash and cash equivalents	8,050	1,737	185	3,565
Trade receivables	-	55	-	606
Property and equipment	-	112	7	484
Right-of-use assets	-	-	-	2,266
Intangible assets	476	3,217	32	-
Other assets	390	164	4	1,051
Trade and other payables	(242)	-	-	(437)
Borrowings	-	-	(2,130)	(1,245)
Other financial liabilities	(1)	(85)	-	(72)
Lease liabilities	-	-	-	(2,167)
Net defined benefit liabilities	-	(425)	(18)	(315)
Deferred tax liabilities	-	(692)	-	-
Other liabilities	(395)	(615)	(188)	(297)
Net identifiable assets acquired	8,278	3,469	(2,108)	3,439
Non-controlling interests	(400)	-	1,075	843
Goodwill	₩ 3,391	21,002	2,180	16,817

¹ Presented as the amount in the consolidated financial statements including subsidiaries held at the time of business combination.

(1) Operating revenue and net profit of subsidiaries after the acquisition date reflected in the consolidated statement of income were ₩ 79,989 million and ₩ 673,104 million, respectively.

(2) If the subsidiaries had been consolidated from the beginning of the current period, the Group's operating revenue and net loss would have been ₩ 142,309 million and ₩ 9,962 million, respectively.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

40. Related Parties Transactions

The list of related parties as of December 31, 2022 and 2021, is as follows:

	2022
Relationship	Related parties¹
Associates	Addcredit Corp., DAUM Venture Fund, CNT TECH CO., LTD., Creativecomms Corp., CNT Tech 1st Start-up Investment Fund, CNT Tech 2nd Start-up Investment Fund, CNT Tech 3rd Start-up Investment Fund, CNT Tech 5th Start-up Investment, CNT Tech 7th Start-up Investment Fund, Hacktokon Investment Fund No.1, AI Angel CNT Tech Personal Investment Fund, CNT Tech 11th Start-up Investment Fund, CNT Tech 15th Start-up Investment Fund, CNT Tech Vine Supporters Investment Fund, Tide Square Co., Ltd., CC Partners, Allstay Co.,Ltd., Square Lab Inc., KakaoBank Corp., Korea Credit Data, KCD Marketing, Korea F&B Partners (formerly, Foodzim), Korea Business Connect (formerly, PERSONA), ImU, Korea Payment Networks Limited(formerly, Fiservkorea), Kakao-Shinhan 1st TNYT Fund, Kakao Style Corp., UTC Kakao SK Telecom ESG Fund, CLAIR, Inc., G&G ENTERPRISE CO.,LTD., Socialbean Co., Ltd, SSANGN, WILDCAT, Caring Corp., Caring Community Care, Humanscape, nexthealth, Humanscape US Inc., herit healthcare, Impian Asia, Grip Company, HitchMED Co., Ltd., Jeju-vision Venture Investment Association No.1., Enolink Holdings, Inc., Kakao Growth Hacking Fund, KIF-Kakao Wooribank Technology Financing Fund, D&C MEDIA CO.,LTD., D&C WEBTOON BIZ, THE ANT, Studio Boom, SOUL CREATIVE CO.,LTD, mycelebs, inc, GLAMAI INC., DAIWAON. C. I. INC, HAEDAM ENT CO.,LTD, Haksan Publinsing Co., Ltd., AniLand Co., Ltd., Studio Griffin Corp., SEOUL MEDIA.INC., LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC. 12, Super Comics. , Trace Culture Business Limited, HongKong TXKP Limited, Chengdu Podoteng Technology Co., Ltd., 325E&C co,ltd., UNION K-Culture Contents Investment Fund, Highup Entertainment, Helios KDBC Video Digital Contents No. 1, Metaverse Entertainment, Atwater Capital Partners I, L.P, MORE VISION CO., LTD., Entertainment JohAlarm Cultural Industry Company Ltd., GRAYGO Corp., Maison de Baha Co., Ltd., Clove Corp., Catchers Cultural Industry Company Ltd., Girl Rivers Cultural Industry Company Ltd., Wyatt co., Ltd, MANNACEA , Farmit, Farmit II, TANGRAM FACTORY AMERICA, INC., Deleo Korea Co., Ltd., YANADU. 3, Fixel Hub co,ltd., Foxsoft co.ltd, Daeyoung Chaevi CO., Ltd, Adlock Advertainment, Stage five Co., Ltd., DEVOTION FOODS Inc., JASON GROUP Co., Ltd. , MUSTIT. CO., Ltd., Nubility, KLleon Inc., CLEON CO.,LTD, Bluepoint Discovery Venture Fund No.2, DIGISONIC CO., LTD., InnoSignal CO., LTD., CHEQUER GLOBAL, Inc., TNK Factory, Atwater Whip SPV, LP, Japle Co., Ltd. , ATU e-sports Growth PE Fund I, LUXROBO CO., LTD., e.Form Works, LOVO INC., LOVO Korea., Skelter Labs, Inc., TOROOC Inc. , Galux, RECON Labs., Ocean Drive Studio Co., Ltd., Second Dive, Neptune Co., Ltd., HNC Games, Nimble Neuron, MAGNET, NEXPORTS Corporation, PRETTYBUSY, Mammo6 Co.,Ltd., PLAYHARD, treeplla Inc. , Ad X plus Co., Ltd, NFLY Studio, Ncrokey, CodeDog, Reality Magic, Together Kakao Games win-win fund, Loadstars , Teins Valley, GC Social Marketing Inc., Romance Crew, K Cube NEO Fund, DGT mobility. , S&Tsolution Co.,Ltd. , Anycall Mobility Corp , altimobility Corp., Autonomous A2Z, EASYGO CO., LTD., DOZEN CO.,LTD, The M Company, TheCheat Corp., TEEware and Others (69 companies)
Joint venture	DAUMKAKAO PHILIPPINES CORP, PHI DIGITAL HEALTHCARE Inc.

