

Kakao Corp. and Subsidiaries

**Consolidated Financial Statements
December 31, 2018 and 2017**

Kakao Corp. and Subsidiaries
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December 31, 2018 and 2017

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Independent Auditor's Report

(English Translation of a Report Originally Issued in Korean)

To the Shareholders and Board of Directors of
Kakao Corp.

Opinion

We have audited the accompanying consolidated financial statements of Kakao Corp. and its subsidiaries (collectively the "Company"), which comprise the consolidated statements of financial position as at December 31, 2018 and 2017, and the consolidated statements of comprehensive income, consolidated statements of changes in equity and consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies.

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of the Company as at December 31, 2018 and 2017, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with International Financial Reporting Standards as adopted by the Republic of Korea (Korean IFRS).

Basis for Opinion

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

Key Audit Matters

Key audit matters are those matters that, in our professional judgment, were of most significance in our audit of the consolidated financial statements of the current period. 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 in revenue from search advertising

Key Audit Matter

We considered its size of an amount and complexity of search advertising amounting to ₩ 184,768 million incurred in 2018. Revenue from search advertising depends on the terms of the contracts with a number of advertisers and advertising and the amount of revenue from search advertising of the Company is determined and recorded in a financial system through a complex process based on large amounts of data including a number of customer information and various contract terms aggregated in the sales system (Note 2). There is a potential risk that the amount of revenue was improperly recognized due to such complex process and large amounts of data. As a result, we determined that there is a significant risk in relation to the occurrence of the revenue from search advertising.

How our audit addressed the Key Audit Matter

To confirm the appropriateness of accounting for recognition in revenue from search advertising of the Company, we performed the following important audit procedures:

- Understand and evaluate accounting policies and controls of the Company regarding recognition in revenue from search advertising
- Ensure the appropriateness of control activity procedures for general computer control activities on the operating system (program change, security, computer operation)
- Check the appropriateness of the control for monitoring the non-charged amounts in the operating system by testing samples
- Verify the accuracy of the charged amounts in the operating system through an independent re-execution
- Check the appropriateness of the control in relation to a pre-approval in the change of data by testing samples and investigating the relevant evidence documents
- Reconcile the amount of revenue recorded in the operating system to the amount of revenue recognized in the financial accounting system
- Verify the accuracy of recognized amount of operating income through screening of evidence documents

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

Key Audit Matter

As at December 31, 2018, goodwill of cash-generating unit of internet portal service and other services amounts to ₩ 1,080,385 million and goodwill of cash-generating units of music service amounts to ₩ 1,221,284 million (Note 18). The Company performed the impairment tests on the above goodwill using value-in-use calculations based on the discounted cash flow (Note 3). We determined accounting

for the above goodwill as a key audit matter due to the (₩ 2,301,669 million) and because the value-in-use involves management's significant judgements and estimates about discount rate, growth rate and future cash flow forecasts.

How our audit addressed the Key Audit Matter

We performed the following important audit procedures for the impairment tests on the above goodwill

- Evaluate the adequacy of valuation model used by management to estimate value-in-use
- Evaluate the eligibility and independence of an external specialist hired by the company
- Understand and evaluate procedure and control in relation to future cash flow estimates
- Evaluate whether future cash flow is reasonably estimated based on a business plan reported to management
- Evaluate the reasonableness of key assumptions used to estimate value-in-use
 - Confirm whether forecasts including revenue growth rates and operating profit rates of relevant CGU are consistent with previous performances and compare the actual performance of the current period with the estimates of the prior period
 - Compare the economic and industrial forecasts with long-term growth rate
 - Compare the discount rates that are independently calculated using an observable information with the discount rates applied by management
- Evaluate the results of a sensitivity analysis on the discount rates and the perpetual growth rates performed by management to assess the impact of changes in key assumptions on the impairment tests

Other Matter

Auditing standards and their application in practice vary among countries. The procedures and practices used in the Republic of Korea to audit such 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 Korean IFRS, and for such internal control as management determines is necessary to enable the preparation of consolidated financial statements that are free from material misstatement, whether due to fraud or error.

In preparing the consolidated financial statements, management is responsible for assessing the Company'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 Company or to cease operations.

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

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

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

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

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

Seoul, Korea
March 18, 2019

This report is effective as at March 18, 2019, the audit report date. Certain subsequent events or circumstances, which may occur between the audit report date and the time of reading this report, could have a material impact on the accompanying consolidated financial statements and notes thereto. Accordingly, the readers of the audit report should understand that there is a possibility that the above audit report may have to be revised to reflect the impact of such subsequent events or circumstances, if any.

Kakao Corp. and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2018 and 2017

(in millions of Korean won)

	Notes	2018	2017
Assets			
Current assets			
Cash and cash equivalents	4,5,7,8,35 ₩	1,247,013	₩ 1,116,793
Short-term financial instruments	4,5,7,8,35	924,215	394,152
Financial assets at fair value through profit or loss	5,7,9	25,781	-
Available-for-sale securities	5,7,10	-	103
Derivative financial assets	4,5,7,24	1,174	53,650
Trade receivables	4,5,7,11	193,669	179,238
Other current financial assets	4,5,7,11	207,656	134,343
Inventories		35,836	21,560
Other current assets	15	223,605	93,258
		<u>2,858,950</u>	<u>1,993,096</u>
Non-current assets			
Long-term financial instruments	4,5,7,8	50,689	10,685
Financial assets at fair value through profit or loss	4,5,7,9	104,846	-
Financial assets at fair value through other comprehensive income	5,7,9	329,345	-
Available-for-sale securities	5,7,10	-	160,038
Investments in associates and joint venture	16	305,188	161,950
Other non-current financial assets	4,5,7,11	58,321	39,879
Property and equipment	17	314,812	271,044
Intangible assets	18	3,865,265	3,689,582
Other non-current assets	15	16,412	8,789
Deferred income tax assets	22	55,716	14,366
		<u>5,100,592</u>	<u>4,356,332</u>
Total assets		<u>₩ 7,959,542</u>	<u>₩ 6,349,428</u>
Liabilities			
Current Liabilities			
Trade and other payables	4,5,7,13 ₩	460,813	₩ 280,380
Short-term borrowings	4,5,7,19,35	609,480	174,372
Current portion of long-term borrowings	4,5,7,14	174,313	42,247
Income tax payable		71,040	115,123
Provisions	23	3,636	1,934
Derivative financial liabilities	5,7,24	13,916	2,254
Other current liabilities	15	705,998	424,553
		<u>2,039,196</u>	<u>1,040,863</u>
Non-current liabilities			
Non-current trade and other payables	4,5,7,13	915	1,607
Long-term borrowings	4,5,7,19,35	44,995	620,808
Non-current provisions	23	7,611	4,211
Net defined benefit liabilities	20	2,822	1,963
Other long-term employee benefits liabilities	21	40,156	32,015
Deferred income tax liabilities	22	151,228	139,502
Other non-current financial liabilities	4,5,7,14	45,461	45,537
		<u>293,188</u>	<u>845,643</u>
Total liabilities		<u>₩ 2,332,385</u>	<u>₩ 1,886,506</u>

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries
Consolidated Statements of Financial Position
December 31, 2018 and 2017

<i>(in millions of Korean won)</i>	Notes	2018	2017
Equity			
Share capital	1,25	₩ 41,744	₩ 34,004
Share premium	25	4,647,543	3,603,587
Other component of equity	27	1,492	(6,026)
Accumulated other comprehensive loss	28	(7,329)	(4,968)
Retained earnings	29	453,400	402,542
Equity attributable to owners of the Parent Company		5,136,851	4,029,139
Non-controlling interest		490,307	433,783
Total equity		5,627,158	4,462,923
Total liabilities and equity		₩ 7,959,542	₩ 6,349,428

The above consolidated statements of financial position should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries
Consolidated Statements of Comprehensive Income
Years Ended December 31, 2018 and 2017

	Note	2018	2017
<i>(in millions of Korean won, except per share amounts)</i>			
Revenue	6	₩ 2,416,992	₩ 1,972,326
Operating expenses	30	<u>2,340,959</u>	<u>1,805,793</u>
Bad debt expense		3,084	1,154
Operating income		72,949	165,380
Other non-operating income	31	74,531	36,247
Other non-operating expenses	31	85,772	90,568
Finance income	32	112,453	78,947
Interest income		41,783	14,589
Other finance income		70,670	64,358
Finance costs	32	50,143	45,744
Share of income of associates and joint venture	16	32,257	26,475
Share of loss of associates and joint venture	16	<u>25,605</u>	<u>17,438</u>
Profit before income tax		<u>130,670</u>	<u>153,298</u>
Income tax expense	22	<u>114,781</u>	<u>28,204</u>
Profit for the year		<u>15,889</u>	<u>125,094</u>
Profit is attributable to:			
Equity holders of the Parent Company		47,886	108,597
Non-controlling interest		<u>(31,997)</u>	<u>16,497</u>
Other comprehensive income (loss)			
Items not to be reclassified subsequently to profit or loss:			
Remeasurement of net defined benefit liabilities		(2,680)	(2,561)
Gain on valuation of equity instruments at fair value through other comprehensive income		6,870	-
Items to be reclassified subsequently to profit or loss:			
Gains (losses) on valuation of available-for-sale securities, net of tax		-	(1)
Gain on valuation of debt instruments at fair value through other comprehensive income		142	-
Share of other comprehensive loss of associates, net of tax		(36)	(803)
Foreign currency translation adjustments, net of tax		<u>4,038</u>	<u>(2,615)</u>
Other comprehensive income (loss) for the year, net of tax		8,334	(5,979)
Total comprehensive income for the year		<u>₩ 24,223</u>	<u>₩ 119,115</u>
Total comprehensive income for the year is attributable to:			
Equity holders of the Parent Company		₩ 59,297	₩ 102,708
Non-controlling interest		<u>₩ (35,074)</u>	<u>₩ 16,407</u>
Earnings per share to the equity holders of the Parent Company			
Basic earnings per share	33	<u>₩ 623</u>	<u>₩ 1,602</u>
Diluted earnings per share	33	<u>₩ 614</u>	<u>₩ 1,552</u>

The above consolidated statements of comprehensive income should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries
Consolidated Statements of Changes in Equity
Years Ended December 31, 2018 and 2017

		Attributable to equity holders of the Parent Company						Non-controlling Interest	Total Equity
(in millions of Korean won)		Share Capital	Share Premium	Other Components of Equity	Accumulated Other Comprehensive Income (loss)	Retained Earnings	Total		
Note									
Balance at January 1, 2017		₩ 33,858	₩ 3,105,014	₩ (11,232)	₩ 920	₩ 303,952	₩ 3,432,512	₩ 235,539	₩ 3,668,051
Comprehensive income :									
Profit for the year		-	-	-	-	108,597	108,597	16,497	125,094
Foreign currency translation adjustments, net of tax		-	-	-	(2,962)	-	(2,962)	347	(2,615)
Share of other comprehensive income (loss) of associates, net of tax		-	-	-	(1,069)	-	(1,069)	266	(803)
Gain (loss) on valuation of available-for-sale securities, net of tax		-	-	-	(130)	-	(130)	130	(1)
Remeasurement of defined benefit obligation		-	-	-	(1,728)	-	(1,728)	(833)	(2,561)
Total comprehensive income for the year		-	-	-	(5,888)	108,597	102,708	16,407	119,115
Transactions with equity holders:									
Exercise of stock options	25,26	121	1,955	(428)	-	-	1,649	1,501	3,150
Conversion of convertible bonds	19	25	5,954	-	-	-	5,979	-	5,979
Share-based compensation	26	-	-	5,633	-	-	5,633	3,267	8,900
Cash dividends and distribution of investments		-	-	-	-	(10,006)	(10,006)	(9,717)	(19,723)
Change in ownership interest over subsidiaries		-	490,664	-	-	-	490,664	182,995	673,659
Change in scope of consolidation		-	-	-	-	-	-	3,792	3,792
Total transactions with equity holders		146	498,573	5,205	-	(10,006)	493,919	181,838	675,756
Balance at December 31, 2017		₩ 34,004	₩ 3,603,587	₩ (6,026)	₩ (4,968)	₩ 402,542	₩ 4,029,139	₩ 433,783	₩ 4,462,923

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries
Consolidated Statements of Changes in Equity
Years Ended December 31, 2018 and 2017

(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, 2018		₩ 34,004	₩ 3,603,587	₩ (6,026)	₩ (4,968)	₩ 402,542	₩ 4,029,139	₩ 433,783	₩ 4,462,923
Cumulative effect of change in accounting policy		-	-	-	(13,773)	13,022	(751)	532	(219)
Balance at January 1, 2018 (adjusted)		₩ 34,004	₩ 3,603,587	₩ (6,026)	₩ (18,741)	₩ 415,565	₩ 4,028,389	₩ 434,316	₩ 4,462,704
Comprehensive income :									
Profit for the year		-	-	-	-	47,886	47,886	(31,997)	15,889
Foreign currency translation adjustments, net of tax		-	-	-	3,817	-	3,817	221	4,038
Share of other comprehensive loss of associates, net of tax		-	-	-	(36)	-	(36)	-	(36)
Gain (loss) on valuation of equity instruments at fair value through other comprehensive income		-	-	-	9,654	-	9,654	(2,784)	6,870
Gain on valuation of debt instruments at fair value through other comprehensive income		-	-	-	142	-	142	-	142
Remeasurement of employee benefits		-	-	-	(2,165)	-	(2,165)	(515)	(2,680)
Total comprehensive income for the year		-	-	-	11,411	47,886	59,297	(35,074)	24,223
Transactions with equity holders:									
Exercise of stock options	25,26	50	1,053	(228)	-	-	875	3,045	3,920
Share-based compensation	26	-	-	7,983	-	-	7,983	4,189	12,172
Proceeds from issues of shares		4,131	1,046,772	-	-	-	1,050,902	-	1,050,902
Conversion of convertible bonds	19,25	13	2,976	-	-	-	2,989	-	2,989
Cash dividends and distribution of investments		-	-	-	-	(10,050)	(10,050)	(3,420)	(13,470)
Change in ownership interest over subsidiaries		-	(3,534)	-	-	-	(3,534)	30,908	27,374
Merger with subsidiary		3,546	(3,310)	(236)	-	-	-	-	-
Change in scope of consolidation		-	-	-	-	-	-	56,343	56,343
Total transactions with equity holders		7,740	1,043,957	7,518	-	(10,050)	1,049,165	91,066	1,140,231
Balance at December 31, 2018		₩ 41,744	₩ 4,647,543	₩ 1,492	₩ (7,329)	₩ 453,400	₩ 5,136,851	₩ 490,307	₩ 5,627,158

The above consolidated statements of changes in equity should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2018 and 2017

(in millions of Korean won)

	Note	2018	2017
Cash flows from operating activities			
Cash generated from operations	35 ₩	608,033 ₩	362,297
Interest received		35,898	13,198
Interest paid		(11,532)	(3,400)
Dividend received		381	2,481
Income tax paid		(141,310)	(2,650)
Net cash inflow from operating activities		491,470	371,927
Cash flows from investing activities			
Increase in short-term financial instruments		(514,098)	(155,359)
Increase in long-term financial instruments		(38,432)	(126)
Purchase of property and equipment	17	(97,197)	(75,165)
Disposal of property and equipment	17	11,926	2,942
Purchase of intangible assets	18	(49,084)	(29,676)
Disposal of intangible assets	18	3,724	1,845
Acquisition of available-for-sale securities		-	(85,030)
Disposal of available-for-sale securities		-	22,401
Acquisition of financial assets at fair value through profit or loss		(60,769)	-
Disposal of financial assets at fair value through profit or loss		12,016	-
Acquisition of financial assets at fair value through other comprehensive income		(240,039)	-
Disposal of financial assets at fair value through other comprehensive income		1,486	-
Acquisition of associates	16	(155,618)	(48,316)
Disposal of associates	16	13,973	5,847
Acquisition of subsidiaries, net of cash acquired		(114,638)	8,852
Disposal of subsidiaries, net of cash acquired		(5,659)	-
Disposal of derivative financial assets		-	2,030
Increase in other financial assets		(2,419)	(3,620)
Decrease in other financial assets		4,768	-
Increase in other non-current financial assets		(14,997)	(7,913)
Decrease in other non-current financial assets		7,401	5,955
Increase in other non-current financial liabilities		-	692
Other cash outflow from investing activities		(23,066)	(29)
Net cash outflow from investing activities		(1,260,722)	(354,669)
Cash flows from financing activities			
Proceeds from short-term borrowings	19	33,053	452,163
Repayments of short-term borrowings	19	(172,403)	(653,770)
Repayments of long-term borrowings	19	(4,758)	(250)
Proceeds from long-term borrowings	19	7,987	-
Repayments of corporate bonds	19	-	(168)
Proceeds from issues of shares		1,050,902	-
Exercise of stock options		3,920	3,150
Payments of dividends		(12,044)	(16,000)
Acquisition of treasury shares		(236)	-
Acquisition of non-controlling interests		(226,963)	-
Distribution of investments		(1,426)	(3,724)
New shares issued by subsidiaries (to non-controlling interest shareholders)		212,509	686,204
Other cash outflow from financing activities		(24)	-
Net cash inflow from financing activities		₩ 890,517	₩ 467,605

The above consolidated statements of cash flows should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries
Consolidated Statements of Cash Flows
Years Ended December 31, 2018 and 2017

<i>(in millions of Korean won)</i>	Note	2018	2017
Net increase in cash and cash equivalents	₩	121,265	₩ 484,863
Effect of exchange rate changes on cash and cash equivalents		8,955	(9,714)
Cash and cash equivalents at the beginning of year		1,116,793	641,644
Cash and cash equivalents at the end of year	₩	<u>1,247,013</u>	<u>₩ 1,116,793</u>

The above consolidated statements of cash flows should be read in conjunction with the accompanying notes.

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

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 92 entities.

1.1 The Company

General information about Kakao Corp. and its subsidiaries (collectively, the “Company”) 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 at December 31, 2018, the Parent Company’s share capital amounted to ₩ 41,744 million and the Parent Company’s shareholders are as follows:

	Number of shares	Percentage of ownership (%)
Kim Bum Soo	12,514,461	15.0
K Cube Holdings Co., Ltd.	9,949,467	11.9
National Pension Service	6,010,705	7.2
MAXIMO PTE. LTD.	5,599,849	6.7
Star Invest Holdings Limited	2,777,986	3.3
Other related parties	1,762,522	2.1
Others	40,539,291	48.7
	79,154,281	94.9
Treasury shares	4,233,492	5.1
	83,387,773	100.00

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

Details of the consolidated subsidiaries as at December 31, 2018, are as follows:

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

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares	Percentage of ownership (%)
Daum Global Holdings	₩ 2,529	Holding company	Korea	December 31	505,810	100.0
PATH MOBILE INC. PTE. LTD.	68,533	Service operations	Singapore	December 31	82,284,405	100.0
PT. PATH MOBILE INDONESIA ²	8,518	Service operations	Indonesia	December 31	7,757,757	100.0
DK Service	511	Service operations	Korea	December 31	102,136	100.0
DK Techn	993	Service operations	Korea	December 31	198,605	100.0
DK Business	1,075	Service operations	Korea	December 31	214,934	100.0
Daum Service CHINA Co., Ltd.	1,093	Service operations	China	December 31	1	100.0
Daum Service CHINA YanJiao Co., Ltd. ³	175	Service operations	China	December 31	1	100.0
ImageOn Corp.	1,786	Contents development	Korea	December 31	357,139	100.0
Buzzpia Company	194	Mobile services	Korea	December 31	38,878	100.0
Beijing KAKAO Co., Ltd.	20,483	Software development and services	China	December 31	18,839,700	99.9
Ultra Caption Corp.	28	Software development and services	Korea	December 31	5,600	100.0
Accio Inc.	198	Software development and services	Korea	December 31	200,323	50.5
KIWI PLUS	1,860	Software development and sales	Korea	December 31	2,113,526	54.3
Kakao Commerce Corp. ¹	2,256	Wholesale and retail sales and services	Korea	December 31	22,562,293	100.0
Locnall Inc.	611	Software development and services	Korea	December 31	122,231	100.0
About-time	11	Software development and services	Korea	December 31	22,223	100.0
Linkage Lab	149	Services	Korea	December 31	20,000	100.0
MTECHCREW, INC.	50	Data processing business	Korea	December 31	10,000	100.0
KAKAO_CCVC Jeju Creative Economy Innovative Fund	2,000	Investment/Holding company	Korea	December 31	190	95.0
Kakao Makers Corp.	53	Software development and services	Korea	December 31	103,070	97.2
KAKAO Brain	205	Software development	Korea	December 31	400,000	97.3
KAKAO JAPAN Corp.	51,984	Software development and services	Japan	December 31	876,620	99.4
DK CORPORATION ⁴	30	Telemarketing and information service and others	Japan	December 31	300	100.0
K-Style CORPORATION ⁵	10	Telemarketing and information service and others	Japan	December 31	100	100.0
Web Assist CORPORATION ⁵	1	Telemarketing and information service and others	Japan	December 31	10	100.0
ZUBON Inc. ⁴	100	Electronic publication design, manufactures and sales and others	Japan	December 31	1,000	100.0
Kakao Investment Co., Ltd.	22,016	Investment/Holding company	Korea	December 31	2,201,614	100.0
K Venture Group ⁶	100	Investment/Holding company	Korea	December 31	10,000	100.0
Kids Note Co., Ltd. ⁶	117	Software development and services	Korea	December 31	29,700	100.0
TNK Factory ⁶	1,633	Mobile advertisement platform operations	Korea	December 31	3,265,600	100.0
KVG SG PTE.LTD ⁶	1,313	Holding company	Singapore	December 31	1,100,000	100.0
Pinplay ⁶	4,375	Software development and services	Korea	December 31	496,964	56.8
Kakao Ventures Corp. (formerly, K CUBE VENTURES Co., Ltd.)	18,511	Holding company	Korea	December 31	3,702,216	100.0
K Cube Venture Fund no.1 ⁷	3,468	Investment/Holding company	Korea	December 31	210	60.6
KAKAO Venture Fund ^{7,30}	27,000	Investment/Holding company	Korea	December 31	110	36.7
Kakao digital contents Fund ^{7,30}	34,874	Investment/Holding company	Korea	December 31	150	43.1