KAKAO CORP. AND SUBSIDIARIES

Notes to the Consolidated Financial Statements, Continued

For the years ended December 31, 2022 and 2021

Other related parties	Stage Asset Co., Ltd., K Cube Holdings Co., Ltd., New learn English Inc., Onyx K., PLUS 2 PERCENT, NPLUTO, GOLF&FRIEND CO.,LTD., KCUBE IMPACT Co.,Ltd, Future Contents Foundation (formerly, GAMERS FOUNDATION), H3 Corp., Brian Impact Foundation, Kakao Impact Foundation, Trace Culture Business Limited, Colorverse Inc(formerly, Puppy Red), SUNYOUNG STORY. CO., LTD, Kakao Creative Foundation, Kakaobank Corporation Employee Welfare Fund
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¹ Include associates and other related parties of Kakao Corp. and the entities that are not the related party in accordance with K-IFRS No.1024 but belong to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

	2021
Relationship	Related parties¹
Associates	Addcredit Corp., DAUM Venture Fund., Dunamu Inc., Futurewiz, IGIS Networks, Dunamu Investment Management Co., Ltd., Dunamu&Partners, LAMBDA256, DXM CO.,LTD, Auto manix Corp., Viber (formerly, Korea Virtual Asset Management), Le Corp., KCA 4 Front Fund, IGIS No. 303 Real Estate Investment, Codebox, CNT TECH CO.,LTD., TELESTAR CO.,LTD., Creativecomms Corp., CNT Tech 1st Start-up Investment Fund, CNT Tech 2nd Start-up Investment Fund, CNT Tech 3rd Start-up Investment Fund, CNT Tech 5th Start-up Investment, IBK Changgong 1st Jump-up Investment Fund, CNT Tech 7th Start-up Investment Fund, Hacktokon Investment Fund No.1, AI Angel CNT Tech Personal Investment Fund, CNT Tech 11th Start-up Investment Fund, Korea Tire CNT Tech 1st Mobility Startup Investment Fund, Tide Square Co., Ltd., CC Partners, Allstay Co.,LTD., Square Lab Inc., KakaoBank Corp., Korea Credit Data, KCD Marketing, KCD Partners, Data Driven Mid-range interest rate loan Innovation Preparation Corporation, Foodzim, Kakao-Shinhan 1st TNYT Fund, Kakao Style Corp., UTC Kakao-SK Telecom ESG Fund, CLAIR Inc., G&G Enterprise Co., Ltd., Social Bean, Caring, Humanscape, Grip Company, Kakao Growth Hacking Fund, D&C MEDIA Co., Ltd., D&C Webtoon Biz, The Comics Co.,Ltd., mycelebs, inc, DAIWAON. C. I. INC, Haksan Publinsing Co.Ltd., Seoul Media Comics, LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC., SUPERCOMIX STUDIO Corp., HongKong TXKP Limited, 325E&C Co., Ltd., UNION K-Culture Contents Investment Fund, EDAM Entertainment Corp, Highup Entertainment, Helios KDBC Video Digital Contents No. 1, Metaverse Entertainment, Atwater Capital Partners I, L.P, Wyatt co., Ltd (formerly, Hasys co.,ltd), MANNACEA, MANNATOWN, Farmit, Farmit II, Deleo Korea Co., Ltd., YANADU., Fixel Hub Co.,Ltd., FOR YOUR KIDS CO.,LTD., LINEWALKS Inc., Daeyoung Chaevi CO., Ltd., Adrock Advertainment Corp., Stage Five Corp., DEVOTION FOODS Inc., JASON GROUP Co.,Ltd., MUSTIT. CO., Ltd., Nubility, CLEON CO.,LTD., Bluepoint Discovery Venture Investment Fund No.2, DIGISONIC CO., LTD., InnoSignal CO., LTD., CHEQUER GLOBAL, INC., TNK Factory, Japle Co., Ltd., KIDSPAY CO. Ltd., ATUE Sports Growth Investment Fund No.2, LUXROBO CO., LTD., e.Form Works, LOVO Inc., Skelter Labs, Inc., TOROOC Inc., Galux,

KAKAO CORP. AND SUBSIDIARIES

Notes to the Consolidated Financial Statements, Continued

For the years ended December 31, 2022 and 2021

	RECON Labs., Ocean Drive Studio Co., Ltd., Second Dive, Neptune Co., Ltd., Reality Magic, Brokk Sindri, RPG Gate, Loadstars, Teins Valley, GC SOCIAL MEDIA MARKETING, INC., Romance Crew, K Cube Neo Fund, DGT mobility., S&Tsolution Co.,Ltd., Anycall Mobility Corp., Autonomous A2Z, KIF-Kakao Wooribank Technology Financing Fund 3, PEOPLEFUND COMPANY, EASYGO CO., LTD., DOZEN CO.,LTD, The M Company and Other 60
Joint venture	DAUMKAKAO PHILIPPINES CORP., AsanKakao Medical Data Co., Ltd., PHI DIGITAL HEALTHCARE Inc.
Other related parties	Stage Asset Co., Ltd., K Cube Holdings Co., Ltd., New learn English Inc., Onyx K., PLUS 2 PERCENT, NPLUTO, GOLF&FRIEND CO.,LTD., LKMS Limited, LKMS Re, KCUBE IMPACT Co.,Ltd, GAMERS FOUNDATION, H3 Corp., Brian Impact Foundation, Kakao Impact Foundation, Trace Culture Business Limited, SIWOO COMAPANY, Puppy Red, Ashoka Korea

¹ Include associates and other related parties of Kakao Corp. and the entities that are not the related party in accordance with K-IFRS No.1024 but belong to the Large Enterprise Group to which the Group also belongs in accordance with the Monopoly Regulation and Fair Trade Act.

KAKAO CORP. AND SUBSIDIARIES
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40. Related Parties Transactions, Continued

Transactions with the related parties for the years ended December 31, 2022 and 2021 and the receivables from and payables to the related parties as of December 31, 2022 and 2021, are as follows:

Transactions

	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
<i>(in millions of Korean won)</i>						
Associates						
YANADU.	₩ 476	-	-	19	2	10
Fixel Hub co.,Ltd.	-	-	-	30	-	-
CLAIR, Inc.	98	-	-	-	-	46
CNT TECH CO., LTD.	721	-	-	12	1	1
Deleo Korea Co., Ltd.	-	-	-	15	-	-
DGT mobility.	-	-	-	112	37	-
D&C MEDIA CO.,LTD.	-	-	-	5,693	-	-
DAIWAON. C. I. INC	247	-	-	2,299	-	32
DOZEN CO.,LTD	621	-	-	3,594	-	-
325E&C co.,Ltd.	-	-	-	1,062	10	1
G&G ENTERPRISE CO.,LTD.	180	-	-	-	-	76
Haksan Publinshing Co., Ltd.	16	-	-	3,106	-	-
Wyatt co., Ltd	3,456	-	-	6	-	-
JASON GROUP Co., Ltd.	7,321	-	-	1,144	-	-
KakaoBank Corp.	22,617	2,984	-	11,616	72	182
Leferi	296	-	-	133	-	-
MANNACEA	1	-	-	-	-	-
mycelebs, inc	-	-	-	1,296	-	-
Stage five Co., Ltd.	1,965	-	-	-	-	-
Socialbean Co., Ltd	1,118	-	-	5	-	57
Super Comics.	74	43	-	1,384	-	112
SEOUL MEDIA.INC.	254	-	-	3,406	-	-
S&Tsolution Co.,Ltd.	-	-	-	3	-	-
Tangram Factory, inc.	-	-	-	-	-	-
Tide Square Co., Ltd.	458	-	110	-	130	12
Shoe Lab	1	-	-	-	-	-
Cleaning Lab	346	-	-	3	-	-
CULTUREHERO	155	-	-	-	-	46
HUMART COMPANY(TROST)	19	-	-	-	-	-
Korea Credit Data	903	-	-	-	-	-
Highup Entertainment	405	-	-	2,638	-	4,669
MUSTIT. CO., Ltd.	1,641	-	-	-	-	8
Allstay Co.,Ltd.	31	-	-	-	-	-
Daeyoung Chaevi CO., Ltd	3	-	-	-	11	-
Square Lab Inc.	66	-	-	-	-	-
LUXROBO CO., LTD.	-	-	-	-	-	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	12	-	-	-	-	-
Japle Co., Ltd.	1	-	-	12	-	-
Kakao Style Corp.	7,329	-	-	6	1,913	-
HongKong TXKP Limited	-	31	7	-	-	1

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Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Force Teller	-	-	-	3	-	-
TNK Factory	1,783	-	-	461	154	-
Carrot Market	195	-	-	14	11	3
Atwater Capital Partners I, L.P.	-	-	-	77	-	-
Dreaming Darakbang	7	-	-	-	-	-
e.Form Works	1	-	-	1	-	-
Code Squad	-	-	-	-	-	345
Time&Co	49	-	-	-	-	-
Humanscape	-	-	-	-	-	-
Caring Corp.	8	-	-	-	-	-
KCD Marketing	2	-	-	101	-	-
Korea F&B Partners (formerly, Foodzim)	6	-	-	-	-	-
THE ANT	74	-	-	4,132	-	-
Grip Company	852	89	230	12	-	-
Teins Valley	-	-	-	17	-	1
GC Social Marketing Inc.	-	-	-	-	155	-
MORE VISION CO., LTD.	-	-	-	948	-	-
D&C WEBTOON BIZ	67	-	-	15,559	2	-
SSANGN	-	-	-	-	-	-
21st market	-	-	-	-	-	-
NEW WAVE COMMERCE	2	-	-	-	-	-
MOYO	2	-	-	-	-	-
Artificial Society Inc.	-	-	-	-	-	-
PERSONA	90	-	-	1	-	-
Neptune Co., Ltd.	89	-	-	283	-	-
Nimble Neuron	736	-	-	571	23	-
MAGNET	-	-	-	234	-	-
Ocean Drive Studio Co., Ltd.	-	348	-	-	-	-
CastingN	-	-	-	-	-	90
K Cube NEO Fund	259	-	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	1,212	-	-	-	-	-
Kakao-Shinhan 1st TNYT Fund	386	-	-	-	-	-
Kakao Growth Hacking Fund	1,942	-	-	-	-	-
TheCheat Corp.	-	-	-	49	-	-
GRAYGO Corp.	74	-	14	-	-	-
Nautilus	1	-	-	-	-	-
Nubility	-	-	-	-	-	-
DEVOTION FOODS Inc.	-	-	-	-	-	2
CLEON CO.,LTD	-	-	-	-	-	-
Loonshot Company Inc.	1	-	-	-	-	-
ImU	1	-	-	-	-	-
Clove Corp.	-	-	-	-	-	-
Reality Magic	-	-	-	43	10	-
TEEware	2,116	-	3	215	-	-
Adlock Advertainment	-	-	-	-	-	-
Bosalpim	-	-	-	-	-	-
Korea Payment Networks Limited	37	-	-	2	-	-
altimobility Corp.	22	-	-	-	-	-
Chengdu Podoteng Technology Co., Ltd.	4,145	-	-	-	-	-
FOR YOUR KIDS CO.,LTD. ²	111	-	-	-	-	264

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	2022					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Dunamu Inc.	103	-	-	40	-	-
EDAM Entertainment Corp ³	244	-	21	5,016	1,701	1,576
PEOPLEFUND COMPANY ¹	1,100	-	-	-	-	-
Dr. Kitchen ²	5	-	-	-	-	-
Dining Code ²	-	-	-	3	-	-
kasa ²	-	-	-	-	-	-
KIDSPAY co, Ltd. ²	-	-	-	-	-	-
Futurewiz ²	94	-	-	-	-	-
Le Corp. ²	-	-	-	-	-	-
Dunamu Investment Management Co., LTD ²	-	-	-	-	-	-
	<u>66,647</u>	<u>3,495</u>	<u>385</u>	<u>65,376</u>	<u>4,232</u>	<u>7,534</u>
Joint venture						
Asankakao Medical Data Co., Ltd. ²	196	-	-	-	-	-
Other related parties						
Kakao Impact Foundation	211	-	-	-	-	12,035
K Cube Holdings Co., Ltd.	46	9	-	-	-	-
Brian Impact Foundation	412	13	-	-	-	-
Colorverse Inc.	3	-	-	-	-	-
GAMERS FOUNDATION	-	-	2	-	-	-
Kakao Creative Foundation	9	-	-	-	-	-
	<u>877</u>	<u>22</u>	<u>2</u>	<u>-</u>	<u>-</u>	<u>12,035</u>
	<u>₩ 67,524</u>	<u>3,517</u>	<u>387</u>	<u>65,376</u>	<u>4,232</u>	<u>19,569</u>

¹ Reclassified to financial assets at fair value through other comprehensive income from an associate and the transaction amount up to the date of reclassification is presented.