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

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

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares	Percentage of ownership (%)
Kakao Game Growth Share Fund ⁷	30,000	Investment/Holding company	Korea	December 31	300	100.0
KAKAO IX Corp. (formerly, Kakao Friends Corp.)	1,600	Contents sales	Korea	December 31	160,000	100.0
KAKAO IX JAPAN Corp. ^{1,8}	2,522	Wholesale and retail sales	Japan	December 31	50,000	100.0
KAKAO IX CHINA Co.,LTD. ^{1,8}	3,083	Wholesale and retail sales	China	December 31	2,700,000	100.0
Kakao Page Corp. (formerly, Podotree Inc.) ³¹	8,094	Software development and services	Korea	December 31	11,360,593	63.9
Kakao PAGE PTE. LTD. (formerly, Valuepotion Pte.LTD) ⁹	825	Mobile marketing service	Singapore	December 31	985,443	100.0
SamyangCNC Co.,Ltd. ⁹	50	Publishing and e-commerce	Korea	December 31	7,000	70.0
NeoBazar ⁹	677	Software development and services	Korea	December 31	160,082	87.5
PT. Neo Bazar Indonesia ¹⁰	1,814	Software development and services	Indonesia	December 31	1,597	99.8
DA'ON CREATIVE ⁹	250	Publishing, video production, broadcasting communication and information service	Korea	December 31	33,081	66.2
Beijing Da Yun cultural Communication Co.,LTD. ¹¹	173	Electronic publication and services	China	December 31	200,000	100.0
J Comics ¹¹	10	Electronic publication and services	Korea	December 31	2,000	100.0
Kakao Games Corp. ³¹	5,583	Game development and services	Korea	December 31	33,730,000	60.4
NGLE CORPORATION ¹²	205	Game development and services	Korea	December 31	210,000	51.2
Friendsgames Co.,Ltd. (formerly, SuperNova11 Corp.) ¹²	775	Game development and services	Korea	December 31	6,735,369	82.0
SONNORI CORP. ¹³	200	Services	Korea	December 31	366,320	58.3
Toonnori Corp. ¹⁴	510	Services	Korea	December 31	52,000	50.9
Kakao Games Europe B.V. ¹²	1,296	Game development and services	Netherlands	December 31	1,000,000	100.0
Kakao Games USA. Inc. ¹⁵	2,305	Game development and services	USA	December 31	500,000	100.0
Kakao Games Japan Copr. ^{1,12}	2,024	Game development and services	Japan	December 31	2,000,000	100.0
Kakao VX ¹²	9,427	Service operations	Korea	December 31	1,885,333	89.8
TAESIK MAUMGOLF CO.,LTD. ¹⁶	578	Service operations	China	December 31	1	100.0
GSWING SPORTING GOODS CO., LTD. ¹⁶	574	Service operations	China	December 31	1	100.0
Kakao M Corp. (formerly, EN Company Co., Ltd) ^{1,17}	3,464	Manufactures and services	Korea	December 31	1,800,000	100.0
STARSHIP ENTERTAINMENT CORP. ¹⁸	54	Entertainment management	Korea	December 31	7,000	64.8
HIGHLINE ENTERTAINMENT (formerly, House of Music) ¹⁹	100	Entertainment management	Korea	December 31	154,000	77.0
PLAN A ENTERTAINMENT ¹⁸	50	Entertainment management	Korea	December 31	10,000	100.0
E&T Story Entertainment ²⁰	25	Entertainment management	Korea	December 31	30,000	60.0
Fave Entertainment Co., Ltd. ¹⁸	200	Entertainment management	Korea	December 31	32,000	80.0
Cre.ker Entertainment Co., Ltd. ¹⁸	200	Entertainment management	Korea	December 31	32,000	80.0
Mun Hwa In Co., Ltd. ¹⁸	148	Entertainment management	Korea	December 31	20,000	67.5
Krispy Studio Corporation ¹⁸	380	Mobile video contents production	Korea	December 31	760,000	100.0
Nylon korea media ²¹	790	Publication	Korea	December 31	103,871	65.7
Mega monsters ¹⁸	13,700	Software development and services	Korea	December 31	24,400,000	89.1
J,WIDE-COMPANY ¹⁸	50	Services	Korea	December 31	100,000	100.0
WIDE-S COMPANY ²²	50	Entertainment	Korea	December 31	7,000	70.0
READY ENTERTAINMENT ¹⁸	400	Services	Korea	December 31	80,000	100.0
READY ENTERTAINMENT (Shanghai) CO., LTD. ²³	83	Entertainment	China	December 31	500,000	100.0
CASTING BOM ²³	100	Entertainment	Korea	December 31	20,000	100.0

Kakao Corp. and Subsidiaries

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

Subsidiaries	Share Capital	Primary Business	Location	Fiscal Year End	Number of shares	Percentage of ownership (%)
BH Entertainment ¹⁸	500	Services	Korea	December 31	100,000	100.0
SOOP management ¹⁸	1,410	Entertainment	Korea	December 31	280,200	99.4
Kakao Mobility Corp. ³¹	2,394	Software development and services	Korea	December 31	16,590,000	69.3
Parking Square Inc. ²⁴	81	Software development and services	Korea	December 31	162,502	100.0
Kakaopay Corp. ³¹	9,494	Software development and services	Korea	December 31	11,563,447	60.9
MOVILL Co.,Ltd ²⁵	50	Software counsel development and supply	Korea	December 31	70,000	70.0
Kakao G Corp. ¹	10,065	Software development and services	Japan	December 31	10,000,000	100.0
Ground X Corp. ^{1,26}	605	Software development	Japan	December 31	10,000,000	100.0
Ground1 Corp. ^{1,27}	496	Wholesale and retail sales and e-commerce	Korea	December 31	10,000,000	100.0
PANZEA PTE. LTD. ^{1,26}	113	Software development	Singapore	December 31	1,027,000	100.0
KLAYTN PTE. LTD. ^{1,28}	11	Software development	Singapore	December 31	99,999	100.0
TIDESQUARE ³⁰	3,086	Telemarketing	Korea	December 31	178,284	28.9
Polarium CO. LTD. ²⁹	225	Services	Korea	December 31	23,000	51.1
SQAURE LAB ²⁹	1,240	Travel	Korea	December 31	186,000	75.0
CC Partners ²⁹	885	Services	Korea	December 31	145,323	82.2
NEXT INTERNATIONAL CO., LTD. ²⁹	410	Services	Korea	December 31	72,800	88.8
Playwings ²⁹	600	General travel	Korea	December 31	1,140,000	95.0

¹ Newly established in 2018.

² As a subsidiary of PATH MOBILE INC. PTE. LTD., the number of shares and the percentage of ownership represent PATH MOBILE INC. PTE. LTD.'s ownership as at December 31, 2018.

³ As a subsidiary of Daum Service CHINA Co., Ltd., the number of shares and the percentage of ownership represent Daum Service CHINA Co., Ltd.'s ownership as at December 31, 2018.

⁴ As a subsidiary of KAKAO JAPAN Corp., the number of shares and the percentage of ownership represent KAKAO JAPAN Corp.'s ownership as at December 31, 2018.

⁵ As a subsidiary of DK CORPORATION, the number of shares and the percentage of ownership represent DK CORPORATION's ownership as at December 31, 2018.

⁶ 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 at December 31, 2018.

⁷ As a subsidiary of Kakao Ventures Corp., the number of shares and the percentage of ownership represent Kakao Ventures Corp.'s ownership as at December 31, 2018.

⁸ As a subsidiary of KAKAO IX Corp., the number of shares and the percentage of ownership represent KAKAO IX Corp.'s ownership as at December 31, 2018.

⁹ As a subsidiary of Kakao Page Corp., the number of shares and the percentage of ownership represent Kakao Page Corp.'s ownership as at December 31, 2018.

¹⁰ As a subsidiary of NeoBazar, the number of shares and the percentage of ownership represent NeoBazar's ownership as at December 31, 2018.

¹¹ As a subsidiary of DA'ON CREATIVE, the number of shares and the percentage of ownership represent DA'ON CREATIVE's ownership as at December 31, 2018.

¹² As a subsidiary of Kakao Games Corp., the number of shares and the percentage of ownership represent Kakao Games Corp.'s ownership as at December 31, 2018.

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

¹³ As a subsidiary of Friendsgames Co., Ltd., the number of shares and the percentage of ownership represent Friendsgames Co., Ltd.'s ownership as at December 31, 2018.

¹⁴ As a subsidiary of SONNORI CORP., the number of shares and the percentage of ownership represent SONNORI CORP.'s ownership as at December 31, 2018.

¹⁵ 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 at December 31, 2018.

¹⁶ As a subsidiary of Kakao VX, the number of shares and the percentage of ownership represent Kakao VX's ownership as at December 31, 2018.

¹⁷ The pre-existing Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.) merged with the Parent Company and Kakao M Corp. (formerly, EN Company Co., Ltd) was newly established in 2018.

¹⁸ As a subsidiary of Kakao M Corp. (formerly, EN Company Co., Ltd), the number of shares and the percentage of ownership represent Kakao M Corp. (formerly, EN Company Co., Ltd)'s ownership as at December 31, 2018.

¹⁹ As a subsidiary of STARSHIP ENTERTAINMENT CORP., the number of shares and the percentage of ownership represent STARSHIP ENTERTAINMENT CORP.'s ownership as at December 31, 2018.

²⁰ As a subsidiary of PLAN A ENTERTAINMENT, the number of shares and the percentage of ownership represent PLAN A ENTERTAINMENT's ownership as at December 31, 2018.

²¹ As a subsidiary of Krispy Studio Corporation, the number of shares and the percentage of ownership represent Krispy Studio Corporation's ownership as at December 31, 2018.

²² As a subsidiary of J,WIDE-COMPANY, the number of shares and the percentage of ownership represent J,WIDE-COMPANY's ownership as at December 31, 2018.

²³ As a subsidiary of READY ENTERTAINMENT, the number of shares and the percentage of ownership represent READY ENTERTAINMENT's ownership as at December 31, 2018.

²⁴ As a subsidiary of Kakao Mobility Corp., the number of shares and the percentage of ownership represent Krispy Kakao Mobility Corp.'s ownership as at December 31, 2018.

²⁵ As a subsidiary of Kakaopay Corp., the number of shares and the percentage of ownership represent Kakaopay Corp.'s ownership as at December 31, 2018.

²⁶ As a subsidiary of Kakao G Corp., the number of shares and the percentage of ownership represent Kakao G Corp.'s ownership as at December 31, 2018.

²⁷ As a subsidiary of Ground X Corp., the number of shares and the percentage of ownership represent Ground X Corp.'s ownership as at December 31, 2018.

²⁸ As a subsidiary of PANZEA PTE. LTD., the number of shares and the percentage of ownership represent PANZEA PTE. LTD.'s ownership as at December 31, 2018.

²⁹ As a subsidiary of TIDESQUARE, the number of shares and the percentage of ownership represent TIDESQUARE's ownership as at December 31, 2018.

³⁰ Classified as a subsidiary although the ownership is less than 50% as the Company is considered to have a control over the investees.

³¹ In accordance with the agreements with non-controlling interests of some of the above subsidiaries, the Company should obtain a pre-approval from investors, when the Company wants to dispose of the investments in subsidiaries within the period specified in the agreements through a transfer to the third party or others methods not determined in the agreements such as exercise of tag-along right.

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

The reason why the aforementioned subsidiaries are newly included in consolidation for the year ended December 31, 2018, is as follows:

Subsidiaries	Reason
E&T Story Entertainment	Newly acquired
Nylon Korea Media	Newly acquired
Accio Inc.	Newly acquired
JOH&Company	Reclassified to a subsidiary from an associate through additional acquisition
Kakao G Corp.	Newly established
Ground A Corp.	Newly established
Ground X Corp.	Newly established
Ground1 Corp.	Newly established
SamyangCNC Co., Ltd.	Newly acquired
luxi co.,ltd.	Newly acquired
KIWI PLUS	Newly acquired
Kakao Games Japan Corp.	Newly established
KAKAO IX JAPAN Corp.	Newly established
DK CORPORATION	Newly acquired
ZUBON Inc.	Newly acquired
K-Style CORPORATION	Newly acquired
Web Assist CORPORATION	Newly acquired
Kakao M Corp. (formerly, EN Company Co., Ltd)	Newly established
Pinplay	Newly acquired
J,WIDE-COMPANY	Reclassified to a subsidiary from an associate through additional acquisition
WIDE-S COMPANY	Newly acquired
READY ENTERTAINMENT	Reclassified to a subsidiary from an associate through additional acquisition
CASTING BOM	Newly acquired
READY ENTERTAINMENT(Shanghai) CO., LTD.	Newly acquired
BH Entertainment	Reclassified to a subsidiary from an associate through additional acquisition
SOOP management	Newly acquired
SONNORI CORP.	Reclassified to a subsidiary from an associate through additional acquisition
Toonnori Corp.	Reclassified to a subsidiary from an associate through additional acquisition
KAKAO IX CHINA Co., Ltd.	Newly established
NeoBazar	Reclassified to a subsidiary from an associate through additional acquisition
PT Neo Bazar Indonesia	Newly acquired
DA'ON CREATIVE	Newly acquired
Beijing Da Yun Cultural Communication Co., LTD.	Newly acquired
J Comics	Newly acquired
MOVILL Co.,Ltd	Newly acquired
PANZEA PTE. LTD.	Newly established
KLAYTN PTE. LTD.	Newly established
Kakao Commerce Corp.	Newly established
TIDESQUARE ¹	Newly acquired
Playwings	Newly acquired
NEXT INTERNATIONAL CO., LTD.	Newly acquired
CC Partners	Newly acquired
SQAURE LAB	Newly acquired
Polarium CO., LTD.	Newly acquired

¹ Classified as a subsidiary although the ownership is less than 50% as the Company is considered to have

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2018 and 2017

a control over the investees.

Status of subsidiaries excluded from consolidation for the year ended December 31, 2018, is as follows:

Company	Reason
Valuepotion Pte.LTD	Merged with Kakao Page Corp. (formerly, Podotree Inc.), a subsidiary
CARDOC Inc.	Reclassified to an associate from a subsidiary due to loss of control
Kakao Kids (formerly, BLUEPIN Inc.)	Reclassified to an associate from a subsidiary due to loss of control
Fixel Hub Co., Ltd.	Reclassified to an associate from a subsidiary due to loss of control
Pinplay	Reclassified to an associate from a subsidiary due to loss of control
Peoplug Inc.	Disposal of investments
KAKAO SINGAPORE PTE. Ltd.	Liquidation
JOH&Company	Merged with KAKAO IX Corp. (formerly, Kakao Friends Corp.), a subsidiary
Numberworks Inc.	Liquidation
Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.)	Merged with the Parent Company
HASYS	Reclassified to an associate from a subsidiary due to loss of control
luxi co.,ltd.	Merged with Kakao Mobility Corp., a subsidiary
Ultra Interactive, Inc.	Liquidation
Tangram Design Lab Inc.	Liquidation
Ground A Corp.	Disposal of investments

The summarized financial information for consolidated subsidiaries as at and for the year ended December 31, 2018, is as follows:

(in millions of Korean won)

(in millions of Korean won)	2018									
	Assets		Liabilities		Equity		Revenue	Profit (loss) for the year	Comprehensive income (loss)	
Daum Global Holdings	₩	593	₩	117	₩	476	₩	-	₩ (209)	₩ (209)
PATH MOBILE INC. PTE. LTD.		3,976		184		3,791		356	(12,177)	(12,263)
PT. PATH MOBILE INDONESIA		3,420		456		2,963		2,083	(2,761)	(2,719)
DK Service		2,175		2,003		172		13,349	(187)	(483)
DK Techin		2,292		1,394		898		12,235	47	13
DK Business		4,468		2,401		2,067		19,040	357	158
Daum Service CHINA Co., Ltd.		354		70		284		490	(94)	(94)
Daum Service CHINA YanJiao Co., Ltd.		955		115		840		3,809	202	185
ImageOn Corp.		2,450		358		2,091		3,611	(150)	(166)
Buzzpia Company		7,801		240		7,561		5	6,907	6,907
Beijing KAKAO Co., Ltd.		5,441		565		4,877		-	(708)	(723)
Ultra Caption Corp.		244		-		244		-	(17)	(17)
KAKAO JAPAN Corp.		97,569		13,453		84,116		55,659	(38,109)	(34,666)
Kids Note Co., Ltd.		2,347		2,487		(140)		4,028	377	377
TNK Factory		22,627		2,328		20,298		16,470	1,777	1,825
Kakao Ventures Corp.		23,371		1,043		22,328		3,569	923	923
K Cube Venture Fund no.1		36,109		99		36,010		-	14,205	16,592
KAKAO Venture Fund		22,653		440		22,213		-	(888)	(1,827)
Locnall Inc.		3,416		9,569		(6,153)		-	(283)	(285)

Kakao Corp. and Subsidiaries

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(in millions of Korean won)

	2018					
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the year	Comprehensive income (loss)
KAKAO IX Corp. (formerly, Kakao Friends Corp.)	101,165	18,257	82,908	105,184	7,156	7,199
KAKAO PAGE PTE. LTD.(formerly, Valuepotion PTE. LTD.)	85	1,032	(947)	427	(323)	(337)
Kakao Games Corp.	478,427	75,893	402,534	343,581	17,199	9,045
NGLE CORPORATION	2,220	474	1,747	6,050	941	941
Friendsgames Co., Ltd. (formerly, SuperNova11 Corp.)	33,139	15,361	17,779	915	(5,919)	(5,919)
Kakao Games Europe B.V.	55,154	16,334	38,820	84,548	9,774	9,626
Kakao Games USA.Inc.	3,009	77	2,932	4,070	(354)	(222)
About-time	81	-	81	-	(12)	(12)
Kakao Page Corp. (formerly, Podotree Inc.)	257,809	48,012	209,797	184,071	3,109	2,958
Kakao digital contents Fund	24,786	210	24,576	-	(8,782)	(8,909)
Kakao Game Growth Share Fund	26,750	117	26,633	-	(5,604)	(9,437)
Linkage Lab	947	388	559	2,685	(118)	(118)
STARSHIP ENTERTAINMENT CORP.	31,056	16,016	15,040	7,713	679	679
PLAN A ENTERTAINMENT	10,789	2,540	8,249	1,535	(118)	(118)
MTECHCREW, INC.	1,743	458	1,285	5,543	31	31
Fave Entertainment Co., Ltd.	3,729	2,365	1,363	86	(386)	(392)
Cre.ker Entertainment Co., Ltd.	5,430	7,277	(1,847)	1,502	(420)	(430)
Mun Hwa In Co., Ltd.	1,929	1,268	660	1,238	(95)	(95)
Krispy Studio Corporation	2,121	547	1,574	132	(1,457)	(1,457)
Parking Square Inc.	386	53	333	1,032	(126)	(102)
KVG SG PTE.LTD.	1,266	-	1,266	-	(5)	22
KAKAO_CCVC Jeju Creative Economy Innovative Fund	2,568	12	2,556	-	522	595
Kakao Makers Corp.	16,284	6,418	9,866	53,675	4,191	4,183
KAKAO Brain	30,011	708	29,303	24	(8,003)	(8,148)
Kakao Investment Co., Ltd.	199,555	2,988	196,567	28	6,825	10,180
K Venture Group	914	10	904	-	(73)	(73)
Kakaopay Corp.	387,446	276,529	110,917	69,526	(93,483)	(93,534)
Kakao Mobility Corp.	261,465	21,572	239,893	53,369	(18,403)	(18,696)
Mega monsters	23,187	13,414	9,774	5,557	(385)	(385)
HIGHLINE ENTERTAINMENT (formerly, House of Music)	355	139	216	174	23	23
Kakao VX	37,427	18,351	19,076	30,013	(4,886)	(5,494)
GSWING SPORTING GOODS CO., LTD.	384	914	(530)	117	(285)	(277)
TAESIK MAUMGOLF CO.,LTD.	2,632	2,666	(34)	2,584	(205)	(202)
E&T Story Entertainment ¹	1,205	678	527	198	-	-
Nylon korea media ¹	495	391	103	614	29	29
Accio Inc. ¹	3,485	882	2,603	-	(665)	(665)
Kakao G Corp ¹	20,176	11	20,165	-	(97)	(100)
SamyangCNC Co.,Ltd. ¹	8,160	5,454	2,706	11,086	1,980	1,980
KIWI PLUS ¹	10,210	3,351	6,859	5,029	(3,825)	(3,825)
Kakao Games Japan Corp. ¹	1,891	28	1,862	19	(161)	(162)
KAKAO IX JAPAN Corp. ¹	6,421	2,398	4,023	182	(835)	(829)
DK CORPORATION ¹	3,485	2,779	706	2,435	(49)	(39)
ZUBON Inc. ¹	75	85	(11)	53	(55)	(55)
K-Style CORPORATION ¹	149	14	136	-	2	4
Web Assist CORPORATION ¹	111	11	100	-	2	4
Kakao M Corp. (formerly, EN Company Co., Ltd) ¹	590,964	160,997	429,967	39,131	1,219	1,794
Pinplay ¹	16,992	1,352	15,641	8,911	(907)	(907)
BH Entertainment ¹	11,789	8,456	3,333	-	-	-
J,WIDE-COMPANY ¹	6,758	4,700	2,058	-	-	-

Kakao Corp. and Subsidiaries
Notes to the Consolidated Financial Statements
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(in millions of Korean won)

	2018					
	Assets	Liabilities	Equity	Revenue	Profit (loss) for the year	Comprehensive income (loss)
READY ENTERTAINMENT ¹	15,952	6,954	8,998	-	-	-
SOOP management ¹	9,464	11,468	(2,005)	-	-	-
TIDESQUARE ¹	79,042	19,963	59,079	-	-	-
Polarium CO., LTD. ¹	1,932	1,318	615	-	-	-
SQAURE LAB ¹	987	785	202	-	-	-
CC Partners ¹	126	81	45	-	-	-
NEXT INTERNATIONAL CO., LTD. ¹	185	1	184	-	-	-
Playwings ¹	507	438	69	-	-	-
KAKAO IX CHINA Co.,Ltd. ¹	2,935	229	2,705	-	(348)	(377)
SONNORI CORP. ¹	902	12,617	(11,716)	-	-	-
Toonori Corp. ¹	57	30	26	-	-	-
Ground X Corp. ¹	11,969	10	11,959	-	(196)	(202)
Ground1 Corp. ¹	4,668	1,248	3,420	-	(6,496)	(6,496)
NeoBazar ¹	6,471	3,250	3,221	-	-	-
PT.Neo Bazar Indonesia ¹	257	36	221	-	-	-
MOVILL Co., LTD ¹	101	269	(168)	-	-	-
PANZEA PTE. LTD. ¹	1,092	31	1,061	-	(86)	(89)
KLAYTN PTE. LTD. ¹	142	33	109	-	(3)	(3)
WIDE-S COMPANY ¹	285	227	57	-	-	-
READY ENTERTAINMENT(Shanghai) CO.,LTD. ¹	184	312	(128)	-	-	-
CASTING BOM ¹	346	77	269	-	-	-
Kakao Commerce Corp. ¹	752,986	471,963	281,023	22,672	4,020	4,020
DA'ON CREATIVE ¹	3,251	2,007	1,244	-	-	-
Beijing Da Yun Cultural Communication Co.,LTD. ¹	164	-	164	-	-	-
J Comics ¹	39	14	25	-	-	-
	<u>₩ 3,822,917</u>	<u>₩ 1,312,670</u>	<u>₩ 2,510,246</u>	<u>₩ 1,190,414</u>	<u>₩ (136,248)</u>	<u>₩ (141,268)</u>

¹ The above table represents financial information since the acquisition date.

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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.

2.1 Basis of Preparation

The Company maintains its accounting records in Korean won and prepares statutory financial statements in the Korean language (Hangul) in accordance with Korean IFRS. The accompanying consolidated financial statements have been condensed, restructured and translated into English from the Korean language financial statements.

Certain information attached to the Korean language financial statements, but not required for a fair presentation of the Company's financial position, financial performance or cash flows, is not presented in the accompanying consolidated financial statements.

The consolidated financial statements of the Company have been prepared in accordance with Korean IFRS. International Financial Reporting Standards ("IFRS") have been adopted by the Korean Accounting Standards Board as Korean IFRS based on standards and interpretations published by the International Accounting Standards Board.

The preparation of the consolidated financial statements requires the use of certain critical accounting estimates. It also requires management to exercise judgment in the process of applying the Company'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.

2.2 Changes in Accounting Policy and Disclosures

(a) New and amended standards adopted by the Company

The Company has applied the following standards and amendments for the first time for their annual reporting period commencing January 1, 2018.

- Amendment to Korean IFRS 1028 *Investments in Associates and Joint Ventures*

When an investment in an associate or a joint venture is held by, or is held indirectly through, an entity that is a venture capital organization, or a mutual fund, unit trust and similar entities including investment-linked insurance funds, the entity may elect to measure each investment separately at fair value through profit or loss in accordance with Korean IFRS 1109. The amendment does not have a significant impact on the consolidated financial statements because the Company is not a venture capital organization.

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- Amendment to Korean IFRS 1040 *Transfers of Investment Property*

The amendment to Korean IFRS 1040 clarifies that a transfer to, or from, investment property, including property under construction, can only be made if there has been a change in use that is supported by evidence, and the list of evidence for a change of use in the standard was re-characterized as a non-exclusive list of example. The amendment does not have a significant impact on the consolidated financial statements.

- Amendment to Korean IFRS 1102 *Share-based Payment*

Amendments to Korean IFRS 1102 clarify accounting for a modification to the terms and conditions of a share-based payment that changes the classification of the transaction from cash-settled to equity-settled. Amendments also clarify that the measurement approach should treat the terms and conditions of a cash-settled award in the same way as for an equity-settled award. The amendment does not have a significant impact on the consolidated financial statements.

- Enactment of Interpretation 2122 *Foreign Currency Transaction and Advance Consideration*

According to the enactment, the date of the transaction for the purpose of determining the exchange rate to use on initial recognition of the related asset, expense or income (or part of it) is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the payment or receipt of advance consideration. The enactment does not have a significant impact on the consolidated financial statements.

- Korean IFRS 1109 *Financial Instruments*

The Company has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures have not been restated, and the differences between previous book values and book values at the date of initial application are recognized to retained earnings. See Note 40 for further details on the impact of the application of the standard.

- Korean IFRS 1115 *Revenue from Contracts with Customers*

The Company has applied Korean IFRS 1115 *Revenue from Contracts with Customers*. In accordance with the transition provisions in Korean IFRS 1115, comparative figures have not been restated. The Company elected the modified retrospective approach, and recognized the cumulative impact of initially applying the revenue standard as an adjustment to retained earnings (or equity) as at January 1, 2018, the period of initial application. See Note 40 for further details on the impact of the application of the standard.

(b) New standards and interpretations not yet adopted by the Company

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Certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2018 and have not been early adopted by the Company are set out below.

- Korean IFRS 1116 *Leases*

Korean IFRS 1116 *Leases* issued on May 22, 2017 is effective for annual periods beginning on or after January 1, 2019, with early adoption permitted. This standard will replace Korean IFRS 1017 *Leases*. The Company will apply the standards for annual periods beginning on or after January 1, 2019.

Under the new standard, with implementation of a single lease model, lessee is required to recognize assets and liabilities for all lease which lease term is over 12 months and underlying assets are not low value assets. A lessee is required to recognize a right-of-use asset and a lease liability representing its obligation to make lease payments.

The Company performed an impact assessment to identify potential financial effects of applying Korean IFRS 1116. The Company is analyzing the effects on the financial statements based on available information as at December 31, 2018 to identify effects on 2018 financial statements; however, it is difficult to provide reasonable estimates of financial effects until the analysis is complete.

- Korean IFRS 1109 *Financial Instruments*

The narrow-scope amendments made to Korean IFRS 1109 *Financial Instruments* enable entities to measure certain prepayable financial assets with negative compensation at amortized cost. When a modification of a financial liability measured at amortized cost that does not result in the derecognition, a modification gain or loss shall be recognized in profit or loss. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted.

- Amendments to Korean IFRS 1019 *Employee Benefits*

The amendments require that an entity shall calculate current service cost and net interest for the remainder of the reporting period after a plan amendment, curtailment or settlement based on updated actuarial assumptions from the date of the change. The amendments also require that a reduction in a surplus must be recognized in profit or loss even if that surplus was not previously recognized because of the impact of the asset ceiling. The amendments are effective for plan amendments, curtailments and settlements occurring in reporting periods that begin on or after 1 January 2019.

- Amendments to Korean IFRS 1028 *Investments in Associates and Joint Ventures*

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The amendments clarify that an entity shall apply Korean IFRS 1109 to financial instruments in an associate or joint venture to which the equity method is not applied. These include long-term interests that, in substance, form part of the entity's net investment in an associate or joint venture. These amendments will be applied for annual periods beginning on or after January 1, 2019, with early adoption permitted. In accordance with the transitional provisions in Korean IFRS 1109, the restatement of the comparative information is not required and the cumulative effects of initially applying the amendments retrospectively should be recognized in the beginning balance of retained earnings (or other components of equity, as appropriate) at the date of initial application.

- Enactment to Interpretation of Korean IFRS 2123 *Uncertainty over Income Tax Treatments*

The Interpretation explains how to recognize and measure deferred and current income tax assets and liabilities where there is uncertainty over a tax treatment, and includes guidance on how to determine whether each uncertain tax treatment is considered separately or together. It also presents examples of circumstances where a judgement or estimate is required to be reassessed. This Interpretation will be applied for annual periods beginning on or after January 1, 2019, and an entity can either restate the comparative financial statements retrospectively or recognize the cumulative effect of initially applying the Interpretation as an adjustment in the beginning balance at the date of initial application.

- Annual Improvements to Korean IFRS 2015 – 2017 Cycle:

• Korean IFRS 1103 *Business Combination*

The amendments clarify that when a party to a joint arrangement obtains control of a business that is a joint operation, and had rights to the assets and obligations for the liabilities relating to that joint operation immediately before the acquisition date, the transaction is a business combination achieved in stages. In such cases, the acquirer shall remeasure its entire previously held interest in the joint operation. These amendments will be applied to business combinations for which the acquisition date is on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early adoption permitted.

• Korean IFRS 1111 *Joint Agreements*

The amendments clarify that when a party that participates in, but does not have joint control of, a joint operation might obtain joint control of the joint operation in which the activity of the joint operation constitutes a business. In such cases, previously held interests in the joint operation are not remeasured. These amendments will be applied to transactions in which an entity obtains joint control on or after the beginning of the first annual reporting period beginning on or after 1 January 2019, with early adoption permitted.

• Paragraph 57A of Korean IFRS 1012 *Income Tax*

The amendment is applied to all the income tax consequences of dividends and requires an entity to recognize the income tax consequences of dividends in profit or loss, other comprehensive

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income or equity according to where the entity originally recognized those past transactions or events. These amendments will be applied for annual reporting periods beginning on or after January 1, 2019, with early adoption permitted.

- Korean IFRS 1023 *Borrowing Costs*

The amendments clarify that if a specific borrowing remains outstanding after the related qualifying asset is ready for its intended use (or sale), it becomes part of general borrowings. These amendments will be applied to borrowing costs incurred on or after the beginning of the first annual reporting period beginning on or after January 1, 2019, with early adoption permitted.

2.3 Consolidation

The Company 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 Company 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 Company obtains control of a subsidiary and ceases when the Company loses control of the subsidiary.

The Company 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 Company 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 Company.

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In transactions with non-controlling interest, which do not result in loss of control, the Company 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 Company 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.

(b) Associates

Associates are all entities over which the Company has significant influence, and investments in associates are initially recognized at acquisition cost using the equity method. Unrealized gains on transactions between the Company and its associates are eliminated to the extent of the Company's interest in the associates. If there is any objective evidence that the investment in the associate is impaired, the Company recognizes the difference between the recoverable amount of the associate and its book value as impairment loss.

(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.

2.4 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 (Note 6). The chief operating decision maker, who is responsible for allocating resources and assessing performance of the operating segments, has been identified as the steering committee that makes strategic decisions.

2.5 Foreign Currency Translation

(a) Functional and presentation currency

Items included in the financial statements of each of the Company'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.

(b) Transactions and balances

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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 Company's entities that have a functional currency different from the presentation currency are translated into the presentation currency as follows:

- 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.

2.6 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.

2.7 Financial Assets

(a) Classification

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From January 1, 2018, the Company 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 Company'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 Company 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 Company has made an irrevocable election at the time of initial recognition to account for the equity investment at fair value through other comprehensive income.

(b) Measurement

At initial recognition, the Company 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 Company's business model for managing the asset and the cash flow characteristics of the asset. The Company 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

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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.

B. Equity instruments

The Company subsequently measures all equity investments at fair value. Where the Company'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 Company 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. The impairment methodology applied depends on whether there has been a significant increase in credit risk. For trade receivables and lease receivables, the Company applies the simplified approach, which requires expected lifetime credit losses to be recognized from initial recognition of the receivables.

(d) Recognition and Derecognition

Regular way purchases and sales of financial assets are recognized or derecognized on trade-date, the date on which the Company commits to purchase or sell the asset. Financial assets are

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derecognized when the rights to receive cash flows from the financial assets have expired or have been transferred and the Company has transferred substantially all the risks and rewards of ownership.

If a transfer does not result in derecognition because the Company has retained substantially all the risks and rewards of ownership of the transferred asset, the Company continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The Company classified the financial liability as “borrowings” in the consolidated statement of financial position (Note 19).

(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 Company or the counterparty.

2.8 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.

2.9 Trade Receivables

Trade receivables are recognized initially at fair value and subsequently measured at amortized cost using the effective interest method, less loss allowance. Trade receivables are amounts due from customers for services performed in the ordinary course of business. If collection is expected in one year or less, they are classified as current assets. If not, they are presented as non-current assets. Long-term trade receivables classified as non-current asset are measured at the present value using the effective interest method.

2.10 Inventories

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

2.11 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

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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:

	Estimated useful lives
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.

2.12 Government Grants

Government grants are recognized at their fair values when there is reasonable assurance that the grant will be received and the Company 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.

2.13 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 Company'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,

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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. Other intangible assets have definite useful life and are carried at cost less accumulated amortization.

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

	Estimated useful lives
Industrial property rights	5 – 10 years
Others	2 – 15 years
Development costs	5 years
Exclusive rights	Contractual period

The Company recognizes the cryptocurrency at fair value of the consideration at the acquisition date as it is satisfied in the definition and recognition criteria of the asset. If there is a market in which the asset is traded at a frequency and a size sufficient to provide pricing information continuously, the cryptocurrency is evaluated at prices available in such market at the end of each reporting period, and gain on valuation is presented within 'other comprehensive income' and loss on valuation is recognized within 'other non-operating expenses'. In addition, non-marketable cryptocurrency is recognized at its acquisition cost.

2.14 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.

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2.15 Financial Liabilities

(a) Classification and measurement

The Company'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 Company 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 and other payables' and 'borrowings' in the statement of financial position.

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.

2.16 Provisions

Provisions for service warranties, make good obligation, and legal claims are recognized when the Company 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.

2.17 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. In this case, income tax is also recognized in other comprehensive income or directly in

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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.

Deferred tax is recognized for temporary differences arising between the tax bases of assets and liabilities and their carrying amounts as expected tax consequences at the recovery or settlement of the carrying amounts of the assets and liabilities. However, deferred tax assets and liabilities are not recognized if they arise 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 (loss).

Deferred tax assets are recognized only to the extent that it is probable that future taxable profit will be available against which the deductible temporary differences can be utilized.

Deferred tax liability is recognized for taxable temporary differences associated with investments in subsidiaries, associates, and interests in joint ventures, except to the extent that the Company 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, deferred tax assets are recognized for 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.

Deferred tax assets and liabilities are offset when there is a legally enforceable right to offset current tax assets against current tax liabilities and when the deferred income taxes assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities where there is an intention to settle the balances on a net basis.

2.18 Employee Benefits

(a) Post-employment benefits

The Company operates pension plans. The Company has both defined contribution plans and defined benefit plans.

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

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

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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. The remeasurement of the net defined benefit liability are recognized in other comprehensive income.

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

(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 Company 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.

2.19 Treasury shares

Where the Company purchases its own equity share capital (treasury shares), the consideration paid, including any directly attributable incremental costs is deducted from equity attributable to the Company's equity until the shares are cancelled or reissued. Where such treasury shares are subsequently reissued, any consideration received is recognized in equity attributable to the Company's shareholders.

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2.20 Revenue Recognition

From January 1, 2018, the Company has applied Korean IFRS 1115 *Revenue from Contracts with Customers*.

(a) Advertising revenue

The Company 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 settled based on the sum of the total number of advertising services provided other than the contracted period, the Company recognizes revenue when it satisfies its performance obligation.

(b) Contents revenue and others

The Company provides a variety of contents to a customer. Transaction prices of contents and others are immediately paid when a customer purchases contents and other online. The Company recognizes revenue at the time when contents are used as considered that the right to use contents and others is transferred and the contents and others are provided to a customer and there are no unfulfilled obligations of a customer that may affect the use of contents. For contents that have significant impacts on contents over the life of contents provided to a customer, revenue is recognized over the period over which contents are provided.

2.21 Dividend

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

2.22 Lease

A lease is an agreement, whereby the lessor conveys to the lessee, in return for a payment or series of payments, the right to use an asset for an agreed period of time. Leases in which a significant portion of the risks and rewards of ownership are not transferred to the Company are classified as operating leases. Payments made under operating leases are charge to profit or loss on a straight-line basis over the period of lease.

Leases where the Company, as lessee, has substantially all the risks and rewards of ownership are classified as finance leases. Finance leases are capitalized at the lease's inception at the fair value of the leased property or, if lower, the present value of the minimum lease payments. The corresponding rental obligations, net of finance charges, are included in other short-term and long-term payables.

If the Company is a lessor, a lease is classified as a finance lease if it transfers substantially all the risks and rewards incidental to ownership at the inception of the lease. A lease other than a

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finance lease is classified as an operating lease. Lease income from operating leases is recognized in income on a straight-line basis over the lease term. Initial direct costs incurred by the lessor in negotiating and arranging an operating lease is added to the carrying amount of the leased asset and recognized as an expense over the lease term on the same basis as the lease income.

2.23 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.

2.24 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.

2.25 Compound Financial Instruments

Compound financial instruments are convertible bonds 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. 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 Company recognized conversion rights and exchange rights (pre-emptive rights) as equity. This accounting treatment is applicable within Korean IFRS as defined in item1 of paragraph1 of Article 13 of Acts on External Audit for Stock Companies.

During the year ended December 31, 2018, the above exchangeable bond is changed to convertible bonds which can be converted into equity instruments of the Parent Company (Note 19).

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2.26 Approval of Issuance of the Financial Statements

The issuance of the December 31, 2018 financial statements of the Company was approved by the Board of Directors on February 28, 2019, which is subject to change with approval at the annual shareholders' meeting.

3. Critical Accounting Estimates and Assumptions

The Company makes estimates and assumptions concerning the future. The estimates and assumptions are continuously evaluated with consideration to factors such as events reasonably predictable in the foreseeable future within the present circumstance according to historical experience. The resulting accounting estimates will, by definition, seldom equal the related actual results. 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 addressed below.

(a) Estimated impairment of goodwill

The Company tests annually whether goodwill has suffered any impairment. The recoverable amounts of cash-generating units are determined based on value-in-use calculations (Note 18).

(b) Income taxes

The Company'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 22).

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 Company is liable to pay additional income tax calculated based on the tax laws. The new tax system is effective for three years from 2015. Accordingly, the measurement of current and deferred income tax is affected by the tax effects from the new tax system. As the Company's income tax is dependent on the investments, increase in wages and dividends, there is an uncertainty measuring the final tax effects.

(c) 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 Company 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).

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(d) Impairment of financial assets

The provision for impairment for financial assets are based on assumptions about risk of default and expected loss rates. The Company uses judgement in making these assumptions and selecting the inputs to the impairment calculation based on the Company's past history, existing market conditions as well as forward looking estimates at the end of each reporting period (Note 39).

(e) Provisions

As at December 31, 2018, the Company recognizes provisions as explained in Notes 2.16. These provisions are estimated based on past experience.

(f) 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 20).

(g) 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 21).

4. Financial Risk Management

4.1 Financial Risk Factors

The Company'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 Company's overall risk management program focuses on the unpredictability of financial markets and seeks to minimize potential adverse effects on the Company's financial performance.

4.1.1 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.

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As at December 31, 2018, 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, 2018, would have been increased/decreased by ₩ 9,090 million (2017: ₩ 4,821 million) due to increased/decreased interest income of floating rate deposits.

ii) Price risk

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

As at December 31, 2018, if all other variables were constant and the value of marketable equity indexes 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 ₩ 4,201 million (2017: ₩ 1,557 million).

Impacts of investment financial instruments of the Company on profit or loss and other comprehensive income are described in Note 9.

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.

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

<i>(in millions of Korean won)</i>	2018							
Financial assets								
Cash and cash equivalents	₩	48,542	₩	527	₩	889	₩	72
Short-term financial instruments		338,894		-		-		-
Long-term financial instruments		1,125		-		-		-
Trade receivables		13,277		1,095		1,984		6
	₩	401,838	₩	1,621	₩	2,873	₩	78
Financial liabilities								
Trade and other payables	₩	7,551	₩	190	₩	435	₩	74
	₩	7,551	₩	190	₩	435	₩	74

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, 2018, would have been increased/decreased by ₩ 19,908 million.

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4.1.2 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 (Note 39).

Details of the Company's level of maximum exposure to credit risk as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018		2017	
Cash and cash equivalents	₩	1,247,013	₩	1,116,793
Short-term financial instruments		924,215		394,152
Trade receivables		193,669		179,238
Derivative financial assets		1,174		53,650
Financial assets at fair value through profit or loss		36,812		-
Other current financial assets		207,656		134,343
Long-term financial instruments		50,689		10,685
Other non-current financial assets		58,321		39,879
	₩	<u>2,719,549</u>	₩	<u>1,928,740</u>

4.1.3 Liquidity risk

Cash flow forecasting is performed by the Company finance department. The Company finance department monitors rolling forecasts of the Company'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 Company does not breach borrowing limits or covenants (where applicable) on any of its borrowing facilities. Such forecasting takes into consideration the Company's debt financing plans, covenant compliance, compliance with internal statement of financial position ratio targets and, if applicable external regulatory or legal requirements.