² Excluded from the Group's associate due to disposal and the transaction amount up to the date of disposal is presented.

³ It was included to a subsidiary of the Group during 2021, and the transaction amount before the inclusion is presented.

	2021					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Associates						
Adlock Advertainment	₩ -	-	-	-	-	-
AD(x) Inc. ¹	334	-	-	20	-	-
Atwater Whip SPV, LP ⁴	-	-	5,927	-	-	691
YANADOO Co., Ltd.	233	-	-	19	-	-
4ukids	1,758	-	-	-	-	481
Pixel Hub	-	-	-	30	-	-
CLAIR, Inc.	1	-	-	-	-	139
C&T Tech	735	-	-	12	-	1
Deleo Korea Co.,Ltd.	-	-	-	8	-	-
D&C MEDIA CO.,LTD	13	-	-	7,882	-	1
Dunamu Inc. ²	744	-	4,255	240	-	-
Doctorbrain SPC Ltd	120	-	710	-	-	-
DAIWAON. C. I. INC	83	-	-	1,363	-	17
DOZEN CO.,LTD	319	-	-	1,383	-	-

KAKAO CORP. AND SUBSIDIARIES
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	2021					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
EDAM Entertainment Corp	23	-	52	12,841	1,319	-
325 E&C	-	-	-	779	-	183
G&G Enterprise Co Ltd	130	-	-	-	-	90
Haksan Publinshing Co.Ltd	28	-	6	3,607	-	22
Wyatt co., Ltd (formerly, Hasys co.,ltd)	4,477	-	-	-	-	-
JASON GROUP Co.,Ltd. ²	5,024	-	131	883	-	-
KakaoBank Corp.	10,172	37	-	8,849	109	68
K Cube NEO Fund	314	-	-	-	-	-
Kakao Growth Hacking Fund	1,438	-	-	-	-	-
KIF-KakaoWooribank Technology Financing Fund	1,319	-	-	-	-	-
Leferi	128	-	-	68	-	-
LIONHEART STUDIO Corp. ¹	-	-	-	168,372	-	429
MANNACEA	71	-	-	151	-	-
Mycelebs	-	-	-	1,391	-	-
NBT Inc ⁴	3	-	-	196	-	-
PEOPLEFUND COMPANY	683	-	-	-	-	-
Stagefive Co. Ltd	906	-	-	6	-	-
Social bean	617	-	-	-	-	6
Super Comics studio	9	-	26	1,328	5	171
Sixshop ³	12	-	-	36	-	-
Seoul Media Comics	16	-	40	2,140	-	31
Tangramfactory	1	-	-	-	-	-
TIDESQUARE	41	-	-	106	44	102
Way2Bit Co., Ltd.	245	-	-	-	-	-
Shoe Lab	-	-	-	-	-	-
Dr.Kitchen	10	-	-	-	-	-
Life Lab	164	-	-	-	-	-
Culture Hero	34	-	-	-	-	8
Futurewiz	1,533	-	-	-	-	-
Humart Company Co.,Ltd	10	-	-	-	-	-
Korea Credit Data	2,408	-	-	-	-	-
Nowbusking ⁴	1	-	-	12	-	-
Kakao-Shinhan 1st TNYT Fund	386	-	-	-	-	-
Highup Entertainment	328	23	-	1,144	-	1,669
MUSTIT. CO., Ltd.	148	-	-	-	-	-
Allstay	24	-	-	-	-	-
Daeyoung Chaevi CO., Ltd	1	-	-	-	-	-
Square Lab	7	-	-	-	-	-
LUXROBO CO., LTD. ³	1	-	-	-	-	-
Neptune Co., Ltd.	80	-	-	232	-	-
Nimble Neuron	470	-	-	261	377	-
Magnet	-	-	-	201	-	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	237	-	13	3	1,133	3
Japle Co., Ltd.	1	-	-	2	-	1
Kakao Style Corp.	1,012	-	-	126	-	-
GC SOCIAL MEDIA MARKETING, INC.	-	-	-	-	1,459	-
HongKong TXKP Limited	-	37	-	-	-	-
Autonomous A2Z	100	-	-	-	-	-
DAUM Venture Fund ²	-	-	2,609	-	-	-

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

	2021					
	Revenue and others			Operating expenses and others		
	Revenue	Interest income	Other income	Service fee	Advertising expense	Others
Automanics	-	-	-	-	-	-
Force Teller	2	-	-	1	-	-
The M Company	-	-	-	-	-	8
Skelter Labs, Inc.	-	-	-	-	-	-
TNK Factory	1	-	-	-	-	-
Carrot Market	-	-	-	-	3	-
WhaTap Labs	-	-	-	4	-	-
PLANETS CO. LTD.	16	-	-	-	-	-
FM Ad	-	-	-	10	-	-
DXM Corp.	72	-	-	-	-	-
TAPAS MEDIA, INC.	3,147	42	-	2	-	-
Radish Media. Inc	1	-	-	-	-	-
D&C Webtoon Biz	97	-	-	17,655	1	55
Kross Pictures	170	-	-	24	-	-
	<u>40,458</u>	<u>139</u>	<u>13,769</u>	<u>231,387</u>	<u>4,450</u>	<u>4,176</u>
Joint venture						
Asankakao Medical Data Co., Ltd.	403	-	-	-	-	-
Other related parties						
Kakao Impact Foundation	224	-	-	-	-	9,226
K Cube Holdings	46	11	-	-	-	-
Brian Impact Foundation	44	2	-	-	-	-
Gamers Foundation	-	-	2	-	-	-
LKMS Limited	30	-	-	-	-	-
Tapas Media Korea Inc.	-	-	-	251	-	-
	<u>747</u>	<u>13</u>	<u>2</u>	<u>251</u>	<u>-</u>	<u>9,226</u>
	<u>₩ 41,205</u>	<u>152</u>	<u>13,771</u>	<u>231,638</u>	<u>4,450</u>	<u>13,402</u>

¹ It was included to a subsidiary of the Group during 2021, and the transaction amount before the inclusion is presented.