Details of the Company's liquidity risk analysis as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>		2018			
		Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩	460,813	₩ -	₩ -	₩ 460,813
Short-term and long-term borrowings ¹		611,849	3,900	43,661	659,410
Other current financial liabilities		174,313	-	-	174,313
Other non-current financial liabilities		-	-	45,461	45,461
Non-current trade and other payables		-	-	915	915
	₩	<u>1,246,975</u>	₩ <u>3,900</u>	₩ <u>90,038</u>	₩ <u>1,340,913</u>

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

(in millions of Korean won)

	2017			
	Less than 1 year	Between 1 and 2 years	Over 2 years	Total
Trade and other payables	₩ 280,380	₩ -	₩ -	₩ 280,380
Short-term and long-term borrowings	181,488	585,479	41,175	808,142
Other current financial liabilities	42,247	-	-	42,247
Other non-current financial liabilities	-	-	45,537	45,537
Non-current trade and other payables	-	196	1,411	1,607
	₩ 504,115	₩ 585,675	₩ 88,122	₩ 1,177,913

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

The amount of total cash flow of convertible bonds and exchangeable bonds is disclosed with the date of early payment of contract as maturity.

4.2. Capital Risk Management

The Company's objectives when managing capital are to maintain an optimal capital structure. The Company 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 at December 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018	2017
Total liabilities (A)	₩ 2,332,385	₩ 1,886,506
Total equity (B)	5,627,158	4,462,923
Debt-to-capital ratio (A/B)	41.45%	42.27%

4.3. Offsetting Financial Assets and Financial Liabilities

Details of the Company's recognized financial assets subject to offsetting, enforceable master netting arrangements or similar agreements as at December 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018				
	Gross assets	Gross liabilities offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Trade receivables ¹	₩ 45,258	₩ 6,776	₩ 38,481	₩ -	₩ 38,481

¹ The amount presented includes the amount after offsetting trade receivables from media labs

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and agency fee.

(in millions of Korean won)	2017				
	Gross assets	Gross liabilities offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Trade receivables ¹	₩ 50,409	₩ 5,689	₩ 44,720	₩ -	₩ 44,720

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

5. Fair Value

5.1 Fair Value of Financial Instruments

Carrying amount and fair value of financial instruments as at December 31, 2018 and 2017, are as follows:

(in millions of Korean won)	2018		2017	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	₩ 1,247,013	₩ 1,247,013	₩ 1,116,793	₩ 1,116,793
Short-term financial instruments	924,215	924,215	394,152	394,152
Long-term financial instruments	50,689	50,689	10,685	10,685
Available-for-sale securities ¹	-	-	149,440	149,440
Financial assets at fair value through profit or loss	130,627	130,627	-	-
Financial assets at fair value through other comprehensive income	329,345	329,345	-	-
Trade receivables	193,669	193,669	179,238	179,238
Derivative financial assets	1,174	1,174	53,650	53,650
Other current financial assets	207,656	207,656	134,343	134,343
Other non-current financial assets	58,321	58,321	39,879	39,879
	<u>3,142,709</u>	<u>3,142,709</u>	<u>2,078,180</u>	<u>2,078,180</u>
Financial liabilities				
Trade and other payables	460,813	460,813	280,380	280,380
Non-current trade and other payables	915	915	1,607	1,607
Short-term borrowings	609,480	605,039	174,372	174,372
Long-term borrowings	44,995	44,995	620,808	628,944
Derivative financial liabilities	13,916	13,916	2,254	2,254
Other current financial liabilities	174,313	174,313	42,247	42,247
Other non-current financial liabilities	45,461	45,461	45,537	45,537
	<u>₩ 1,349,894</u>	<u>₩ 1,345,453</u>	<u>₩ 1,167,205</u>	<u>₩ 1,175,341</u>

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¹ As at December 31, 2017, certain equity securities, which are measured at cost since their quoted market price does not exist in an active market and their fair values cannot be measured reliably, are excluded.

5.2 Financial Instruments Measured at Cost

Available-for-sale securities measured at cost as at December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	2017
Daum Soft	₩ 327
Lunosoft Inc.	1,250
NURIDA Corporation	200
SM Contents Investment, Inc.	1,000
GAIA BROADCASTING CONTENTS INVESTMENT FUND	500
ROOF FUNDING	1,400
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	1,500
Zipdoc	833
B-bros Corp.	2,000
MERLOT Lab.	1,294
Others	397
	<u>₩ 10,700</u>

5.3 Fair Value Hierarchy

The Company 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 at December 31, 2018 and 2017:

<i>(in millions of Korean won)</i>	2018			
	Level 1	Level 2	Level 3	Total
Financial assets at fair value through profit or loss	₩ 32,069	₩ -	₩ 98,558	₩ 130,627
Financial assets at fair value through other comprehensive income	6,111		323,234	329,345
Derivative financial assets	-	-	1,174	1,174
	<u>₩ 38,180</u>	<u>₩ -</u>	<u>₩ 422,966</u>	<u>₩ 461,146</u>
Derivative financial liabilities	₩ -	₩ -	₩ 13,916	₩ 13,916

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(in millions of Korean won)

	2017			
	Level 1	Level 2	Level 3	Total
Available-for-sale securities	₩ 32,969	₩ -	₩ 116,471	₩ 149,440
Derivative financial assets	-	-	53,650	53,650
	₩ 32,969	₩ -	₩ 170,121	₩ 203,090
Derivative financial liabilities	₩ -	₩ -	₩ 2,254	₩ 2,254

5.4 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 Company 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 at December 31, 2018, valuation technique and the inputs used for recurring and non-recurring fair value measurements and disclosed fair value that are categorized within Level 3 of the fair value hierarchy are as follows:

(in millions of Korean won)

	Fair value	Level	Valuation technique	Inputs
Equity instruments at fair value through profit or loss				
NEPTUNE Corp. (convertible bond)	₩ 5,350	3	Binomial tree model	Discount rate, dividend rate, increase and decrease rate
Lionheart Studio (redeemable convertible preferred shares)	5,134	3	Binomial tree model	Discount rate, dividend rate, increase and decrease rate
Daeheung Co., Ltd. (convertible bond)	4,245	3	Binomial tree model	Discount rate, dividend rate, increase and decrease rate
KIF-Stonebridge IT Venture Fund	578	3	Net asset value method	Net asset value
TransLink Capital Partners II, L.P.	2,949	3	Net asset value method	Net asset value
TransLink Capital Partners III, L.P.	5,660	3	Net asset value method	Net asset value
Collaborative Fund II, L.P.	3,534	3	Net asset value method	Net asset value
Altos Korea opportunity Fund	17,510	3	Net asset value method	Net asset value
Strong Seed Fund I	664	3	Net asset value method	Net asset value
SMCI Fund7	940	3	Net asset value method	Net asset value
KDBC FP Tech Next Fund	1,118	3	Net asset value method	Net asset value

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Enlight 4 NJI fund	146	3	Net asset value method	Net asset value
Cooperative of Music Record Duplicators	8	3	Net asset value method	Net asset value
SMCI Fund6	702	3	Net asset value method	Net asset value
GAIA BROADCASTING CONTENTS INVESTMENT FUND	1,000	3	Net asset value method	Net asset value
LEO Fund 10	581	3	Net asset value method	Net asset value
Union Global Expedition Investment Fund	600	3	Net asset value method	Net asset value
Highup Entertainment	1,292	3	DCF	Estimated cash flow, discount rate
EnGIS Technologies, Inc.	1,500	3	DCF	Estimated cash flow, discount rate
Equity-linked derivative financial assets	20,031	3	Market value method	Market value
Others	25,015	3	Binominal tree method and others	Discount rate, increase and decrease rate, estimated cash flow and others
Total	₩ 98,558			
Debt instruments at fair value through other comprehensive income				
MEDIACRE8 (formerly, Mediacreate)	₩ 4,000	3	DCF	Estimated cash flow, discount rate
Lunosoft Inc.	625	3	DCF	Estimated cash flow, discount rate
NURIDA Corporation	200	3	DCF	Estimated cash flow, discount rate
XLGAMES Inc.	7,317	3	DCF	Estimated cash flow, discount rate
Japan Taxi	15,083	3	DCF	Estimated cash flow, discount rate
KRAFTON, Inc.(formerly, Bluehole Inc.) ¹	55,153	3	DCF	Estimated cash flow, discount rate
Others	6,971	3	DCF	Estimated cash flow, discount rate
Daum Soft	327	3	Net asset value method	Net asset value
Quber Co., Ltd.	346	3	Net asset value method	Net asset value
SEOUL MEDIA.INC.	30	3	Net asset value method	Net asset value
FEENTERTAINMENT	104	3	Net asset value method	Net asset value
Others	27	3	Net asset value method	Net asset value
Others	644	3	Binominal tree method and others	Discount rate, increase and decrease rate, estimated cash flow and others
KakaoBank of Korea Corp.	232,409	3	FCFE	Estimated free cash flow, discount rate
Total	₩ 323,234			
Derivative financial assets				
Option (KakaoBank of Korea Corp.)	₩ 957	3	Binominal tree method	Probability of risk neutral, increase in risk neutral, decrease in risk neutral
Right for redemption (NBT Inc.)	217	3	Binominal tree method	Probability of risk neutral, increase in risk neutral, decrease in risk neutral
	₩ 1,174			
Derivative financial liabilities				
Conversion right (Kakao VX)	₩ 7,601	3	Binominal tree method, DCF	Discount rate, increase and decrease rate, estimated cash flow
Right for convertible redemption (Friendsgames Co., Ltd.)	6,315	3	Binominal tree method, DCF	Discount rate, increase and decrease rate, estimated cash flow
	₩ 13,916			

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¹ Available-for-sale securities and derivative financial assets (conversion right and early redemption right) of ₩ 3,970 million and ₩ 53,432 million, recognized in relation to redeemable convertible preferred shares, issued by KRAFTON, Inc. (formerly, Bluehole Inc.) as at December 31, 2017, were classified as financial assets at fair value through profit or loss on January 1, 2018 and were reclassified as financial assets at fair value through other comprehensive income as shares owned were converted into ordinary shares through exercise of conversion right.

5.5 Valuation Processes for Fair Value Measurements Categorized Within Level 3

The financial division of the Company 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 quarter 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 years ended December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Financial assets at fair value through profit or loss	₩ 1,306	₩ (1,306)
Financial assets at fair value through other comprehensive income	3,293	(3,293)
Derivative financial assets	12	(12)
	<u>₩ 5,070</u>	<u>₩ (5,070)</u>
Derivative financial liabilities	<u>₩ 139</u>	<u>₩ (139)</u>
	<u>₩ 139</u>	<u>₩ (139)</u>

6. Segment Information

The Company is operated as single operating segment.

Breakdown of the Company's revenue for the years ended December 31, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	2018			
	Advertising	Contents	Others	Total
Revenue	₩ 686,401	₩ 1,362,290	₩ 677,667	₩ 2,726,358
Inter-company revenue	(16,594)	(152,820)	(139,952)	(309,366)
Net revenue	<u>₩ 669,807</u>	<u>₩ 1,209,470</u>	<u>₩ 537,715</u>	<u>₩ 2,416,992</u>

<i>(in millions of Korean won)</i>	2017			
	Advertising	Contents	Others	Total
Revenue	₩ 605,177	₩ 1,081,580	₩ 470,758	₩ 2,157,515
Inter-company revenue	(9,447)	(96,106)	(79,635)	(185,188)
Net revenue	<u>₩ 595,729</u>	<u>₩ 985,474</u>	<u>₩ 391,123</u>	<u>₩ 1,972,326</u>

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For the years ended December 31, 2018 and 2017, the Company's most of the revenue arise in Korea, and most of non-current assets held by the Company as December 31, 2018 and 2017 are located in Korea.

There was no external customer contributing more than 10% of the total revenue for the years ended December 31, 2018 and 2017.

7. Financial Instruments by Category

Carrying amounts of financial assets and liabilities by category as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Financial assets at fair value through profit or loss¹	₩ 130,627	₩ -
Financial assets at fair value through other comprehensive income¹	329,345	-
Available-for-sale financial assets¹	-	160,140
Financial assets at amortized costs		
Cash and cash equivalents	1,247,013	1,116,793
Trade receivables, net	193,669	179,238
Short-term financial instruments	924,215	394,152
Long-term financial instruments	50,689	10,685
Other current financial assets	207,656	134,343
Other non-current financial assets	58,321	39,879
	<u>2,681,563</u>	<u>1,875,090</u>
Derivative financial assets		
Current derivative financial assets ¹	1,174	53,650
	<u>₩ 3,142,709</u>	<u>₩ 2,088,880</u>

¹ Available-for-sale securities and derivative financial assets (conversion right and early redemption right) of ₩ 3,970 million and ₩ 53,432 million, recognized in relation to redeemable convertible preferred shares, issued by KRAFTON, Inc. (formerly, Bluehole Inc.) as at December 31, 2017, were classified as financial assets at fair value through profit or loss on January 1, 2018 and were reclassified as financial assets at fair value through other comprehensive income as shares owned were converted into ordinary shares through exercise of conversion right.

<i>(in millions of Korean won)</i>	2018	2017
Financial liabilities at amortized costs		
Trade and other payables	₩ 460,813	₩ 280,380
Short-term borrowings	609,480	174,372
Other current financial liabilities	174,313	42,247

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Non-current trade and other payables	915	1,607
Long-term borrowings	44,995	620,808
Other non-current financial liabilities ¹	45,461	45,537
	<u>1,335,978</u>	<u>1,164,951</u>
Derivative financial assets		
Current derivative financial assets	13,916	2,254
	<u>13,916</u>	<u>2,254</u>
	<u>₩ 1,349,894</u>	<u>₩ 1,167,205</u>

¹ As at December 31, 2018, the Company recognized non-controlling interests in association with maturity as financial liabilities (₩ 43,046 million) and reclassified non-controlling interests of ₩ 44,897 million as financial liabilities on the comparative 2017 consolidated financial statements.

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Gains or losses of financial instruments by category for the years ended December 31, 2018 and 2017 are as follows:

(in millions of Korean won)

	2018				
	Gain (loss) on valuation (other comprehensive income (loss))	Gain (loss) on valuation/disposition (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	₩ -	₩ 7,401	₩ 381	₩ -	₩ -
Financial assets at fair value through other comprehensive income	9,251	(272)	-	-	1
Loans and receivables	-	-	41,783	(6,641)	22,628
Derivative assets	-	988	-	-	-
Financial liabilities					
Derivative liabilities	-	(732)	-	-	-
Financial liabilities at amortized costs	-	-	(9,202)	-	(205)

	2017			
	Gain (loss) on valuation (other comprehensive income (loss))	Gain (loss) on valuation/disposition (profit or loss)	Interest income (expenses)/ Dividend income	Gain (loss) on foreign currency translation
Financial assets				
Available-for-sale financial assets	₩ (1)	₩ (1,256)	₩ 2,481	₩ -
Loans and receivables	-	(2,034)	14,589	(13,460)
Derivative assets	-	51,738	-	-
Financial liabilities				
Financial liabilities at fair value through profit or loss	-	(13,253)	-	-
Financial liabilities carried at amortized costs	-	-	(11,240)	10

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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, and are used by the Company in management of its short-term commitments.

Details of cash and cash equivalents and short-term and long-term financial instruments as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Bank deposits and cash on hand and others	₩ 1,247,013	₩ 1,116,793
Short-term financial instruments ¹	924,215	394,152
Long-term financial instruments – time deposits and others	50,689	10,685
	<u>₩ 2,221,917</u>	<u>₩ 1,521,630</u>

¹ See Note 36 for information about restricted deposits and payment guarantees.

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.

9. Financial Assets at Fair Value

As explained in Note 2, the Company has applied Korean IFRS 1109 *Financial Instruments* from January 1, 2018. See Note 40 for the impact of the changes in accounting policies on the classification of financial assets and financial statements.

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

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

<i>(in millions of Korean won)</i>	2018
Non-current	
Beneficiary securities	₩ 36,925
Listed shares	31,637
NEPTUNE Corp.	31,552

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Mr. Blue Corporation	52
SHOWBOX Corp.	33
Compound financial instruments	36,285
	<u>104,846</u>
Current	
Beneficiary securities	1,073
Listed shares	432
Compound financial instruments	24,276
	<u>25,781</u>
	<u>₩ 130,627</u>

The amounts recognized in profit or loss are as follows:

<i>(in millions of Korean won)</i>	2018
Gain on disposal of financial assets at fair value through profit or loss	₩ 7,174
Gain on valuation of financial assets at fair value through profit or loss	228

(b) Financial Assets at Fair Value through Other Comprehensive Income

As explained in Note 2, the Company has applied Korean IFRS 1109 *Financial Instruments* from January 1, 2018. See Note 40 for the impact of the changes in accounting policies on the classification of financial assets and financial statements.

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

<i>(in millions of Korean won)</i>	2018
Non-current	
Listed equity securities	₩ 6,111
YD ONLINE CORP.	982
FNC ENTERTAINMENT	5,129
Unlisted equity securities ¹	323,234
	<u>₩ 329,345</u>

¹ See Note 5 for details of unlisted equity securities.

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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Debt investments at fair value through other comprehensive income comprise the following investments in bonds having solely payments of principal and interest:

<i>(in millions of Korean won)</i>	2018	2017 ¹
Non-current		
Government bonds	₩ -	₩ 1,813

¹ In the prior year, government bonds were classified as available-for-sale securities.

Upon disposal of these debt investments, any balance within the accumulated other comprehensive income for these debt investments is reclassified to profit or loss.

10. Available-for-sale Securities

Changes in available-for-sale securities for the year ended December 31, 2017 are as follows:

<i>(in millions of Korean won)</i>	2017
Beginning balance	₩ 93,182
Increase due to changes in scope of consolidation	749
Acquisition	85,030
Transfer	4,329
Disposal	(13,904)
Valuation	(1)
Impairment	(9,753)
Amortization	509
Ending balance	₩ 160,140

Details of available-for-sale securities as at December 31, 2017, are as follows:

<i>(in millions of Korean won)</i>	2017
	Book value
Equity securities	
Daum Soft ¹	₩ 327
2010 KIF–Stonebridge IT Venture Fund	859
Mediacreate	3,402
TransLink Capital Partners II, L.P.	4,440
TransLink Capital Partners III, L.P.	4,075
Collaborative Fund II, L.P.	2,972
Altos Korea opportunity Fund	5,487
Strong Seed Fund I	1,168
SMCI Fund 7	988
Quber Co., Ltd.	201

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KakaoBank of Korea Corp. ³	66,786
YD ONLINE CORP. ²	6,086
Epipolar	-
Lunosoft Inc. ¹	1,250
NURIDA Corporation ¹	200
LONGTU KOREA Inc.	-
Momo Corp ¹	100
Eugene Jarang Private Equity Securities Investment Trust No. 2	22
FNC ENTERTAINMENT ²	4,817
SEOUL MEDIA.INC. ¹	30
FEENTERTAINMENT ¹	104
Cooperative of Music Record Duplicators ¹	8
Stonebridge Drama Fund	-
SM Contents Investment, Inc. ¹	1,000
GAIA BROADCASTING CONTENTS INVESTMENT FUND ¹	500
EVERSPIN CORP.	-
ROOFFUNDING ¹	1,400
FUNDA ¹	2
Zipdoc ¹	833
B-bros Corp. ¹	2,000
MERLOT Lab. ¹	1,294
Supergene Global Services, Inc. ¹	3
Ubion CO.LTD ²	22
LG Chem. ²	18
SM ENTERTAINMENT Co., Ltd. ²	62
NEPTUNE Corp. ²	20,129
MARS AUTO INC. ¹	150
Others	22,124
	152,857
Debt securities	
Government bonds	1,813
KRAFTON, Inc. (formerly, Bluehole Inc.) ⁴	3,970
Convertible bonds-Leferi Inc. ⁵	-
Convertible bonds-ROOF FUNDING ⁶	-
Convertible bonds-Wex 24 Korea ⁵	-
Convertible bonds- You Are the Designer ⁵	-
Convertible bonds-BUNJANG Corp. (formerly, Quicket Co., Ltd.) ¹	1,500
	7,283
	<u>₩ 160,140</u>

¹ Securities are measured at cost as the fair value cannot be measured reliably. The Company does not have any plans to dispose of the equity securities in the near future. These instruments will be measured at fair value when the Company can develop a reliable estimate of the fair value.

² Listed equity securities

³ As at December 31, 2017, the Company has a call option and put option agreement with other

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shareholders of KakaoBank of Korea Corp (Note 36).

⁴ The Company has recognized convertible rights and early redeemable rights associated with redeemable convertible preferred shares as separate derivative assets from the host contract (Note 24).

⁵ Converted and reclassified as investments in associates during 2017.

⁶ Converted and reclassified as equity securities during 2017.

11. Trade Receivables, Other Financial Assets and Other Non-current Financial Assets

As explained in Note 2, the Company has applied Korean IFRS 1109 *Financial Instruments* from January 1, 2018. See Note 40 for the impact of the changes in accounting policies on the classification of financial assets and consolidated financial statements.

Trade receivables and allowance for doubtful accounts as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Trade receivables	₩ 201,238	₩ 187,000
Less: allowance for doubtful accounts (Note 39)	(7,568)	(7,762)
Trade receivables, net	<u>₩ 193,669</u>	<u>₩ 179,238</u>

Details of other financial assets and other non-current financial assets as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Non-trade receivables	₩ 204,271	₩ 130,287
Accrued revenues	9,132	3,247
Short-term loans receivable	3,142	2,921
Short-term loans to employees	134	754
Long-term loans receivable	2,521	1,389
Leasehold deposits	56,183	38,918
Long-term loans to employees	17	-
Others	-	-
	<u>275,401</u>	<u>177,517</u>
Less: allowance for doubtful accounts	<u>(9,425)</u>	<u>(3,295)</u>
Other financial assets and other non-current financial assets, net	<u>₩ 265,976</u>	<u>₩ 174,222</u>

See Note 39 for the impairment of trade receivables, other financial assets and other non-current financial assets at amortized cost and the Company's exposure to credit risk.

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12. Contract Assets and Liabilities

As explained in Note 2, the Company has applied Korean IFRS 1115 *Revenue from Contracts with Customers* from January 1, 2018. See Note 40 for the impact of the changes in accounting policies on the classification of financial assets and consolidated financial statements.

Details of incremental costs (other current assets), contract assets (other current assets) and contract liabilities (other current liabilities), recognized in relation to contracts with customers, as at December 31, 2018 and January 1, 2018, are as follows:

<i>(in millions of Korean won)</i>	December 31, 2018	January 1, 2018
Contract assets		
Contract assets – advertising	₩ -	₩ -
Contract assets – contents	391	1,485
Contract assets – others	261	-
	<u>653</u>	<u>1,485</u>
Incremental costs		
Incremental costs – contents ¹	<u>3,819</u>	<u>2,747</u>
Contract liabilities		
Contract liabilities – advertising	33,721	30,562
Contract liabilities – contents	123,461	75,349
Contract liabilities – others	8,786	1,588
	<u>₩ 165,968</u>	<u>₩ 107,499</u>

¹ As at December 31, 2018, the Company recognized the amount of ₩ 3,819 million as an asset for incremental costs of game publishing contracts.

Significant changes in incremental costs and contract liabilities

Contract liabilities of the Company consist of deferred income from the settlement amount for paid game goods that were not used and permanent items as at the end of the reporting period and incremental costs are the capitalized fees paid to the open market (app market) in connection with the aforementioned settlement amount for paid game goods.

Compared to the beginning of the current period, incremental costs and contract liabilities as at December 31, 2018, have increased due to the increase in the amount of payments made for unused game goods and permanent items and it does not increase significantly.

Expenses recognized in relation to incremental costs and revenue recognized in relation to contract liabilities

The following table shows how much of the revenue and expenses recognized in the current reporting period relates to carried-forward incremental costs and contract liabilities and how much relates to performance obligations that were satisfied in a prior year.

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<i>(in millions of Korean won)</i>		2018
Expenses recognized that was included in the contract liability balance at the beginning of the year		
Incremental costs (Other current assets) - contents	₩	2,747
Revenue recognized that was included in the contract liability balance at the beginning of the year		
Contract liabilities - advertising		30,324
Contract liabilities – contents		69,768
Contract liabilities – others		1,588
	₩	<u>101,679</u>

Classification of revenue from contracts with customers

<i>(in millions of Korean won)</i>		2018
Timing of revenue recognition		
At a point in time	₩	1,731,483
Over a period		685,509
	₩	<u>2,416,992</u>

13. Trade and Other payables

Trade and other payables as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Trade and other payables		
Trade payables	₩ 29,359	₩ 108,265
Non-trade payables	431,454	172,115
	<u>460,813</u>	<u>280,380</u>
Non-current trade and other payables		
Long-term non-trade payables	389	1,513
Withhold deposits received	-	60
Leasehold deposits received	526	34
	<u>915</u>	<u>1,607</u>
	<u>₩ 461,728</u>	<u>₩ 281,986</u>

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14. Other Financial Liabilities

Other financial liabilities as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Other current financial liabilities		
Accrued expenses	₩ 44,424	₩ 42,247
Deposits received	129,889	-
	<u>174,313</u>	<u>42,247</u>
Other non-current financial liabilities		
Long-term accrued expenses and others ¹	45,461	45,537
	<u>₩ 219,774</u>	<u>₩ 87,784</u>

¹ As at December 31, 2018, the Company recognized non-controlling interests in association with maturity as financial liabilities (₩ 43,046 million) and reclassified non-controlling interests of ₩ 44,897 million as financial liabilities on the comparative consolidated financial statements in 2017.

15. Other Assets and Liabilities

Other assets as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Other current assets		
Advance payments	₩ 107,872	₩ 70,936
Prepaid expenses ¹	37,119	20,703
Prepaid value added tax	75,901	1,143
Corporate tax refund receivable	1,883	476
Others	830	-
	<u>223,605</u>	<u>93,258</u>
Other non-current assets		
Long-term advance payments	8,499	270
Long-term prepaid expenses	7,813	8,419
Other investments	100	100
	<u>16,412</u>	<u>8,789</u>
	<u>₩ 240,017</u>	<u>₩ 102,047</u>

¹ Increment costs for contracts amounting to ₩ 3,819 million as at December 31, 2018, are included (Note 12).

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Other liabilities as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Other current liabilities		
Advances from customers ¹	₩ 505,403	₩ 256,665
Deferred revenues ¹	68,437	65,448
Withholdings	32,793	59,723
Value added tax payable	98,801	42,717
Government grants	565	-
	<u>₩ 705,998</u>	<u>₩ 424,553</u>

¹ Contract liabilities of ₩ 165,968 million as at December 31, 2018, are included (Note 12).

16. Investments in Associates and Joint Venture

Investments in associates and joint venture as at December 31, 2018 and 2017, are as follows:

(in millions of Korean won)

		2018				2017	
		Percentage of ownership (%)	Acquisition cost	Net assets value	Book value	Book value	
Name ¹	Location						
Associates							
Adcredit ³	Korea	17.7	₩ 300	₩ 112	₩ 112	₩ 92	
DMS Network, Inc. ³	USA	19.7	2,357	109	-	-	
Tapas Media, Inc.	USA	27.2	2,101	177	177	2,999	
NBT Inc. ³	Korea	10.5	1,782	2,246	2,246	2,012	
DAUM Venture Fund	Korea	39.5	8,024	7,925	7,925	8,656	
Dunamu Inc.	Korea	22.4	5,019	57,402	61,717	33,376	
Oscar Entertainment.	Korea	20.0	1,997	39	15	745	
CNT TECH CO., LTD. ³	Korea	18.0	5,001	4,471	6,457	5,994	
Korea Credit Data	Korea	31.3	4,400	1,464	4,776	4,658	
MannaCEA	Korea	23.8	10,000	5,319	5,319	3,835	
NeoBazar ²	Korea	-	-	-	-	738	
Left Right Co., Ltd.	Korea	40.0	400	(3)	224	291	
SCI VENTURE, INC.	Philippines	40.0	1,239	558	1,170	1,293	
SONNORI CORP. ²	Korea	-	-	-	-	3,767	
JOH&Company ²	Korea	-	-	-	-	8,673	
You Are the Designer ³	Korea	19.2	500	(690)	-	-	
LUXROBO CO., LTD. ³	Korea	14.7	5,287	1,441	5,298	5,222	
Leferi Inc. ³	Korea	11.0	1,500	260	260	171	
Deleo Korea Co., Ltd. ³	Korea	10.5	3,000	759	759	807	
Tangram Factory	Korea	32.6	-	864	-	-	
Skelter Labs, Inc. ³	Korea	17.9	2,501	1,222	2,044	2,658	
TOROOC Inc.	Korea	22.7	2,500	600	744	2,400	
Dreamcide SPC LTD.	Korea	49.0	5	(4)	-	4	
DIGISONIC CO., LTD. ³	Korea	12.9	100	75	76	83	
Silver Star Games Inc. ⁷	Korea	20.0	100	4	-	-	
D&C MEDIA CO., LTD. ^{1,3}	Korea	18.5	12,614	6,843	14,475	16,291	
K Cube NEO Fund ³	Korea	15.5	2,250	1,972	1,974	711	
BUNJANG Corp. ³	Korea	14.7	203	49	247	958	
Supergene Inc. ³	Korea	10.0	997	1,229	1,229	994	
InnoSignal CO., LTD. ³	Korea	15.9	100	87	162	86	
PoteNit Co., Ltd. ³	Korea	12.1	2,096	(363)	-	2,000	

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(in millions of Korean won)

(in millions of Korean won)

Name ¹	Location	2018				2017
		Percentage of ownership (%)	Acquisition cost	Net assets value	Book value	Book value
Associates						
Doctorbrain SPC Ltd.	Korea	49.0	5	(8)	-	2
CLAIR, Inc. ³	Korea	3.4	500	681	681	500
KIF-Kakao Wooribank Technology Financing Fund ³	Korea	19.7	7,800	7,554	7,554	3,000
13MILE.CO.LTD ⁵	Korea	26.4	3,435	177	2,945	-
ADSOTA CORP. ⁵	Vietnam	33.3	1,080	564	1,419	-
CARDOC Inc. ⁶	Korea	30.0	5,481	4,100	4,100	-
Kakao Kids (formerly, BLUEPIN Inc.) ⁶	Korea	44.3	2,794	8,215	8,215	-
Action Square Co., Ltd. ^{1,3,5}	Korea	10.4	20,000	1,425	3,807	-
NOWBUSKING COMPANY ³	Korea	16.2	3,000	564	2,724	-
LINE WORK Corp.	Korea	35.5	3,000	735	3,002	-
CHEQUER Inc.	Korea	24.2	400	76	376	-
HASYS ⁶	Korea	47.2	17,729	2,688	17,133	-
mycelebs ^{3,5}	Korea	17.7	5,000	(965)	5,000	-
DAIWAON. C. I. INC ^{3,5}	Korea	19.8	15,048	2,216	15,048	-
Haksan Publinshing Co., Ltd. ^{3,5}	Korea	19.8	14,653	3,582	14,653	-
peoplefund ^{3,5}	Korea	10.3	3,836	480	3,836	-
SEOUL MEDIA.INC. ⁵	Korea	22.2	10,000	2,997	10,000	-
Allstay Co., Ltd. ⁵	Korea	38.3	1,424	-	1,424	-
UBCARE CO., LTD. ³	Korea	19.97	42,000	20,570	45,856	-
Others (63 companies) ⁴	Korea	3.3~33.3	42,290	10,116	35,905	44,820
			275,848	159,932	301,085	157,834
Joint Venture						
DAUM KAKAO PHILIPPINES CORP.	Philippines	50.0	5,609	4,103	4,103	4,115
			₩ 281,458	₩ 164,035	₩ 305,188	₩ 161,950

¹ All investments in associates and joint venture are all unlisted securities excluding Action Square Co., Ltd., UBCARE CO., LTD. and D&C MEDIA CO., LTD.

² As the Company obtained control over the entities in 2018, the entities are reclassified as subsidiaries from investments in associates.

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

⁴ Small-sized entities invested into by K Cube Venture Fund no.1, KAKAO Venture Fund, Kakao Digital Contents Fund, Kakao Game Growth Share Fund and KAKAO_CCVC Jeju Creative Economy Innovative Fund with the ownership percentage of 3.3%~33.3% and classified as associates as the Company is considered to have a significant influence.

⁵ Newly acquired during 2018.

⁶ Reclassified to an associate from a subsidiary due to loss of control.

⁷ Liquidated during 2018.

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Changes in carrying amounts of investments in associates and joint venture for the years ended December 31, 2018 and 2017 are as follows:

(in millions of Korean won)

Name	2018							
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal and impairment	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others	Ending balance
Associates								
Adcredit	₩ 92	₩ -	₩ -	₩ -	₩ 20	₩ -	₩ -	₩ 112
Tapas Media, Inc. ^{2,3}	2,999	-	-	(2,344)	(738)	143	117	177
NBT Inc.	2,012	-	-	-	234	-	-	2,246
DAUM Venture Fund	8,656	-	-	(791)	3	57	-	7,925
Dunamu Inc. ²	33,376	-	570	(2,195)	28,883	448	635	61,717
Oscar Entertainment	745	-	-	-	(706)	-	(23)	15
CNT TECH CO., LTD.	5,994	-	-	-	472	(9)	-	6,457
Korea Credit Data ²	4,658	-	-	-	(241)	-	359	4,776
MannaCEA ²	3,835	-	-	-	(1,357)	(307)	3,148	5,319
NeoBazar ^{1,2}	738	(3,850)	-	-	(1,382)	-	4,495	-
Left Right CO., LTD..	291	-	-	-	(67)	-	-	224
SCI VENTURE INC. ²	1,293	-	-	-	(11)	(98)	(14)	1,170
SONNORI CORP. ^{1,7}	3,767	(5,929)	-	-	(1,626)	-	3,788	-
JOH&Company ¹	8,673	(13,334)	-	-	(582)	-	5,243	-
LUXROBO CO., LTD.. ^{2,3}	5,222	-	-	-	(1,193)	(2)	1,271	5,298
Leferi Inc.	171	-	-	-	88	-	-	260
Deleo Korea Co., Ltd. ²	807	-	-	-	(244)	-	196	759
Skelter Labs, Inc. ²	2,658	-	-	-	(2,475)	-	1,862	2,044
TOROO Inc.	2,400	-	-	-	(1,655)	-	-	744
Dreamcide SPC Ltd.	4	-	-	-	(4)	-	-	-
DIGISONIC Co., Ltd.	83	-	-	-	(8)	-	-	76
D&C MEDIA CO., LTD. ²	16,291	-	-	-	785	(123)	(2,478)	14,475
K Cube NEO Fund ⁷	711	-	1,500	-	(237)	-	-	1,974
BUNJANG Corp.	958	-	-	(571)	(123)	(17)	-	247
Supergene Inc.	994	-	-	-	235	-	-	1,229
InnoSignal Co., Ltd. ²	86	-	-	-	3	-	72	162
PoteNit Co., Ltd. ^{2,7}	2,000	-	96	-	(1,931)	(87)	(77)	-
Doctorbrain SPC Ltd.	2	-	-	-	(2)	-	-	-
CLAIR, Inc. ²	500	-	-	-	75	-	106	681
KIF-Kakao Wooribank Technology Financing Fund ⁷	3,000	-	4,800	-	(246)	-	-	7,554
13MILE.CO., LTD ⁴	-	-	3,435	-	(490)	-	-	2,945
ADSOTA CORP. ⁴	-	-	1,080	-	156	183	-	1,419
CARDOC Inc. ^{2,5}	-	5,481	-	-	(739)	-	(642)	4,100
Kakao Kids (formerly, BLUEPIN Inc.) ^{2,5}	-	2,794	-	-	(310)	296	5,436	8,215

Kakao Corp. and Subsidiaries
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Name	2018							
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal and impairment	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others	Ending balance
Associates								
Action Square Co., Ltd. ^{2,3,4}	-	-	20,000	(15,168)	(992)	57	(90)	3,807
WAY2BIT ^{4,8}	-	-	2,990	(2,990)	-	-	-	-
NOWBUSKING COMPANY ⁴	-	-	3,000	-	(276)	-	-	2,724
LINE WORK Corp. ⁴	-	-	3,000	-	2	-	-	3,002
CHEQUER Inc. ⁴	-	-	400	-	(34)	10	-	376
READY ENTERTAINMENT ⁴	-	(4,761)	4,761	-	467	-	(467)	-
BH Entertainment ⁴	-	(8,100)	8,100	-	364	-	(364)	-
J,WIDE-COMPANY ⁴	-	(2,550)	2,550	-	(174)	-	174	-
HASYS ⁵	-	17,729	-	-	(598)	2	-	17,133
mycelebs ⁴	-	-	5,000	-	-	-	-	5,000
DAIWAON. C. I. INC ⁴	-	-	15,048	-	-	-	-	15,048
Haksan Publinsing Co.Ltd. ⁴	-	-	14,653	-	-	-	-	14,653
easi6 Inc. ⁴	-	-	700	(700)	-	-	-	-
peoplefund ⁴	-	-	3,836	-	-	-	-	3,836
SEOUL MEDIA.INC. ⁴	-	-	10,000	-	-	-	-	10,000
Allstay Co., LTD ⁴	-	1,424	-	-	-	-	-	1,424
UBCARE CO., LTD.	-	-	42,000	-	-	-	3,856	45,856
Others ^{2,6} (63 companies)	44,820	1,977	8,098	(18,959)	(6,707)	(63)	6,739	35,905
Joint Venture								
DAUM KAKAO PHILIPPINES CORP.	4,115	-	-	-	12	(25)	-	4,103
	₩ 161,950	₩ (9,118)	₩ 155,618	₩ (43,718)	₩ 6,652	₩ 465	₩ 33,340	₩ 305,188

¹ As the Company obtained control over the entity in 2018, the entities are reclassified as subsidiaries from investments in associates.

² Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2018.

³ During 2018, the Company recognized impairment loss for investments in Action Square Co., Ltd. and other nineteen associates amounting to ₩ 36,744 million as their recoverable amounts are considered less than their book values as at December 31, 2018.

⁴ Newly acquired during 2018.

⁵ Reclassified to an associate from a subsidiary due to loss of control.

⁶ Newly acquired n42 corp. and other nine associates in 2018.

⁷ Additionally acquired during 2018.

⁸ Disposed during 2018.

Kakao Corp. and Subsidiaries
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		2017									
Name	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal and impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others	Ending balance		
Associates	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩
Adcredit	83	-	-	-	-	8	-	-	92		
DMS Network, Inc.	-	-	-	-	-	-	-	-	-		
Tapas Media, Inc. ²	2,656	-	-	-	-	(678)	(337)	1,358	2,999		
NBT Inc.	1,719	-	-	-	-	292	-	-	2,012		
DAUM Venture Fund	9,764	-	-	(1,581)	-	540	(68)	-	8,656		
Dunamu Inc. ²	4,439	-	-	-	-	24,683	-	4,255	33,376		
Oscar Entertainment	1,997	-	-	-	-	(1,253)	-	-	745		
CNT TECH CO.,LTD.	5,894	-	-	-	-	108	(8)	-	5,994		
Korea Credit Data ⁵	400	-	4,000	-	-	(72)	-	330	4,658		
MannaCEA ^{2, 3}	8,591	-	-	(5,390)	-	(1,527)	-	2,160	3,835		
NeoBazar ²	478	-	-	-	-	(108)	-	368	738		
Silver Star Games Inc. ³	104	-	-	(104)	-	-	-	-	-		
Left Right Co., Ltd.	373	-	-	-	-	(81)	-	-	291		
SCI VENTURE INC.	655	-	578	-	-	(62)	122	-	1,293		
SONNORI CORP.	5,635	-	-	-	-	(1,869)	-	-	3,767		
JOH&Company	9,793	-	-	-	-	(1,121)	-	-	8,673		
You Are the Designer ⁷	75	-	-	-	389	(462)	(1)	-	-		
LUXROBO Co., Ltd. ⁷	-	-	2,287	-	3,000	(179)	-	114	5,222		
Leferi Inc. ^{3, 7}	638	-	-	(1,220)	862	(108)	-	-	171		
Deleo Korea Co.,Ltd. ^{2, 3, 7}	1,158	-	-	(2,090)	1,842	(97)	-	(6)	807		
HASYS ¹	3,438	(3,438)	-	-	-	-	-	-	-		
Tangram Design Lab Inc. ^{1, 3, 4}	-	(135)	2,337	(1,676)	-	(526)	-	-	-		
Tangram Factory ^{2, 3, 4}	-	-	3,168	(864)	-	(291)	-	(2,012)	-		
Skelter Labs, Inc. ^{2, 5}	-	-	2,501	-	-	(453)	-	610	2,658		
TOROOO Inc. ⁵	-	-	2,500	-	-	(68)	-	(32)	2,400		
Nexzen I&C Co., Ltd.	200	-	-	(200)	-	-	-	-	-		
Dreamcide SPC Ltd. ⁵	-	-	5	-	-	(1)	-	-	4		
DIGISONIC Co., Ltd. ^{2, 5}	-	-	100	-	-	(22)	-	5	83		
D&C MEDIA CO.,LTD. ⁵	-	-	12,614	-	-	692	-	2,985	16,291		
K Cube NEO Fund ⁵	-	-	750	-	-	(39)	-	-	711		
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	-	-	3,678	(797)	-	38	-	(1,962)	958		
Supergene Inc. ⁵	-	-	997	-	-	(2)	-	-	994		
InnoSignal Co.,Ltd. ⁵	-	-	100	-	-	(14)	-	-	86		
PoteNit Co.,Ltd. ⁵	-	-	2,000	-	-	-	-	-	2,000		
Doctorbrain SPC Ltd. ⁵	-	-	5	-	-	(3)	-	-	2		

Kakao Corp. and Subsidiaries
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Name	2017								
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal and impairment	Reclassification	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others	Ending balance
Associates									
CLAIR, Inc. ⁵	-	-	500	-	-	-	-	-	500
KIF-Kakao Wooribank Technology Financing Fund ⁵	-	-	3,000	-	-	-	-	-	3,000
Others ⁶ (60 companies)	54,288	-	9,533	(13,902)	-	(8,287)	(314)	3,502	44,820
Joint Venture									
DAUM KAKAO PHILIPPINES CORP.	4,698	-	-	-	-	(1)	(582)	-	4,115
	₩ 117,076	₩ (3,572)	₩ 50,652	₩ (27,825)	₩ 6,093	₩ 9,036	₩ (1,188)	₩ 11,677	₩ 161,950

¹ As the Company obtained control over the entity in 2017, the entities are reclassified as subsidiaries from investments in associates.

² Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2017.

³ During 2017, the Company recognized impairment loss for investments in MannaCEA and other five associates amounting to ₩ 13,858 million as their recoverable amounts are considered less than their book values as at December 31, 2017.

⁴ During 2017, the Company acquired 10,809 ordinary shares of Tangram Design Lab Inc. and 130,179 ordinary shares of Tangram Factory through investment in kind with loans receivable.

⁵ Newly acquired during 2017.

⁶ Newly acquired Perseus and other 29 associates in 2017.

⁷ Reclassified from long-term available-for-sale securities to investment in associates as a result of conversion of convertible bonds during 2017.