² Received dividends of ₩ 4,255 million from Dunamu Inc. and ₩ 131 million from JASON GROUP Co.,Ltd. in 2021, and the dividends amount is included in the above table.

³ The Group disposed of 38,073 shares of Sixshop and reclassified the remaining equity shares to financial assets at fair value through other comprehensive income from an associate.

⁴ The Group disposed all shares in 2021, and the transaction amount up to the date of disposal is presented.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

40. Related Parties Transactions, Continued

Transactions with the related parties for the years ended December 31, 2022 and 2021 and the receivables from and payables to the related parties as of December 31, 2022 and 2021, are as follows:

Receivables and Payables

(in millions of Korean won)

	2022				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables	Non-trade payables	Other payables
Associates					
YANADU.	₩	-	15	24	-
CLAIR, Inc.	-	-	-	2	-
CNTTECH CO., LTD.	8	-	88	291	-
Deleo Korea Co., Ltd.	-	-	-	2	-
DGT mobility.	-	-	-	164	-
D&C MEDIA CO.,LTD.	-	-	2,014	211	-
Doctor Brain Culture Industry Special Purpose Company Ltd.	61	-	-	-	-
DREAMSIDE Culture Industry Special Purpose Company Ltd.	-	-	400	-	-
DAIWAON. C. I. INC	19	-	723	149	30
DOZEN CO.,LTD	61	-	-	842	-
325E&C co.,ltd.	-	-	2,588	-	22
G&G ENTERPRISE CO.,LTD.	-	-	-	22	-
Haksan Publinshing Co., Ltd.	-	-	2,607	192	2
Wyatt co., Ltd	109	-	100	1,223	-
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	3	-	-	-	-
JASON GROUP Co., Ltd.	-	-	-	100	-
KakaoBank Corp.	1,570	-	155,663	1,245	7,424
mycelebs, inc	-	-	325	90	-
Stage five Co., Ltd.	627	-	-	-	372
Socialbean Co., Ltd	7	-	-	406	1
Super Comics.	-	1,000	569	200	-
SEOUL MEDIA.INC.	-	-	982	259	-
Tide Square Co., Ltd.	11	-	24	1,841	-
HUMART COMPANY(TROST)	-	-	-	6	-
CULTUREHERO	-	-	-	20	-
Cleaning Lab	-	-	-	130	-
Leferi	-	-	-	47	-
Neptune Co., Ltd.	-	-	-	44	-
Highup Entertainment	-	-	2,431	-	24
Kakao Growth Hacking Fund	477	-	-	-	-
Nimble Neuron	-	-	2,787	307	-
MUSTIT. CO., Ltd.	3	-	-	-	-
Daeyoung Chaevi CO., Ltd	-	-	-	23	-
Square Lab Inc.	-	-	-	6	2
HongKong TXKP Limited	-	380	-	-	-
Autonomous A2Z	-	-	1	-	-
Kakao Style Corp.	86	-	31	3,430	-
Force Teller	-	-	-	-	-
TNK Factory	2	-	-	11	-
Carrot Market	29	-	34	-	-
Time&Co	-	-	-	46	-
THE ANT	-	-	149	204	100

KAKAO CORP. AND SUBSIDIARIES
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For the years ended December 31, 2022 and 2021

Metaverse Entertainment	-	-	113	-	-
Grip Company	32	-	4,865	1,420	773
MORE VISION CO., LTD.	-	-	457	-	-
Entertainment JohAlarm Cultural Industry Company Ltd.	-	-	2,010	-	-
D&C WEBTOON BIZ	4	-	2,437	1,679	-
Fixel Hub co,ltd.	-	-	17	-	-
PERSONA	-	-	-	-	-
threepoint	3	50	50	-	-
Ocean Drive Studio Co., Ltd.	-	10,000	10,348	-	-
Reality Magic	-	-	427	11	-
MAGNET	-	-	-	29	-
Second Dive	-	-	2,800	-	-
NEW WAVE COMMERCE	-	-	-	1	-
K Cube NEO Fund	259	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	1,212	-	-	-	-
Teins Valley	-	-	-	2	-
TheCheat Corp.	-	-	-	11	-
GRAYGO Corp.	14	-	-	16	200
Catchers Cultural Industry Company Ltd.	-	-	280	-	-
Nautilus	-	-	-	10	-
Kakao-Shinhan 1st TNYT Fund	96	-	-	-	-
GC Social Marketing Inc.	-	-	-	16	-
Ad X plus Co., Ltd	345	-	-	-	-
e.Form Works	-	-	-	-	1
TEEware	-	-	-	211	-
Tangram Factory, inc.	-	-	-	-	-
Girl Rivers Cultural Industry Company Ltd.	-	-	530	-	-
Korea Payment Networks Limited	-	-	-	1	-
Chengdu Podoteng Technology Co., Ltd.	2,078	-	-	-	4,765
	<u>7,117</u>	<u>11,430</u>	<u>195,866</u>	<u>14,945</u>	<u>13,714</u>
Other related parties					
Kakao Impact Foundation	15	-	239	-	42
K Cube Holdings Co., Ltd.	-	-	393	-	2,071
Brian Impact Foundation	19	-	1,266	-	249
Colorverse Inc.	-	-	-	-	-
GAMERS FOUNDATION	-	-	-	-	-
	<u>34</u>	<u>-</u>	<u>1,898</u>	<u>-</u>	<u>2,362</u>
	<u>₩ 7,151</u>	<u>11,430</u>	<u>197,764</u>	<u>14,945</u>	<u>16,076</u>