Kakao Corp. and Subsidiaries
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Fair value of investments in associates that has a quoted market price as at December 31, 2018 and 2017, is as follows:

(in millions of Korean won)	Company	2018		2017	
		Fair value	Book value	Fair value	Book value
	D&C MEDIA CO.,LTD.	₩ 31,498	₩ 14,475	₩ 15,693	₩ 16,291
	UBCARE CO., LTD.	45,856	45,856	-	-
Associates	Action Square Co., Ltd.	4,832	3,807	-	-

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)

2018					
	Net assets at the end of the year (a)	The Company's share in % (b)	The Company's share in KRW (a*b)	Goodwill and etc.	Book value
Dunamu Inc.	₩ 255,862	22.7%	₩ 58,082	₩ 3,635	₩ 61,717
D&C MEDIA CO.,LTD.	36,904	18.5%	6,843	7,632	14,475

(in millions of Korean won)

2017					
	Net assets at the end of the year (a)	The Company's share in % (b)	The Company's share in KRW (a*b)	Goodwill and etc.	Book value
Dunamu Inc.	₩ 132,667	22.3%	₩ 29,631	₩ 3,745	₩ 33,376
SONNORI CORP.. (formerly, ROI GAMES CORP.)	(814)	40.1%	(407)	4,174	3,767
JOH&Company	10,343	45.5%	4,702	3,971	8,673
LUXROBO Co., Ltd.	3,188	15.9%	508	4,714	5,222
D&C MEDIA CO.,LTD.	31,958	18.5%	5,908	10,383	16,291

Kakao Corp. and Subsidiaries
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A summary of financial information on the associates and joint venture for the years ended December 31, 2018 and 2017, is as follows:

(in millions of Korean won)

	2018							
	Current asset	Non-current asset	Current liability	Non-current liability	Revenue	Profit (loss)	Other comprehensive income (loss)	Comprehensive income (loss)
Adcredit	₩ 1,014	₩ 49	₩ 400	₩ 30	₩ 1,456	₩ 117	₩ -	₩ 117
Tapas Media, Inc.	272	543	1	280	200	39	-	39
NBT Inc.	593	70	12	-	1,409	(2,691)	-	(2,691)
DAUM Venture Fund	10,479	14,723	4,952	-	31,681	2,466	-	2,466
Dunamu Inc.	685	19,903	537	-	405	(1,535)	-	(1,535)
Oscar Entertainment	560,455	68,158	362,683	9,056	479,587	137,541	-	137,541
CNT TECH CO.,LTD.	222	265	415	34	931	(787)	-	(787)
Korea Credit Data	11,881	19,800	4,014	2,828	22,553	2,506	-	2,506
MannaCEA	3,651	385	109	108	246	(1,631)	-	(1,631)
NeoBazar	21,125	5,154	2,809	1,146	8,543	(5,746)	(150)	(5,895)
Left Right Co., Ltd.	50	1	12	47	157	(114)	-	(114)
SCI VENTURE INC.	2,425	147	1,120	-	10,562	13	-	13
You Are the Designer	239	73	803	-	825	(583)	-	(583)
LUXROBO Co., Ltd.	4,582	330	1,227	-	1,082	(1,521)	-	(1,521)
Leferi Inc.	6,248	405	3,385	905	11,720	762	-	762
Deleo Korea Co.,Ltd.	6,073	1,659	524	-	1,458	(2,058)	-	(2,058)
Tangram Factory	2,062	129	434	4	854	(229)	-	(229)
Skelter Labs, Inc.	2,765	1,055	643	617	2,162	(3,950)	-	(3,950)
TOROOO Inc.	526	158	84	-	1	(1,275)	-	(1,275)
Dreamcide SPC Ltd.	795	-	803	-	-	(16)	-	(16)
DIGISONIC Co., Ltd.	114	929	461	-	280	(86)	-	(86)
D&C MEDIA CO.,LTD.	39,228	4,545	6,181	573	32,082	5,414	-	5,414
K Cube NEO Fund	2,199	10,756	125	-	-	(1,379)	-	(1,379)
BUNJANG Corp.	2,126	120	374	1,541	7,477	1,855	-	1,855
Supergene Inc.	3,739	13	432	-	3,215	1,451	-	1,451
InnoSignal Co.,Ltd.	262	543	159	100	-	75	-	75
PoteNit Co.,Ltd.	3,167	5,311	4,339	6,857	970	(5,091)	-	(5,091)

Kakao Corp. and Subsidiaries
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(in millions of Korean won)

	2018							
	Current asset	Non-current asset	Current liability	Non-current liability	Revenue	Profit (loss)	Other comprehensive income (loss)	Comprehensive income (loss)
Doctorbrain SPC Ltd.	888	-	904	-	-	(20)	-	(20)
CLAIR, Inc.	7,350	4,734	1,538	1,891	9,124	137	-	137
KIF-Kakao Wooribank Technology Financing Fund	11,431	27,089	248	-	229	(1,179)	-	(1,179)
13MILE.CO.LTD ¹	1,502	201	629	404	487	(1,853)	-	(1,853)
ADSOTA CORP. ¹	1,978	77	512	-	1,252	510	-	510
CARDOC Inc. ¹	4,799	1,462	3,703	4	6,536	(2,462)	-	(2,462)
Kakao Kids (formerly, BLUEPIN Inc.) ¹	29,701	3,209	1,189	46	4,470	13,196	-	13,196
Action Square Co., Ltd. ¹	15,481	7,854	5,090	4,497	7,471	(9,556)	-	(9,556)
NOWBUSKING COMPANY ¹	3,529	171	116	103	502	(1,700)	-	(1,700)
LINE WORK Corp. ¹	2,174	26	17	114	425	85	-	85
CHEQUER Inc. ¹	145	220	51	-	111	(201)	-	(201)
HASYS ¹	7,615	2,210	1,229	2,899	9,720	(399)	21	(378)
mycelebs ¹	4,566	122	9,795	344	692	(4,786)	-	(4,786)
DAIWAON. C. I. INC ¹	16,919	391	6,054	63	34,956	3,259	(25)	3,234
Haksan Publinshing Co.Ltd. ¹	24,534	3,977	7,037	3,385	28,377	2,425	-	2,425
peoplefund ¹	816	6,847	904	2,253	5,351	(5,735)	-	(5,735)
SEOUL MEDIA.INC. ¹	16,183	201	2,113	785	9,925	136	-	136
Allstay Co.,LTD ¹	270	92	380	-	-	-	-	-
UBCARE CO., LTD. ¹	75,808	39,444	9,783	2,445	63,758	4,682	-	4,682
Others (63 companies)	90,813	50,746	37,000	10,469	50,756	(68,020)	(451)	(68,471)
	1,003,477	304,297	485,330	53,825	853,995	52,070	(606)	51,464
Joint venture								
DAUM KAKAO PHILIPPINES CORP.	8,213	-	7	-	-	(24)	-	(24)
	₩ 1,011,690	₩ 304,297	₩ 485,337	₩ 53,825	₩ 853,995	₩ 52,046	₩ (606)	₩ 51,440

¹ The above table represents financial information since the acquisition date, respectively.

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	2017							
	Current asset	Non-current asset	Current liability	Non-current liability	Revenue	Profit (loss)	Other comprehensive income (loss)	Comprehensive income (loss)
Adcredit	₩ 698	₩ 81	₩ 261	₩ -	₩ 1,473	₩ 129	₩ -	₩ 129
DMS Network, Inc.	272	543	1	280	200	39	-	39
Tapas Media, Inc.	2,662	83	37	-	738	(2,339)	-	(2,339)
NBT Inc.	14,631	10,449	6,938	-	35,576	2,476	-	2,476
DAUM Venture Fund	2,081	21,797	293	-	2,578	1,662	-	1,662
Dunamu Inc.	1,239,019	18,946	1,123,404	1,894	211,426	109,327	-	109,327
Oscar Entertainment	166	1,273	561	133	1,949	(211)	-	(211)
CNT TECH CO.,LTD.	10,184	20,334	3,455	4,797	18,423	140	-	140
Korea Credit Data	3,856	373	27	-	12	(295)	-	(295)
MannaCEA	13,441	5,089	4,225	390	6,042	(3,545)	(10)	(3,555)
NeoBazar	1,076	1,272	69	75	154	(352)	-	(352)
Left Right Co., Ltd.	165	2	8	-	12	(202)	-	(202)
SCI VENTURE INC.	5,062	1,213	4,789	-	28,480	554	-	554
SONNORI CORP.	411	790	1,788	228	899	(3,094)	-	(3,094)
JOH&Company	4,229	12,657	328	7,233	6,771	(2,872)	-	(2,872)
You Are the Designer	239	73	803	-	825	(583)	-	(583)
LUXROBO Co., Ltd. ¹	5,360	202	2,329	45	174	(107)	-	(107)
Leferi Inc. ¹	1,919	385	596	148	4,567	(946)	-	(946)
Deleo Korea Co.,Ltd.	7,795	679	1,201	-	2,474	(1,063)	-	(1,063)
Tangram Factory	1,917	131	109	-	374	(431)	-	(431)
Skelter Labs, Inc. ¹	2,569	804	488	244	394	(2,040)	-	(2,040)
TOROOO Inc. ¹	1,830	241	16	-	-	(300)	-	(300)
Dreamcide SPC Ltd. ¹	810	-	802	-	-	(3)	-	(3)
DIGISONIC Co., Ltd. ¹	94	833	286	-	57	(280)	-	(280)
D&C MEDIA CO.,LTD. ¹	33,020	2,713	3,309	466	13,675	2,314	-	2,314
K Cube NEO Fund ¹	320	4,516	127	127	13	(241)	-	(241)
BUNJANG Corp. ¹	1,739	4,024	757	2,771	1,370	142	-	142
Supergene Inc. ¹	1,957	18	104	-	473	(22)	-	(22)
InnoSignal Co.,Ltd. ¹	37	249	142	100	-	(56)	-	(56)
PoteNit Co.,Ltd. ¹	3,269	3,661	2,924	128	-	-	-	-

Kakao Corp. and Subsidiaries
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(in millions of Korean won)

	2017							
	Current asset	Non-current asset	Current liability	Non-current liability	Revenue	Profit (loss)	Other comprehensive income (loss)	Comprehensive income (loss)
Doctorbrain SPC Ltd. ¹	410	-	406	-	-	(6)	-	(6)
CLAIR, Inc. ¹	2,584	2,227	1,123	140	-	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	13,207	2,000	75	-	-	-	-	-
Others (60 companies)								
	<u>61,002</u>	<u>30,483</u>	<u>29,451</u>	<u>8,937</u>	<u>32,514</u>	<u>(48,669)</u>	<u>-</u>	<u>(48,669)</u>
Joint venture								
DAUM KAKAO PHILIPPINES CORP.	8,232	-	1	-	-	(9)	-	(9)
	<u>₩ 1,446,264</u>	<u>₩ 148,141</u>	<u>₩ 1,191,234</u>	<u>₩ 28,136</u>	<u>₩ 371,640</u>	<u>₩ 49,117</u>	<u>₩ (10)</u>	<u>₩ 49,107</u>

¹ The above table represents financial information since the acquisition date, respectively.

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17. Property and Equipment

Changes in property and equipment for the years ended December 31, 2018 and 2017 are as follows:

(in millions of Korean won)

(in millions of Korean won)

	2018															
	Land		Buildings ¹		Structures		Machinery and equipment		Vehicles		Furniture		Construction in progress		Total	
Beginning balance	₩	57,220	₩	53,771	₩	215	₩	119,162	₩	520	₩	38,423	₩	1,733	₩	271,044
Acquisition		8		1,040		567		59,707		825		35,155		3,891		101,193
Changes in scope of consolidation		(28)		10,029		18		1,285		878		3,506		3,890		19,578
Disposals ¹		-		(9,501)		(6)		(509)		(95)		(1,224)		-		(11,335)
Depreciation		-		(1,619)		(39)		(47,279)		(52)		(18,661)		-		(67,650)
Transfer		33		1,559		-		6		(150)		3,819		(3,191)		2,077
Currency translation effects		-		(11)		(3)		-		(80)		-		-		(95)
Ending balance	₩	57,233	₩	55,268	₩	752	₩	132,372	₩	1,845	₩	61,019	₩	6,324	₩	314,812
December 31, 2018																
Acquisition cost	₩	57,233	₩	61,740	₩	847	₩	300,936	₩	3,166	₩	119,165	₩	6,324	₩	549,411
Government grants		-		-		-		(28)		-		(286)		-		(314)
Accumulated depreciation		-		(6,473)		(95)		(168,536)		(1,321)		(57,860)		-		(234,285)
Net book value	₩	57,233	₩	55,268	₩	752	₩	132,372	₩	1,845	₩	61,019	₩	6,324	₩	314,812

¹ As at December 31, 2018 and 2017, the Company does not own an investment property, and acquisition and disposal transactions in relation to an investment property occurred in 2018 are included in changes in buildings.

Kakao Corp. and Subsidiaries
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(in millions of Korean won)

(in millions of Korean won)

	2017															
	Land		Buildings		Structures		Machinery and equipment		Vehicles		Furniture		Construction in progress		Total	
Beginning balance	₩	56,589	₩	53,157	₩	225	₩	109,916	₩	452	₩	33,515	₩	-	₩	253,854
Acquisition		100		1,740		-		53,712		118		14,560		6,383		76,613
Changes in scope of consolidation		1,786		1,131		49		47		176		1,137		-		4,327
Disposals		(1,255)		(635)		(28)		(329)		(31)		(734)		-		(3,011)
Depreciation		-		(1,622)		(31)		(44,156)		(195)		(14,728)		-		(60,733)
Transfer		-		-		-		(58)		-		4,707		(4,649)		-
Currency translation effects		-		-		-		30		(1)		(34)		-		(5)
Ending balance	₩	57,220	₩	53,771	₩	215	₩	119,162	₩	520	₩	38,423	₩	1,733	₩	271,044
December 31, 2017																
Acquisition cost	₩	57,220	₩	58,830	₩	280	₩	251,337	₩	1,389	₩	83,525	₩	1,733	₩	454,315
Government grants		-		-		-		(42)		-		(279)		-		(321)
Accumulated depreciation		-		(5,060)		(65)		(132,133)		(869)		(44,823)		-		(182,950)
Net book value	₩	57,220	₩	53,771	₩	215	₩	119,162	₩	520	₩	38,423	₩	1,733	₩	271,044

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The Company leases some buildings under non-cancellable operating lease agreements. The lease payments recognized as expenses for the year ended December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	<u>2018</u>	<u>2017</u>
Minimum lease payments	₩ 25,613	₩ 19,074

Total minimum lease payments in relation to non-cancellable operating leases that are payable after December 31, 2018 are as follows:

<i>(in millions of Korean won)</i>	<u>2018</u>
Within one year	₩ 22,658
Later than one year but not later than five years	87,682
Over 5 years	29,668
	<u>₩ 140,007</u>

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18. Intangible Assets

Changes in intangible assets for the years ended December 31, 2018 and 2017 are as follows:

(in millions of Korean won)

	2018						
	Goodwill ¹	Development costs ²	Industrial property rights ²	Exclusive rights ²	Membership / Brand ²	Other intangible assets ^{2,3}	Total
Beginning balance	₩ 3,020,579	₩ 16,231	₩ 37,187	₩ 6,500	₩ 350,404	₩ 258,681	₩ 3,689,582
Acquisition	-	519	442	4,328	7,493	45,400	58,183
Transfer	-	-	-	-	-	214	214
Changes in scope of consolidation	162,782	2,338	8,936	300	-	29,759	204,115
Disposal	(7,102)	(2,579)	-	(413)	(1,022)	(1,734)	(12,850)
Amortization	-	(5,769)	(5,261)	(3,194)	-	(53,154)	(67,379)
Impairment	(898)	(1,872)	(1,901)	(133)	(1)	(3,514)	(8,320)
Other	251	(7)	64	-	-	1,411	1,719
Ending balance	₩ 3,175,610	₩ 8,861	₩ 39,467	₩ 7,388	₩ 356,875	₩ 277,064	₩ 3,865,265
December 31, 2018							
Acquisition cost	₩ 3,194,834	₩ 23,991	₩ 44,071	₩ 8,752	₩ 356,875	₩ 358,336	₩ 3,986,859
Accumulated amortization	-	(13,247)	(3,094)	(1,364)	-	(79,120)	(96,826)
Government grants	-	(5)	(1)	-	-	(2)	(8)
Accumulated impairment	(19,223)	(1,878)	(1,509)	-	-	(2,151)	(24,761)
Net book value	₩ 3,175,610	₩ 8,861	₩ 39,467	₩ 7,388	₩ 356,875	₩ 277,064	₩ 3,865,265

¹ The impairment loss on goodwill is recognized for Nylon Korea Media and certain other subsidiaries, as the recoverable amount decreased and became less than the carrying amount due to slump in sales and etc.

² The impairment loss on intangible assets is recognized from PATH MOBILE INC. PTE. LTD. and certain other subsidiaries. The Company estimated the recoverable amount as at December 31, 2018, and recognized the difference between the recoverable amount and its book value as impairment loss considering limited future economic benefit from the projects being developed.

³ As at December 31, 2018, the Company owns marketable cryptocurrency of ₩ 2,053 million and non-marketable cryptocurrency of ₩ 4,721 million.

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(in millions of Korean won)

	2017						
	Goodwill ¹	Development costs ²	Industrial property rights ²	Exclusive rights	Membership / Brand ²	Other intangible assets ²	Total
Beginning balance	₩ 3,033,058	₩ 23,498	₩ 29,617	₩ 8,404	₩ 349,595	₩ 288,992	₩ 3,733,166
Acquisition	-	108	439	754	1,809	27,062	30,171
Transfer	-	-	-	1,200	-	(150)	1,050
Changes in scope of consolidation	28,042	578	12,629	-	-	7,326	48,575
Disposal	-	(313)	(131)	-	(451)	(148)	(1,043)
Amortization	-	(7,173)	(4,357)	(3,858)	-	(53,697)	(69,085)
Impairment	(39,589)	(374)	(940)	-	(549)	(10,785)	(52,238)
Other	(932)	(92)	(71)	-	-	81	(1,015)
Ending balance	₩ 3,020,579	₩ 16,231	₩ 37,187	₩ 6,500	₩ 350,404	₩ 258,681	₩ 3,689,582
December 31, 2017							
Acquisition cost	₩ 3,071,612	₩ 42,031	₩ 51,562	₩ 13,320	₩ 350,954	₩ 393,861	₩ 3,923,340
Accumulated amortization	-	(19,369)	(13,206)	(6,690)	-	(119,589)	(158,854)
Government grants	-	-	(1)	-	-	(4)	(6)
Accumulated impairment	(51,033)	(6,431)	(1,168)	-	(549)	(15,586)	(74,767)
Other	-	-	-	(131)	-	-	(131)
Net book value	₩ 3,020,579	₩ 16,231	₩ 37,187	₩ 6,500	₩ 350,404	₩ 258,681	₩ 3,689,582

¹ The impairment loss on goodwill is recognized for PATH MOBILE INC.PTE.LTD. and certain other subsidiaries, as the recoverable amount decreased and became less than the carrying amount due to slump in sales and etc..

² The impairment loss on other intangible assets is recognized from BLUEPIN INC. and certain other subsidiaries. The Company estimated the recoverable amount as at December 31, 2017, and recognized the difference between the recoverable amount and its book value as impairment loss considering limited future economic benefit from the projects being developed.

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The following is a summary of goodwill allocation for cash generating units ("CGU"s) operated by management as at December 31, 2018:

<i>(in millions of Korean won)</i>	Amount	
Internet portal service and other service	₩	1,080,385
Music service		1,221,284
Other mobile service		261,858
Game business		41,461
Commerce service		277,901
Entertainment service		292,722
	₩	3,175,610

The Company annually tests impairment of its goodwill. The recoverable amounts of CGU or CGUs have been determined based on value-in-use calculations. The Company has estimated that the book values of CGU or CGUs other than CGU or CGUs related to game business and others will be less than their recoverable amounts. These calculations use pre-tax cash flow projections based on financial budgets approved by management. Cash flows are estimated using the estimated growth rates stated below. The growth rate during this period and the permanent growth rate surpassing the period does not exceed long-term average growth rate of the business. The key assumptions used for value-in-use calculations are as follows:

	Internet portal service and other service¹	Music Service²	Other mobile service, game business, commerce service, other contents service, entertainment service and others
Operating income rate	8.8% ~ 19.8%	18.7% ~ 20.3%	1.5% ~ 22.54%
Revenue growth rate	6.5% ~ 20.3%	11.0% ~ 39.3%	3.9% ~ 44.0%
Perpetual growth rate	2.0%	2.0%	1.0%
After-tax discount rate	10.6%	9.1%	9.1% ~ 17.2%

As a result of the impairment test of CGUs of other mobile service, game business and others, the Company recognized ₩ 898 million of impairment loss in relation to some subsidiaries for the year ended December 31, 2018.

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 4.5%.

If after-tax discount rate applied to the estimation is higher than the management's estimate by 1%, the recoverable amount will decrease by 11.4%.

² 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 5.2%.

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If after-tax discount rate applied to the estimation is higher than the management's estimate by 1%, the recoverable amount will decrease by 12.5%.