(in millions of Korean won)

	2021				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables	Non-trade payables	Other payables
Associates					
YANADOO Co., Ltd.	₩ 7	-	-	13	-
4ukids	1,289	-	39	1	-
CLAIR, Inc.	-	-	-	9	-
C&T Tech	44	-	-	350	-
Deleo Korea Co.,Ltd.	-	-	-	1	-
DGT Mobility Corp.	-	-	-	92	-
D&C MEDIA CO.,LTD	-	-	2,212	898	-
Dunamu Inc.	-	-	-	22	-
Doctorbrain SPC Ltd	-	-	400	-	-
Dreamside SPC Ltd.	-	-	400	-	-

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

DAIWAON. C. I. INC	-	-	701	344	-
DOZEN CO.,LTD	39	-	400	292	-
EDAM Entertainment Corp	-	-	2,567	2,557	127
325 E&C	-	-	3,756	-	22
G&G Enterprise Co Ltd	-	-	-	18	-
Haksan Publinsing Co.Ltd	-	-	2,003	708	-
Wyatt co., Ltd (formerly, Hasys co.,Ltd)	389	-	129	1,571	14
LEEMITELEESYUN CULTURE INDUSTRIAL JEONMUNHOESA INC.	165	-	1,392	-	-
JASON GROUP Co.,Ltd.	-	-	-	84	-
KakaoBank Corp.	1,084	-	31,655	1,218	8,543
MANNACEA	-	-	-	13	-
Mycelebs	-	-	541	165	-
Stagefive Co. Ltd	215	-	22	-	42
Social bean	3	-	-	91	-
Super Comics studio	-	-	321	163	-
Seoul Media Comics	-	-	865	569	-
Three Point Inc.	3	50	-	-	-
TIDESQUARE	-	-	-	602	-
Dr.Kitchen	-	-	-	54	-
Futurewiz	169	-	-	-	-
Humart Company Co.,Ltd	1	-	-	3	2
Second Dive Corp	-	-	2,800	-	-
Culture hero	-	-	-	17	-
Life Lab	-	-	-	86	-
Leferi	-	-	-	5	-
Neptune Co., Ltd.	-	-	-	27	26
Highup Entertainment	-	-	807	-	9
K Cube Neo Fund	314	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	1,319	-	-	-	-
Kakao Growth Hackng Fund	488	-	-	-	-
Nimble Neuron	149	-	2,771	-	-
Magnet	-	-	-	23	22
MUSTIT. CO., Ltd.	3	-	-	-	-
Daeyoung Chaevi CO., Ltd 2,3	-	-	-	9	-
Square Lab	-	-	-	24	-
Reality Magic	-	-	1,150	-	-
HongKong TXKP Limited	-	1,067	-	-	-
Autonomous A2Z	-	-	-	-	-
LUXROBO CO., LTD.	-	-	-	1	-
Kakao Style Corp.	48	-	-	1,258	-
Force Teller	-	-	-	2	-
TNK Factory	2	-	-	-	-
Carrot Market	-	-	22	-	-
Automanics	-	-	-	-	3
Japle Co., Ltd.	-	-	-	9	-
	<u>5,731</u>	<u>1,117</u>	<u>54,953</u>	<u>11,299</u>	<u>8,810</u>
Joint venture					
Asankakao Medical Data Co., Ltd.	33	-	-	-	-
Other related parties					
Gamers Foundation	-	-	-	-	-
Kakao Impact Foundation	12	-	-	-	6
K Cube Holdings	-	-	478	-	2,571
Brian Impact Foundation	-	-	119	-	17
LKMS Limited	-	-	68	-	-
	<u>45</u>	<u>-</u>	<u>665</u>	<u>-</u>	<u>2,594</u>
₩	<u>5,776</u>	<u>1,117</u>	<u>55,618</u>	<u>11,299</u>	<u>11,404</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

40. Related Parties Transactions, Continued

Loans arising from related parties for the years ended December 31, 2022 and 2021, are as follows:
(in millions of Korean won)

	2022						2022		
	Loan transactions			Finance lease transactions ¹			Loans ¹	Amortization	Collection
	Contributions (Collections)	Beginning balance	Changes in scope of consolidation	Loans	Repayment	Ending balance			
Associates									
threepoint	₩ -	50	-	-	-	50	-	-	-
Ocean Drive Studio Co., Ltd.	-	-	-	10,000	-	10,000	-	-	-
HongKong TXKP Limited	-	1,067	-	-	(687)	380	-	-	-
Super Comics.	-	-	-	1,000	-	1,000	-	-	-
Kakao Growth Hacking Fund ²	3,200	-	-	-	-	-	-	-	-
KakaoBank Corp.	-	-	-	-	-	-	93,082	2,982	6,774
Grip Company	-	-	-	-	-	-	4,817	89	413
TEEware	-	-	-	-	-	-	80	1	7
Helios KDBC Video Digital Contents No. 1 ²	2,202	-	-	-	-	-	-	-	-
Neptune Co., Ltd. ^{3,5}	110,346	-	-	-	-	-	-	-	-
UTC Kakao SK Telecom ESG Fund ²	4,000	-	-	-	-	-	-	-	-
Loadstars ²	67	-	-	-	-	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund ⁴	(2,550)	-	-	-	-	-	-	-	-
GC Social Marketing Inc. ²	2,561	-	-	-	-	-	-	-	-
Atwater Capital Partners I,L.P. ²	470	-	-	-	-	-	-	-	-
	<u>120,296</u>	<u>1,117</u>	<u>-</u>	<u>11,000</u>	<u>(687)</u>	<u>11,430</u>	<u>97,979</u>	<u>3,073</u>	<u>7,194</u>
Other related parties									
Brian Impact Foundation	-	-	-	-	-	-	1,266	13	137
K Cube Holdings Co., Ltd.	-	-	-	-	-	-	393	9	85
	-	-	-	-	-	-	1,659	23	222
	<u>₩ 120,296</u>	<u>1,117</u>	<u>-</u>	<u>11,000</u>	<u>(687)</u>	<u>11,430</u>	<u>99,638</u>	<u>3,096</u>	<u>7,416</u>

KAKAO CORP. AND SUBSIDIARIES

Notes to the Consolidated Financial Statements, Continued

For the years ended December 31, 2022 and 2021

40. Related Parties Transactions, Continued

¹ The amount represents the ending balance of lease receivables to be received by maturity under the sub-lease agreement with the related party in 2022.