19. Borrowings

Short-term borrowings as at December 31, 2018 and 2017, are as follows:

(in millions of Korean won)

Classification	Lender	Interest rate as at December 31, 2018	2018	2017
Current portion of long-term borrowings ¹	7 th non-guarantee public bonds	-	₩ -	₩ 170,000
	8 th non-guarantee public bonds	2.08%	50,000	-
	9-1 st non-guarantee public bonds	1.97%	60,000	-
	Discount on issuance of bonds		(28)	(170)
	Net		109,972	169,830
Convertible bonds ²	10 th non-guarantee private convertible bonds	-	241,000	-
	Discount on issuance of bonds		(552)	-
	Net		240,448	-
Exchangeable bonds ^{2,3}	11 th guaranteed private convertible bonds	-	230,000	-
	Discount on issuance of bonds		(1,524)	-
	Net		228,476	-
Loans for operation capital	KB Kookmin Bank	2.30%	20,000	-
Facility loan	Woori Bank	2.94%	1,000	-
Facility loan	Woori Bank	3.06%	4,000	-
Loans for operation capital	Employees of subsidiaries	4.60%	190	45
Loans for operation capital	Woori Bank and others	2.31~6.50%	3,937	-
Bank loans for small and medium enterprises	Small & medium Business Cooperation	-	-	13
Bank loans for technology creation enterprises	Shinhan Bank	-	-	100
Bank loans for technology creation enterprises	Shinhan Bank	-	-	100
General loans for enterprises	Shinhan Bank	-	-	50
Redeemable convertible preferred shares	Preferred shareholders		1,457	4,236
			₩ 609,480	₩ 174,372

¹ Reclassified to short-term borrowings as the maturity as at the year end has reached within a year.

² Reclassified as short-term borrowings as the period of early redemption right is within a year as at the year ended December 31, 2018.

³ As a subsidiary (Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.) merged with the Company during 2018, shares are subject to exchange from ordinary shares of Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.), to ordinary shares of the Parent Company, and exchangeable bonds became convertible bonds.

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Long-term borrowings and corporate bonds as at December 31, 2018 and 2017, are as follows:

(in millions of Korean won)

Classification	Lender	Interest rate as at December 31, 2018	2018	2017
Bonds	Private offering (8 th non-guaranteed private bonds) ¹	-	₩ -	₩ 50,000
	Public offering (9-1 th non-guaranteed public bonds) ¹	-	-	60,000
	Public offering (9-2 th non-guaranteed public bonds)	2.30%	40,000	40,000
	Less: Discount on issuance of bonds		(61)	(223)
			39,939	149,777
Convertible bonds ²	Private offering (10 th non-guaranteed private convertible bonds)	-	-	244,000
	Less: Discount on issuance of bonds		-	(803)
			-	243,197
Exchangeable bonds ²	Private offering (11 th US dollar-settled zero coupon guaranteed exchangeable bonds denominated in Korean won)	-	-	230,000
	Less: Discount on issuance of bonds		-	(2,166)
	Net		-	227,834
Long-term borrowings	THE KUMAMOTO DAI-ICHI SHINKIN BANK	2.00~4.30%	1,574	-
	Shinhan Bank	3.69%	500	-
	Industrial Bank of Korea	1.60%	500	-
	Shinhan Bank and others	0.50~5.00%	99	-
Redeemable convertible preferred shares	Preferred shareholders		2,384	-
			₩ 44,995	₩ 620,808

¹ Reclassified to short-term borrowings as the maturity as at the year end has reached within a year.

² Reclassified as short-term borrowings as the period of early redemption right is within a year as at the year ended December 31, 2018..

Movements in the borrowings for the years ended December 31, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018	2017
Beginning balance	₩ 795,180	₩ 999,868
Changes in scope of consolidation	13,147	6,483
Additions	41,040	452,163
Repayments	(177,161)	(654,188)
Conversion and others	(19,831)	(11,006)
Amortization of present value discounts	2,100	1,860
Beginning balance	₩ 654,475	₩ 795,180

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Details of redeemable convertible preferred shares¹ issued by two subsidiaries as at December 31, 2018, are as follows:

	Issuer	
	Friendsgames Co.,Ltd.	Kakao VX
Date of issue	April 24, 2018	October 4, 2018/ December 3, 2018
Value at issue (<i>in millions of Korean won</i>)	₩ 7,000	₩ 7,996
Dividend rate for preferred shares	1% of issue value	1% of issue value
Guaranteed yield upon redemption	8%	0%
Conversion period	From the day after issuance date to the day before 10 years from issuance date	From the issuance date to the day of 10 years from issuance date
Conversion rate	1 preferred share for 1 ordinary share : adjustable if (based on) a) IPO price	1 preferred share for 1 ordinary share : adjustable if (based on) a) IPO price
Redemption period	Redeemable from one year after issuance date	Redeemable from the next day of issuance date

¹ As at December 31, 2018, 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 ₩ 13,916 million are separately recognized.

Other than the above redeemable convertible preferred shares, KIWI PLUS, a subsidiary, has issued three redeemable convertible preferred shares as at December 31, 2018 and they are recognized as ₩ 1,457 million of short-term borrowings and ₩ 429 million of long-term borrowings, separately.

Details of convertible bonds issued by the Parent Company are as follows:

		Detail
Type		10 th non-guaranteed private convertible bonds
Principal amount		₩ 241,000 million
Interest rate	Coupon rate	0%
	Yield rate	0%
Date of maturity		April 14, 2021
Redemption at maturity		The bonds to be redeemed at their principal amount with 0% of yield to maturity on the maturity date
Conversion details	Conversion ratio	100%
	Conversion price	₩ 118,786 (per share)
	Conversion to	Ordinary shares of Kakao Corp.
	Conversion period	From and including April 14, 2017 up to and including March 14, 2021
	Conversion price adjustments	Adjusted in accordance with the agreement in the event of any occasions prescribed in the agreement such as capital increase with/without consideration and others

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Investor's redemption right (Put Option)	Bondholders may claim early redemption before the maturity date for either entire or partial amount of principal on every April 14th starting from 2019, three years after the issuance date.
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The entire amount of financial instruments was accounted for liability as the event of default of the convertible bonds is considered contingent settlement provisions. During 2018, convertible bond of ₩ 2,990 million (principal amount of ₩ 3,000 million) has been converted into ordinary shares (Note 25).

Details of exchangeable bonds issued by the Parent Company are as follows:

		Details
Type	11 th US dollar-settled zero coupon guaranteed exchangeable bonds denominated in Korean won	
Principal amount	₩ 230,000 million	
Interest rate	Coupon rate	0%
	Yield rate	0%
Date of maturity	May 11, 2021	
Redemption	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 detail	Exchange ratio	100%
	Exchange price	₩ 128,386 (per share)
	Exchange into	Shares of ordinary share, par value ₩ 500 per share, of LOEN ENTERTAINMENT, INC., which are listed on the KRX KOSDAQ Market
	Exchange period	From and including June 21, 2016 up to and including April 30, 2021
	Exchange price adjustments	Subject to adjustment in certain circumstances as described in the agreement such as capital increase with/without consideration, cash dividends on the share of LOEN ENTERTAINMENT, INC. and others
Redemption at the option of the bondholders (Put Option)	Until and unless previously redeemed, repurchased and cancelled, or exchanged, on May 11, 2019, 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: <ul style="list-style-type: none"> - a change of control occurs with respect to LOEN ENTERTAINMENT, INC., 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 on the KRX KOSDAQ Market 	
Redemption at the option of the issuer (Call Option)	The Company may, at its option at any time on or after May 11, 2019, 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	

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	<p>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:</p> <ul style="list-style-type: none"> - 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
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The entire amount of financial instruments was accounted for liability as the event of default of the exchangeable bonds is considered contingent settlement provisions. As a subsidiary (Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.) merged with the Company during 2018, shares are subject to exchange from ordinary shares of Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.), to ordinary shares of the Parent Company.

As at December 31, 2018, the Company has received payment guarantees from KB Kookmin Bank for the exchangeable bonds. In connection with the said payment guarantees, ordinary shares of Kakao M Corp. (formerly, LOEN ENTERTAINMENT INC.) held by the Parent Company and the stock return rights for the remaining shares subject to exchange were provided as collateral. However, assets provided as collateral have been changed to time deposits of the Company amounting to ₩ 239,600 million due to merger with Kakao M Corp. (formerly, LOEN ENTERTAINMENT INC) in 2018. In addition, 1,791,466 treasury shares required for the exchange are deposited at Korea Securities Depository.

The Company has been provided the guarantee by two financial institutions including Korea Technology Finance Corporation in relation to the borrowings above (Notes 36).

20. Net Defined Benefit Liabilities

Net defined benefit liabilities recognized in the consolidated statements of financial position as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>		2018		2017
Present value of funded defined benefit obligation	₩	102,630	₩	85,720
Fair value of plan assets		(99,808)		(83,757)
Liability in the consolidated statements of financial position	₩	2,822	₩	1,963

Changes in the defined benefit obligations for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>		2018		2017
Beginning balance	₩	85,720	₩	65,125
Increase due to change in scope of consolidation		4,836		2,029
Current service cost		28,363		23,305
Interest cost		2,484		1,722

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Remeasurement	2,767	2,776
Benefits paid	(21,542)	(9,236)
Others	4	-
Ending balance	<u>₩ 102,630</u>	<u>₩ 85,720</u>

Changes in the fair value of plan assets for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Beginning balance	₩ 83,757	₩ 63,685
Increase due to change in scope of consolidation	2,793	495
Interest income	2,237	1,673
Contribution	29,542	26,558
Payments from plans	(17,755)	(8,050)
Remeasurement:		
Actuarial loss	(769)	(603)
Others	3	-
Ending balance	<u>₩ 99,808</u>	<u>₩ 83,757</u>

The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Current service cost	₩ 28,363	₩ 23,305
Net interest cost	246	49
	<u>₩ 28,609</u>	<u>₩ 23,354</u>

Total service cost from defined benefit plan amounting to ₩ 28,609 million and ₩ 23,354 million is included in operating expenses for the years ended December 31, 2018 and 2017, respectively. In addition, total service cost from defined contribution plan was ₩ 1,787 million and ₩ 2,669 million for the years ended December 31, 2018 and 2017, respectively.

Principal assumptions on actuarial valuation as at December 31, 2018 and 2017 are as follows:

	2018	2017
Discount rate	2.3% ~ 3.9%	2.3% ~ 4.2%
Salary growth rate	4.5% ~ 7.5%	5.0% ~ 7.5%

The sensitivity analysis of the defined benefit obligations as at December 31, 2018 to changes in the weighted principal assumptions is:

Effect on defined benefit obligations			
	Changes in principal assumption	Increase in principal assumption	Decrease in principal assumption
Discount rate	1%	5.55% decrease	6.43% increase
Salary growth rate	1%	6.30% increase	5.37% decrease

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The Company 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.

Plan assets as at December 31, 2018 and 2017 consist of the following:

<i>(in millions of Korean won)</i>	2018	2017
Equity linked bond	₩ 17,967	₩ 16,585
Time deposits	20,381	9,846
Debt instruments	372	8,494
Financial instruments with fixed rate	46,472	40,595
Interest guarantee insurance	11,068	2,921
Others	3,548	5,314
	<u>₩ 99,808</u>	<u>₩ 83,757</u>

21. Other Long-term Employee Benefits Liabilities

Changes in other long-term employee benefits liabilities for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Beginning balance	₩ 32,015	₩ 28,220
Increase due to change in scope of consolidation	150	-
Current service cost	10,354	9,951
Interest cost	837	637
Remeasurement of the benefit liabilities	(163)	(3,218)
Benefits paid	(2,026)	(3,535)
Others	(1,011)	(41)
Ending balance	<u>₩ 40,156</u>	<u>₩ 32,015</u>

The amounts recognized on the consolidated statements of comprehensive income for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Current service cost	₩ 10,354	₩ 9,951
Interest cost	837	637

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Remeasurement of the benefit liabilities	(163)	(3,218)
	₩ 11,028	₩ 7,370

Principal assumptions on actuarial valuation in relation to other long-term employee benefits liabilities for the years ended December 31, 2018 and 2017 are as follows:

	2018	2017
Discount rate	2.2% ~ 3.2%	2.3% ~ 3.4%
Salary growth rate	4.0% ~ 7.5%	4.5% ~ 7.5%

22. Income Tax Expense and Deferred Tax

Income tax expense for the years ended December 31, 2018 and 2017 consists of:

<i>(in millions of Korean won)</i>	2018	2017
Current tax:		
Current tax on profit for the year	₩ 106,077	₩ 78,863
Adjustments due to changes in estimates related to prior years	(3,692)	(51,203)
	<u>102,385</u>	<u>27,660</u>
Deferred tax:		
Changes in temporary differences	(29,624)	(659)
Changes in accounting policies	(665)	-
Increase (decrease) in temporary differences due to change in scope of consolidation	(4,402)	-
Deferred tax charged or credited directly to equity	47,087	1,203
	<u>12,396</u>	<u>544</u>
Income tax expense	<u>₩ 114,781</u>	<u>₩ 28,204</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, 2018 and 2017 follows:

<i>(in millions of Korean won)</i>	2018	2017
Profit before income tax	₩ 130,670	₩ 153,298
Income tax expense computed at statutory tax rate	31,622	36,636
Adjustments:		
Non-taxable income	(1,874)	(14,116)
Non-deductible expenses	28,880	4,867
Changes in valuation allowance of deferred income tax asset	51,467	47,625
Adjustments due to changes in estimates related to prior years	(3,692)	(51,203)
Non-refundable tax	11,478	7,551
Tax credits	(3,099)	(3,156)
Income tax expense	<u>₩ 114,781</u>	<u>₩ 28,204</u>

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Income tax effects related to components of other comprehensive income (expenses) for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018		
	Before tax	Tax effect	After tax
Other comprehensive income (expense):			
Gain on valuation of available-for-sale securities	₩ -	₩ -	₩ -
Gain on valuation of equity instruments at fair value through other comprehensive income	9,064	(2,193)	6,870
Gain on valuation of debt instruments at fair value through other comprehensive income	187	(45)	142
Remeasurement of the net defined benefit liabilities	(3,535)	856	(2,680)
Share of other comprehensive income of associates	(48)	12	(36)
	<u>₩ 5,668</u>	<u>₩ (1,372)</u>	<u>₩ 4,296</u>

<i>(in millions of Korean won)</i>	2017		
	Before tax	Tax effect	After tax
Other comprehensive income (expense):			
Gain on valuation of available-for-sale securities	₩ (1)	₩ -	₩ (1)
Gain on valuation of equity instruments at fair value through other comprehensive income	-	-	-
Gain on valuation of debt instruments at fair value through other comprehensive income	-	-	-
Remeasurement of the net defined benefit liabilities	(3,378)	817	(2,561)
Share of other comprehensive income of associates	(1,188)	385	(803)
	<u>₩ (4,567)</u>	<u>₩ 1,203</u>	<u>₩ (3,364)</u>

The aggregate current and deferred tax relating to items that are reflected directly to equity for the years ended December 31, 2018 and 2017, is as follows:

<i>(in millions of Korean won)</i>	2018		
	Before tax	Tax effect	After tax
Other reserves:			
Goodwill (investment in kind)	₩ 220,270	₩ (48,459)	₩ 171,811

<i>(in millions of Korean won)</i>	2017		
	Before tax	Tax effect	After tax
Other reserves:			
Goodwill (investment in kind)	₩ -	₩ -	₩ -

Deferred tax assets (liabilities) recognized in the consolidated statements of financial position as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Deferred tax assets		
Deferred tax assets to be recovered after more than 12 months	₩ 119,614	₩ 58,900
Deferred tax assets to be recovered within 12 months	30,490	21,937
	<u>150,104</u>	<u>80,836</u>

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Deferred tax liabilities		
Deferred tax liabilities to be settled after more than 12 months	(235,077)	(193,308)
Deferred tax liabilities to be settled within 12 months	(10,540)	(12,665)
	<u>(245,617)</u>	<u>(205,973)</u>
Deferred tax liabilities, net	<u>₩ (95,513)</u>	<u>₩ (125,136)</u>

The gross movement in the deferred tax assets (liabilities) for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Beginning balance	₩ (125,136)	₩ (124,891)
Changes in accounting policies	(665)	-
Changes in scope of consolidation	(4,402)	(904)
Deferred income tax charged to profit or loss	(12,396)	(544)
Deferred income tax charged to other comprehensive income	<u>(1,372)</u>	<u>1,203</u>
Deferred income tax charged to other equity	48,459	-
Ending balance	<u>₩ (95,513)</u>	<u>₩ (125,136)</u>

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Changes in deferred income tax assets and liabilities for the years ended December 31, 2018 and 2017 without taking into consideration the offsetting of balances within the same tax jurisdiction are as follows:

(in millions of
Korean won)

	2018						
	Beginning balance	Changes in accounting policies	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Deferred tax liabilities							
Accrued revenue	₩ (614)	₩ -	₩ -	₩ (1,461)	₩ -	₩ -	₩ (2,074)
Property and equipment	(5,824)	-	-	(678)	-	-	(6,502)
Intangible assets	(154,345)	-	(3,370)	(11,045)	-	-	(168,760)
Non-trade receivables	(4,408)	-	-	-	-	-	(4,408)
Available-for-sale securities	(2,107)	2,107	-	-	-	-	-
Financial assets at fair value through profit or loss	-	(1,088)	-	(5,445)	-	-	(6,533)
Financial assets at fair value through other comprehensive income	-	(1,019)	(1,032)	-	(1,206)	-	(3,258)
Plan assets	(18,527)	-	-	(5,907)	-	-	(24,434)
Treasury shares	(85)	-	-	85	-	-	-
Non-refundable tax	(7,644)	-	-	(822)	-	-	(8,466)
Others	(12,421)	(665)	-	(8,098)	-	-	(21,184)
	<u>(205,973)</u>	<u>(665)</u>	<u>(4,402)</u>	<u>(33,371)</u>	<u>(1,206)</u>	<u>-</u>	<u>(245,617)</u>
Deferred tax assets							
Property and equipment	3,103	-	-	(48)	-	-	3,055
Advances from customers	1,794	-	-	4,558	-	-	6,352
Intangible assets	1,910	-	-	1,541	-	-	3,451
Allowance for doubtful accounts	3,164	-	-	3,772	-	-	6,936
Investments in associates	10,850	-	-	(674)	12	-	10,188

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Korean won)

	2018						
	Beginning balance	Changes in accounting policies	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Other equity	Ending balance
Other payables	11,072	-	-	3,872	-	-	14,945
Provisions	1,043	-	-	559	-	-	1,602
Government grants	52	-	-	119	-	-	171
Defined benefit liabilities	17,863	-	-	4,469	856	-	23,188
Other long-term employee benefits liabilities	6,988	-	-	8,460	-	-	15,447
Available-for-sale securities	4,575	(4,575)	-	-	-	-	-
Financial assets at fair value through profit or loss	-	2,363	-	(1,175)	-	-	1,188
Financial assets at fair value through other comprehensive income	-	2,212	-	-	(1,032)	-	1,180
Derivative instruments	5,854	-	-	(3,597)	-	-	2,257
Goodwill (investment in kind)	-	-	-	-	-	48,459	48,459
Others	12,567	-	-	(882)	-	-	11,686
	80,836	-	-	20,974	(165)	48,459	150,104
Deferred tax assets (liabilities), net	₩ (125,136)	₩ (665)	₩ (4,402)	₩ (12,396)	₩ (1,372)	₩ 48,459	₩ (95,513)

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	2017				
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Ending balance
Deferred tax liabilities					
Accrued revenue	₩ (493)	₩ -	₩ (121)	₩ -	₩ (614)
Property and equipment	(5,824)	-	-	-	(5,824)
Intangible assets	(152,280)	(904)	(1,161)	-	(154,345)
Non-trade receivables	(4,408)	-	-	-	(4,408)
Available-for-sale securities	(1,492)	-	(615)	-	(2,107)
Plan assets	(14,257)	-	(4,269)	-	(18,527)
Treasury shares	(85)	-	-	-	(85)
Non-refundable tax	(1,169)	-	(6,475)	-	(7,644)
Others	(5,703)	-	(6,718)	-	(12,421)
	<u>(185,709)</u>	<u>(904)</u>	<u>(19,359)</u>	<u>-</u>	<u>(205,973)</u>
Deferred tax assets					
Property and equipment	11	-	3,092	-	3,103
Advances from customers	2,326	-	(532)	-	1,794
Intangible assets	1,908	-	2	-	1,910
Allowance for doubtful accounts	11,156	-	(7,992)	-	3,164
Investments in associates	4,627	-	6,223	-	10,850
Other payables	6,599	-	4,474	-	11,072
Provisions	1,177	-	(134)	-	1,043
Government grants	103	-	(51)	-	52
Defined benefit liabilities	14,371	-	2,674	817	17,863
Other long-term employee benefits liabilities	6,848	-	139	-	6,988
Available-for-sale securities	2,091	-	2,484	-	4,575
Derivative instruments	-	-	5,854	-	5,854
Others	9,600	-	2,582	385	12,567
	<u>60,818</u>	<u>-</u>	<u>18,815</u>	<u>1,203</u>	<u>80,836</u>
Deferred tax assets (liabilities), net	<u>₩ (124,891)</u>	<u>₩ (904)</u>	<u>₩ (544)</u>	<u>₩ 1,203</u>	<u>₩ (125,136)</u>

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The Company did not recognize deferred income tax asset of ₩ 87,963 million and ₩ 39,986 million as at December 31, 2018 and 2017, respectively, and deferred tax liabilities of ₩ 99,466 million and ₩ 102,811 million as at December 31, 2018 and 2017 related to the investments in subsidiaries and associates considering the possibility of realization. As at December 31, 2018 and 2017, the deferred tax assets of unrecognized deductible temporary differences arising from subsidiaries' net loss carryforwards and others amount to ₩ 16,904 million and ₩ 32,929 million.