² The Group additionally acquired through capital increase with consideration during 2022.

³ Converted to 1,135,202 common shares as exercising conversion right during 2022.

⁴ The Group recovered some of the principal of investment through the first distribution during 2022.

⁵ During 2022, acquired 6,913,540 new shares as consideration through the merger and acquisition of Ad(x) Inc.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

40. Related Parties Transactions, Continued

(in millions of Korean won)

	2021						2021		
	Contributions (Collections)	Beginning balance	Changes in scope of consolidation	Loans	Exclusion from related parties	Ending balance	Loans ¹	Amortization	Collection
Associates									
Three Point Inc.	₩	-	50	-	-	50	-	-	-
HongKong TXKP Limited		-	-	1,066	-	1,066	-	-	-
TAPAS MEDIA, INC.		-	-	-	10,170	(10,170)	-	-	-
13MILE.CO.LTD		-	450	-	-	(450)	-	-	-
KakaoBank Corp.		-	-	-	-	-	1,944	36	1,945
Radish Media, Inc. ²		16,459	-	-	-	-	-	-	-
Kakao-Shinhan 1st TNYT Fund		3,582	-	-	-	-	-	-	-
Kakao Growth Hacking Fund ²		9,600	-	-	-	-	-	-	-
DAUM Venture Fund ³		(6,047)	-	-	-	-	-	-	-
UNION K-Culture Contents Investment Fund ²		2,500	-	-	-	-	-	-	-
Stagefive Co. Ltd ²		2,500	-	-	-	-	-	-	-
Ocean Drive Studio Co., Ltd. ²		9,489	-	-	-	-	-	-	-
DOZEN CO.,LTD ²		52	-	-	-	-	-	-	-
Force Teller ²		4,000	-	-	-	-	-	-	-
		<u>41,645</u>	<u>500</u>	<u>1,066</u>	<u>10,170</u>	<u>(10,620)</u>	<u>1,944</u>	<u>36</u>	<u>1,945</u>
Other related parties									
Brian Impact Foundation		-	-	-	-	-	119	2	12
K Cube Holdings Co., Ltd.		-	-	-	-	-	478	11	85
		-	-	-	-	-	597	13	97
	₩	<u>41,645</u>	<u>500</u>	<u>1,066</u>	<u>10,170</u>	<u>(10,620)</u>	<u>2,591</u>	<u>49</u>	<u>2,042</u>

¹ The amount represents the initial balance of lease receivables to be received by maturity under the sub-lease agreement with the related party.

² The Group additionally acquired through capital increase with consideration in 2021.

³ The Group recovered some of the principal of investment through the fifth and sixth distributions in 2021.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

40. Related Parties Transactions, Continued

Key management compensation

The compensation paid or payable to key management for the years ended December 31, 2022 and 2021 consists of:

(in millions of Korean won)

	<u>2022</u>	<u>2021</u>
Salaries	₩ 2,340	4,702
Retirement benefit expense	87	132
Other long-term employee benefits	12	31
Share-based payments	2,472	9
	<u>₩ 4,910</u>	<u>4,874</u>

41. Information for Non-controlling Interests

(1) Changes in accumulated non-controlling interests

The profit or loss allocated to non-controlling interests and accumulated non-controlling interests of subsidiaries that are material to the Group for the years ended December 31, 2022 and 2021, is as follows:

(in millions of Korean won)

	<u>2022</u>						
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Investment by non-controlling interests and disposal of shares	Others	Accumulated non-controlling interests at the end of the year
Kakao Games Corp.	58.60	₩ 1,150,543	(70,678)	-	57,145	(140,222)	996,788
Kakaopay Corp.	53.10	959,142	11,968	-	19,849	45,629	1,036,588
Kakao Entertainment Corp.	26.40	599,459	(156,573)	-	4,655	47,937	495,478
Kakao Mobility Corp.	42.70	355,986	(11,711)	-	2,501	148,430	495,207

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

41. Information for Non-controlling Interests, continued

(1) Changes in accumulated non-controlling interests, continued

(in millions of Korean won)

	2021						
	Non-controlling interest rate (%)	Accumulated non-controlling interests at the beginning of the year	Profit or loss allocated to non-controlling interests	Dividends paid to non-controlling interests	Investment by non-controlling interests and disposal of shares	Others	Accumulated non-controlling interests at the end of the year
Kakao Games Corp.	56.40	₩ 561,783	299,322	-	350,145	(60,707)	1,150,543
Kakaopay Corp.	52.70	103,809	(32,086)	-	936,346	(48,927)	959,142
Kakao Entertainment Corp.	26.30	153,694	(5,543)	-	478,258	(26,950)	599,459
Kakao Mobility Corp.	42.50	58,589	8,756	-	325,451	(36,810)	355,986
Kakao M Corp. ¹	-	182,640	881	-	(185,487)	1,966	-

¹ Merged by Kakao Entertainment Corp. and extinguished in 2021.

(2) Summarized financial information on subsidiaries

Set out below is summarized financial information for each subsidiary that has non-controlling interests that are material to the Group. The amounts disclosed for each subsidiary are before inter-company eliminations.

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

41. Information for Non-controlling Interests, Continued

Summarized consolidated statements of financial position

(in millions of Korean won)

	2022			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Current assets	₩ 1,057,387	2,259,816	607,662	621,334
Non-current assets	2,816,555	315,950	2,846,622	925,206
Assets of financial services business	-	755,764	-	-
Current liabilities	267,339	873,830	1,489,036	276,811
Non-current liabilities	1,591,709	98,849	346,214	126,702
Liabilities of financial services business	-	450,625	-	-
Equity	<u>₩ 2,014,893</u>	<u>1,908,225</u>	<u>1,619,034</u>	<u>1,143,028</u>

(in millions of Korean won)

	2021			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Current assets	₩ 1,151,685	2,292,025	570,021	700,073
Non-current assets	3,152,502	187,031	3,141,638	387,897
Assets of financial services business	-	953,653	-	-
Current liabilities	842,725	844,443	1,396,666	132,321
Non-current liabilities	1,040,972	118,148	164,658	122,217
Liabilities of financial services business	-	674,481	-	-
Equity	<u>₩ 2,420,491</u>	<u>1,795,638</u>	<u>2,150,335</u>	<u>833,432</u>

Summarized consolidated statements of comprehensive income

(in millions of
Korean won)

	2022			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Revenue	₩ 1,147,693	521,671	1,864,791	791,481
Profit (loss) for the year	(196,108)	26,795	(629,795)	(27,695)
Other comprehensive income (loss)	(209,030)	2,580	61,314	(1,036)
Total comprehensive income (loss)	<u>₩ (405,138)</u>	<u>29,375</u>	<u>(568,480)</u>	<u>(28,731)</u>

(in millions of
Korean won)

	2021			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Revenue	₩ 1,012,481	458,647	1,246,879	546,464
Profit (loss) for the year	520,158	(33,863)	29,798	27,078
Other comprehensive income (loss)	218,103	221	38,924	(916)
Total comprehensive income (loss)	<u>₩ 738,261</u>	<u>(33,642)</u>	<u>68,722</u>	<u>26,162</u>

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

41. Information for Non-controlling Interests, Continued

Summarized consolidated statements of cash flows

(in millions of
Korean won)

	2022			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Cash flows from operating activities	₩ 133,825	(56,866)	(44,597)	96,998
Cash flows from investing activities	(963,585)	383,359	(138,474)	(298,344)
Cash flows from financing activities	644,073	(3,482)	151,884	(31,054)
Net increase (decrease) in cash and cash equivalents	(185,687)	323,011	(31,187)	(232,400)
Cash and cash equivalents at beginning of year	808,676	1,140,415	239,614	622,992
Effects of exchange rate changes on cash and cash equivalents	3,781	83	2,832	-
Cash and cash equivalents at end of year	₩ 626,770	1,463,509	211,258	390,592

(in millions of
Korean won)

	2021			
	Kakao Games Corp.	Kakaopay Corp.	Kakao Entertainment Corp.	Kakao Mobility Corp.
Cash flows from operating activities	₩ 234,268	156,659	60,640	38,715
Cash flows from investing activities	(798,638)	(996,778)	(760,709)	(67,368)
Cash flows from financing activities	826,136	1,595,553	917,174	587,111
Net increase (decrease) in cash and cash equivalents	261,766	755,434	217,105	558,458
Cash and cash equivalents at beginning of year	567,230	384,962	22,079	64,483
Effects of exchange rate changes on cash and cash equivalents	(320)	20	429	-
Cash and cash equivalents at end of year	₩ 828,676	1,140,415	239,614	622,941

KAKAO CORP. AND SUBSIDIARIES
Notes to the Consolidated Financial Statements, Continued
For the years ended December 31, 2022 and 2021

41. Information for Non-controlling Interests, Continued

(3) Transactions with non-controlling interests

Effects of transactions with non-controlling interests on the equity attributable to owners of the Parent Company for the years ended December 31, 2022 and 2021, are as follows:

<i>(in millions of Korean won)</i>	<u>2022</u>	<u>2021</u>
Capital increase of a subsidiary ^{1,2}	₩ 21,137	176,446
Others ³	(44,343)	77,836
Net effect on equity	<u>₩ (23,205)</u>	<u>254,282</u>

¹ During 2022, Kakao Games Corp., a subsidiary, decided to increase capital through allotment to a third party. Total amount of the capital increase is ₩ 196,634 million. As a result, the Group's interests in Kakao Games Corp. decreased from 43.6% to 41.4%. Due to the above transaction, the non-controlling interest increased by ₩ 155,648 million as of the date of capital increase and the share capital attributed to the owners of the Group increased by ₩ 40,986 million

² During 2021, Kakaopay Corp., a subsidiary, decided to participate in the unequal capital increase of Kakao Pay Securities Co. As a result, the Group's interests in Kakao Entertainment Corp. increased from 63.3% to 67.4%. Due to the above transaction, the non-controlling interest increased by ₩ 19,849 million as of the date of capital increase and the share capital attributed to the owners of the Group decreased by ₩ 19,849 million.

³ During 2022, Kakao Games Corp., a subsidiary, acquired an additional interest in Lionheart Studio, a subsidiary of Kakao Games Corp. As a result of the above transaction, non-controlling interest decreased by ₩ 98,506 million and equity attributable to owners of the Group decreased by ₩ 63,542 million.

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42. Events After the Reporting Period

Pursuant to the resolution of the board of directors' meeting held on January 19, 2023 and February 9, 2023, the Group disposed of 1,981 and 1,242 shares of treasury stock, respectively, for the purpose of employee bonuses on January 26, 2023 and February 22, 2023

Pursuant to the resolution of the board of directors' meeting held on March 6, 2023. The Group has decided to tender its common shares of SM Entertainment Co., Ltd. ("SM") at a price of ₩ 150,000 per share. The number of shares to be purchased is 8,333,641 (approximately 35.0% of SM's outstanding shares). As of March 7, 2023, the date of submission of the tender offer notification, the Group held 1,167,400 shares of SM common stock (holding ratio of 4.9%). After the tender offer, the Group will hold 9,501,041 shares of SM common stock (holding ratio of 39.9%) (assuming full purchase of the tender offer). The tender offer period is from March 7, 2023 to March 26, 2023 (settlement date March 28, 2023).

Kakao Entertainment Corp., a subsidiary of the Parent Company, decided to issue a third-party allotment capital increase, through the resolution of the board of directors' meeting held on January 11, 2023. The capital increase will be carried out in two tranches and 4,523,354 common shares will be issued at a price of ₩ 255,116 per share, with an expected payment of ₩ 1.15 trillion. On February 24, 2023, the first payment of ₩ 898 billion corresponding to 3,518,166 common shares was made.