23. Provisions

Changes in provisions for the years ended December 31, 2018 and 2017 are as follows:

(in millions of Korean won)	2018					
	Current		Non-current		Total	
	Provision for mileage		Provision for restoration			
Beginning balance	₩	1,934	₩	4,211	₩	6,145
Changes in scope of consolidation		274		138		412
Increase		5,078		3,261		8,339
Decrease		(3,650)		-		(3,650)
Ending balance	₩	3,636	₩	7,611	₩	11,246

(in millions of Korean won)	2017							
	Current		Non-current			Total		
	Provision for mileage	Provision for business losses ¹	Provision for restoration					
Beginning balance	₩	1,350	₩	336	₩	3,762	₩	5,448
Changes in scope of consolidation		1,618		-		-		1,618
Increase		1,380		-		642		2,023
Decrease		(2,414)		(336)		(193)		(2,944)
Ending balance	₩	1,934	₩	-	₩	4,211	₩	6,145

¹ With regard to the stock disposal agreement with Ergo Daum Direct General Insurance Co., Ltd. as at December 31, 2017, the Company has paid ₩ 336 million during 2017 which had been recognized as provision of business losses.

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24. Derivative Financial Instruments

The carrying amounts of derivative financial assets, liabilities and commitments as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Redemption right (NBT Inc.) ¹	₩ 217	₩ 217
Option (KakaoBank of Korea Corp.) ²	957	-
Redemption right and conversion right (KRAFTON, Inc. (formerly, Bluehole Inc.)) ³	-	53,432
Total	₩ 1,174	₩ 53,650

¹ Redemption right granted to preferred shares of NBT Inc. owned by the Company with redemption exercise period from June 28, 2015 to June 28, 2023. The guaranteed yield on the redemption premium is 8% per annum.

² In relation to investments in KakaoBank of Korea Corp., agreements that hold a call option and grant a put option have been made among shareholders. (Note 36).

³ Redemption right and conversion right granted to redeemable convertible preferred shares of KRAFTON, INC. (formerly, Bluehole Inc.) owned by the Company. All redeemable convertible preferred shares were converted into ordinary shares during 2018.

<i>(in millions of Korean won)</i>	2018	2017
Redemption right and conversion right (BLUEPIN INC.) ¹	₩ -	₩ 2,254
Conversion right (Kakao VX) ²	7,601	-
Redemption right and conversion right (Friendsgames Co., Ltd.) ³	6,315	-
Total	₩ 13,916	₩ 2,254

¹ Reclassified to an associate from a subsidiary.

² Conversion right granted to Kakao VX (Note 19).

³ Redemption right and conversion right granted to Friendsgames Co.,Ltd. (Note 19).

As at December 31, 2018 and 2017, the Company recognized derivative liabilities of ₩ 13,916 million (2017: ₩ 2,254 million) for options embedded in the redeemable convertible preferred shares issued by subsidiaries.

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25. Share Capital and Share Premium

As at December 31, 2018, the Parent Company's total number of authorized shares is 150 million and the total number of issued and outstanding ordinary shares are 83,487,773 and 83,387,773, 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 Company, with the resolution of special shareholders meeting up to 15% of total number of issued stocks. As at December 31, 2018, the number of outstanding stock options is 1,936,428 shares (Note 26).

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 at December 31, 2018, the Parent Company has issued convertible bonds amounting to ₩ 241,000 million (Note 19).

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 at December 31, 2018.

Changes in share capital and additional paid-in capital during the years ended December 31, 2018 and 2017 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				
At January 1, 2017	Beginning balance	67,715,715	₩ 33,858	₩ 3,038,607	₩ 3,072,465
At January 2, 2017	Exercise of stock options	48,443	24	177	202
At February 6, 2017	Exercise of stock options	10,716	5	27	32
At March 15, 2017	Exercise of stock options	41,298	21	133	153
At April 6, 2017	Exercise of stock options	64,963	32	359	391
At August 10, 2017	Exercise of stock options	11,600	6	248	254
At September 4, 2017	Exercise of stock options	29,700	15	526	540
At September 26, 2017	Exercise of conversion right	16,664	8	1,984	1,993
At October 16, 2017	Exercise of conversion right	8,332	4	992	996
At October 23, 2017	Exercise of stock options	18,776	9	252	262
At November 10, 2017	Exercise of conversion right	16,664	8	1,985	1,993
At November 17, 2017	Exercise of stock options	6,000	3	39	42
At November 17, 2017	Exercise of conversion right	8,332	4	992	997
At December 12, 2017	Exercise of stock options	11,324	6	195	200
At December 31, 2017	Ending balance	68,008,527	34,004	3,046,516	3,080,520
At January 1, 2018	Beginning balance	68,008,527	34,004	3,046,516	3,080,520
At January 11, 2018	Exercise of stock options	52,832	26	445	472
At January 24, 2018	Issuance of global depository receipt (GDR)	8,261,731	4,131	1,046,772	1,050,902
At January 31, 2018	Exercise of conversion right	25,255	13	2,976	2,989
At February 12, 2018	Exercise of stock options	21,677	11	189	200
At March 5, 2018	Exercise of stock options	3,500	2	5	7

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<i>(in millions of Korean won, except number of shares)</i>		Number of	Share	Additional	
	Description	ordinary	capital	paid-in capital	Total
		shares			
At April 12, 2018	Exercise of stock options	6,600	3	140	143
At May 8, 2018	Exercise of stock options	5,500	3	155	158
At July 6, 2018	Exercise of stock options	500	-	6	6
At August 13, 2018	Exercise of stock options	5,667	3	77	80
At September 3, 2018	Issuance of new shares ¹	7,092,884	3,546	883,064	886,611
At September 11, 2018	Exercise of stock options	1,000	1	8	8
At October 11, 2018	Exercise of stock options	600	-	4	4
At November 9, 2018	Exercise of stock options	1,500	1	24	25
At December 31, 2018	Ending balance	83,487,773	₩ 41,744	₩ 4,980,381	₩ 5,022,125

¹ In connection with the merge with Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.), a part of the acquisition consideration was paid by issuing the Parent Company's own equity instruments.

Prior to 2014, the Parent Company retired its treasury shares of 100,000 shares 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				
	Par value		Share	
Stocks issued	(in Korean won)	Total par value	capital	Difference
83,387,773	₩ 500	₩ 41,694	₩ 41,744	₩ 50

The Parent Company merged with Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.) and issued new 4,228,304 shares (treasury shares increased by 4,228,304 shares) for some shares owned by the Parent Company and treasury shares held by Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.) and, as a result, treasury shares of the Company increased from 5,188 shares to 4,233,492 shares.

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26. Share-based compensation

Details of the Parent Company's stock options as at December 31, 2018, are as follows:

(a) Equity-settled stock option

- Type of shares issued through exercise of stock option: registered ordinary shares
- Grant method: Issuance of new ordinary shares
- Vesting period:
 - 4th - 6th tranches: The requisite service period is two years, exercisable from two to seven years after grant date.
 - 10th, 12th, 14th, 16th tranches : The requisite service period is two years, exercisable from two to seven years after grant date.
 - 9th, 11th, 13th tranches: The requisite service period is two or three years, exercisable from two or three years to seven or eight years after grant date.

(b) Cash-settled stock option

- Vesting period:
 - 3rd – 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.
 - 6th 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 seven years from grant date exceeds 150% of exercise price.

(c) 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, 21th-22th, 24th 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-20th, 23th, 25th-26th 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

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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.

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Details of the Parent Company's equity-settled stock options outstanding as at December 31, 2018, are as follows:

Tranche	Grant date	Exercise price (in Korean won)	Number of shares					Exercisable as at December 31, 2018
			Outstanding as at January 1, 2018	Granted	Forfeited	Exercised	Outstanding as at December 31, 2018	
4 th	March 25, 2011	₩ 1,607	18,277	-	-	18,277	-	-
5 th	June 10, 2011	1,607	15,900	-	-	15,900	-	-
6 th	November 11, 2011	6,428	29,244	-	-	29,244	-	-
9 th	January 20, 2012	7,714	10,000	-	-	-	10,000	10,000
10 th	March 30, 2012	10,285	2,000	-	-	-	2,000	2,000
11 th	March 30, 2012	10,285	1,000	-	-	500	500	500
12 th	August 31, 2012	12,857	24,609	-	-	18,555	6,054	6,054
13 th	August 31, 2012	12,857	9,500	-	-	7,500	2,000	2,000
14 th	December 14, 2012	12,857	11,432	-	-	-	11,432	11,432
16 th	March 28, 2013	32,143	29,342	-	-	9,400	19,942	19,942
18 th	March 2, 2017	85,350	337,500	-	35,000	-	302,500	-
19 th	March 2, 2017	85,350	526,000	-	20,000	-	506,000	-
20 th	March 17, 2017	84,650	100,000	-	-	-	100,000	-
21 st	May 2, 2017	88,600	333,500	-	36,500	-	297,000	-
22 nd	September 28, 2017	131,500	50,500	-	7,500	-	43,000	-
23 rd	September 28, 2017	131,500	15,000	-	-	-	15,000	-
24 th	August 31, 2018	123,380	-	312,000	1,000	-	311,000	-
25 th	August 31, 2018	123,380	-	190,000	-	-	190,000	-
26 th	October 31, 2018	100,580	-	120,000	-	-	120,000	-
			<u>1,513,804</u>	<u>622,000</u>	<u>100,000</u>	<u>99,376</u>	<u>1,936,428</u>	<u>51,928</u>

In addition to the aforementioned stock options, the Company granted equity-settled stock options in relation to the shares of its subsidiaries such as Kakao Page Corp. (formerly, Podotree Inc.), Kakao Games Corp., TNK Factory, Kakao Investment Co., Ltd., Kakao Makers Corp. and Kakao Mobility Corp.

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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 (in Korean won)	Stock price at grant date (in Korean won)	Expected volatility ¹	Expected dividends	Expected maturity	Risk free Interest rate
4 th	₩ 625	₩ 2,500	40%	0%	2 years	3.61%
5 th	602	2,500	38%	0%	2 years	3.61%
6 th	2,527	10,000	41%	0%	2 years	3.39%
9 th	3,981	12,000	44%	0%	3 years	3.40%
10 th	3,984	16,000	40%	0%	2 years	3.52%
11 th	5,055	16,000	41%	0%	3 years	3.55%
12 th	4,991	20,000	41%	0%	2 years	2.77%
13 th	6,090	20,000	40%	0%	3 years	2.76%
14 th	5,188	20,000	43%	0%	2 years	2.86%
16 th	12,719	50,000	42%	0%	2 years	2.46%
18 th	15,086	85,300	11%	0%	2-3 years	2.14%
19 th	8,696	85,300	11%	0.17%	2-3 years	2.14%
20 th	7,931	84,000	11%	0.17%	2-3 years	2.09%
21 st	19,153	92,600	11%	0.16%	2-3 years	2.13%
22 nd	30,997	139,500	11%	0.11%	2-3 years	2.30%
23 rd	4,631	139,500	11%	0.11%	2-3 years	2.30%
24 th	27,259	125,000	14%	0.12%	2-3 years	2.25%
25 th	5,289	125,000	14%	0.12%	2-3 years	2.25%
26 th	14,052	91,600	13%	0%	2-3 years	2.18%

¹ The volatility measured at the standard deviation of continuously compounded share returns for 1st - 17th tranches granted prior to the Parent Company's listing in Korean stock market is based on statistical analysis of weekly share prices of listed corporations in the similar line of industry over expected maturity period.

Details of the Parent Company's cash-settled stock options outstanding as at December 31, 2018, are as follows:

(In Korean won, except number of shares)			Number of shares				
Tranche	Grant date	Exercise price	Outstanding as at January 1, 2018	Granted	Exercised	Outstanding as at December 31, 2018	Exercisable as at December 31, 2018
3 rd	May 2, 2017	₩ 88,600	7,000		-	7,000	-
4 th	September 28, 2017	131,500	500		-	500	-
5 th	August 31, 2018	123,380	-	5,000	-	5,000	-
6 th	August 31, 2018	123,380	-	14,500	-	14,500	-
			7,500	19,500	-	27,000	-

In addition to the aforementioned stock options, the Company granted cash-settled stock options on shares of Kakaopay Corp., one of its subsidiaries.

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The fair value of the Parent Company's cash-settled stock options was determined using LSMC (Least Square Monte-Carlo) option pricing model. As at December 31, 2018, no the cash-settled stock options are exercisable.

Share-based compensation recognized as expenses for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Equity-settled stock option ¹	₩ 12,172	₩ 8,900
Cash-settled stock option ²	1,970	933
	<u>₩ 14,142</u>	<u>₩ 9,834</u>

¹ Amounts for 2018 include ₩ 4,189 million (2017: ₩ 3,267 million) of share-based compensation recognized as expenses for the shares of subsidiaries.

² Amounts for 2018 include ₩ 1,962 million (2017: ₩ 313 million) of share-based compensation recognized as expenses for the shares of subsidiaries.

27. Other Components of Equity

Other components of equity as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Other capital adjustments	₩ (5,430)	₩ (5,430)
Treasury shares	(1,034)	(798)
Losses on disposal of treasury shares	(5,941)	(5,941)
Stock options	13,897	6,142
	<u>₩ 1,492</u>	<u>₩ (6,026)</u>

As at December 31, 2018, the Parent Company holds 4,233,492 shares of treasury shares in the amount of ₩ 1,034 million recognized as other components of equity.

28. Accumulated Other Comprehensive Income

Accumulated other comprehensive income as at December 31, 2018 and 2017, consists of:

<i>(in millions of Korean won)</i>	2018	2017
Equity instruments at fair value through accumulated other comprehensive income, net of tax ¹	₩ (3,690)	₩ 591
Translation adjustments, net of tax	1,228	(2,585)
Shares of other comprehensive income (loss) of associates, net of tax	(210)	(174)
Remeasurement of defined benefit obligation, net of tax	(4,961)	(2,800)
Revaluation surplus	304	-
	<u>₩ (7,329)</u>	<u>₩ (4,968)</u>

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¹ Presented as gain on valuation of available-for-sale securities as at December 31, 2017.

Changes in accumulated other comprehensive income for the year ended December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	January 1, 2018	Changes in accounting policies	Increase (Decrease)	December 31, 2018
Gain on valuation of available-for-sale securities, net of tax	₩ 591	₩ (591)	₩ -	₩ -
Translation adjustments, net of tax	(2,585)	-	3,813	1,228
Shares of other comprehensive income of associates, net of tax	(174)	-	(36)	(210)
Equity instruments at fair value through accumulated other comprehensive income	-	(8,551)	4,861	(3,690)
Debt instruments at fair value through accumulated other comprehensive income	-	(142)	142	-
Equity instruments at fair value through Profit or loss	-	-	-	-
Remeasurement of defined benefit obligation, net of tax	(2,800)	-	(2,161)	(4,961)
Revaluation surplus	-	-	304	304
	<u>₩ (4,968)</u>	<u>₩ (9,283)</u>	<u>₩ 6,922</u>	<u>₩ (7,329)</u>

Other comprehensive income in the table above represent amount net of tax.

<i>(in millions of Korean won)</i>	January 1, 2017	Increase (Decrease)	Reclassified to profit and loss	December 31, 2017
Gain on valuation of available-for-sale securities, net of tax	₩ 721	₩ (4,274)	₩ 4,144	₩ 591
Translation adjustments, net of tax	377	(2,962)	-	(2,585)
Shares of other comprehensive income of associates, net of tax	895	(1,068)	-	(174)
Remeasurement of defined benefit obligation, net of tax	(1,073)	(1,728)	-	(2,800)
	<u>₩ 920</u>	<u>₩ (10,032)</u>	<u>₩ 4,144</u>	<u>₩ (4,968)</u>

Other comprehensive income in the table above represent amount net of tax.

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29. Retained Earnings

Retained earnings as at December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Legal reserve ¹	₩ 11,561	₩ 10,462
Retained earnings before appropriation	441,839	392,081
	<u>₩ 453,400</u>	<u>₩ 402,542</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.

30. Operating Expenses

Operating expenses for the years ended December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Salaries	₩ 420,326	₩ 324,285
Retirement benefit expense	30,396	26,023
Compensation cost of share-based payments	14,142	9,834
Welfare	66,997	52,695
Travel and transportation expense	8,522	6,184
Taxes and dues	4,786	3,610
Rental expense	37,390	27,897
Commission	908,988	728,091
Advertising expense	183,827	116,453
Depreciation	67,650	60,733
Amortization	67,379	69,085
Advertising agency fee	89,954	88,577
Cost of goods	205,734	133,247
Contents fee	189,190	121,350
Expenses for events	3,487	1,787
Others	42,189	35,943
	<u>₩ 2,340,959</u>	<u>₩ 1,805,793</u>

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31. Other Non-Operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Other non-operating income		
Gain on disposal of property and equipment	₩ 584	₩ 588
Gain on disposal of intangible assets	1,904	968
Gain on disposal of investment property	178	-
Gain on disposal of equity method investments	38,650	22,216
Gain on disposal of investments in subsidiaries	14,746	-
Gain on foreign currency transactions	2,398	1,880
Gain on foreign currency translation	123	725
Miscellaneous income	15,436	9,841
Rent income	10	27
Gain on disposal of other assets	295	-
Reversal of allowance for doubtful accounts (non-operating income)	204	-
Others	3	3
	<u>₩ 74,531</u>	<u>₩ 36,247</u>
Other non-operating expenses		
Loss on disposal of property and equipment	₩ 355	₩ 377
Loss on disposal of intangible assets	324	165
Loss on abandonment of property and equipment	623	459
Impairment losses on intangible assets	8,320	52,238
Impairment losses on other assets	2,871	312
Impairment losses on equity method investments	36,747	13,858
Donations	6,493	4,679
Service fees	5,978	4,557
Loss on foreign currency transactions	1,607	3,463
Loss on foreign currency translation	81	2,737
Loss on disposal of equity method investments	2,165	4,031
Loss on disposal of investments in subsidiaries	565	-
Miscellaneous losses	15,831	2,685
Other bad debt expenses	3,761	881
Loss on disposal of other assets	-	128
Others	50	-
	<u>₩ 85,772</u>	<u>₩ 90,568</u>

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32. Finance Income and Costs

Finance income and costs for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Finance income		
Interest income	₩ 41,783	₩ 14,589
Dividend income	381	2,481
Gain on valuation of derivatives	988	51,708
Gain on transactions of derivatives	-	30
Gain on disposal of available-for-sale securities	-	8,855
Gain on valuation of financial assets at fair value through profit or loss	23,830	-
Gain on disposal of financial assets at fair value through profit or loss	7,443	-
Gain on foreign currency transactions	15,138	809
Gain on foreign currency translation	16,645	474
Other finance income	6,245	-
	<u>₩ 112,453</u>	<u>₩ 78,947</u>
Finance costs		
Interest expense	₩ 9,356	₩ 11,240
Loss on disposal of available-for-sale securities	-	358
Loss on valuation of derivative financial instruments	732	13,253
Loss on foreign currency transactions	2,502	951
Loss on foreign currency translation	7,690	10,188
Impairment losses on available-for-sale securities	-	9,753
Loss on valuation of financial assets at fair value through profit or loss	23,602	-
Loss on disposal of financial assets at fair value through profit or loss	269	-
Loss on disposal of financial assets at fair value through other comprehensive income	272	-
Other finance costs	5,720	-
	<u>₩ 50,143</u>	<u>₩ 45,744</u>

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33. 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, 2018 and 2017 is calculated as follows:

<i>(in millions of Korean won, except per share data)</i>	2018	2017
Profit attributable to equity holders of the Parent Company	₩ 47,886	₩ 108,597
Weighted average number of ordinary shares outstanding	<u>76,863,184</u>	<u>67,769,979</u>
Basic earnings per share	<u>₩ 623</u>	<u>₩ 1,602</u>

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 Company has stock options 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 Company'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 is 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, 2018 and 2017, is calculated as follows:

<i>(in millions of Korean won, except per share data)</i>	2018	2017
Profit attributable to equity holders of the Parent Company	₩ 47,886	₩ 108,597
Interest cost for convertible bonds	<u>1,788</u>	<u>188</u>
	49,673	108,785
Weighted average number of ordinary shares outstanding	76,863,184	67,769,979
Adjustment for:		
Stock options	193,396	288,051
Convertible bonds	<u>3,820,325</u>	<u>2,033,096</u>
Weighted average number of diluted potential ordinary shares	4,013,721	2,321,147
Weighted average number of ordinary shares	80,876,905	70,091,126
for diluted earnings per share	<u>₩ 614</u>	<u>₩ 1,552</u>
Diluted earnings per share		

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34. Dividends

Dividends paid by the Parent Company for the years ended December 31, 2018 and 2017, are ₩ 10,050 million (₩ 148 per share) and ₩ 10,006 million (₩ 148 per share), respectively.

The dividend to the shareholders of the Parent Company in respect of the year ended December 31, 2018, of ₩ 127 per share, amounting to total dividends of ₩ 10,053 million, is to be proposed at the annual general shareholders' meeting on March 26, 2019. The Company's consolidated financial statements as at December 31, 2018, do not reflect this dividend payable.

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35. Cash Generated from Operations

Details of cash generated from operations for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Profit before income tax	₩ 130,670	₩ 153,298
Adjustments :		
Bad debt expense	3,084	1,154
Depreciation	67,650	60,733
Amortization	67,379	69,085
Impairment losses on intangible assets	8,320	52,238
Gain on disposal of property and equipment	(229)	(211)
Loss on abandonment of property and equipment	623	459
Gain (loss) on disposal of intangible assets	(1,580)	(803)
Retirement benefit expense	28,609	23,354
Compensation cost of share-based payments	14,142	9,834
Interest income	(41,783)	(14,589)
Interest expense	9,356	11,240
Dividend income	(381)	(2,481)
Share of net profit (loss) of associates	(6,652)	(9,036)
Loss on disposal of equity method investments	2,165	4,031
Gain on disposal of equity method investments	(38,650)	(22,216)
Impairment losses on equity method investments	36,747	13,858
Gain on disposal of available-for-sale securities	-	(8,855)
Loss on disposal of available-for-sale securities	-	358
Impairment losses on available-for-sale securities	-	9,753
Gain on disposal of financial assets at fair value through profit or loss	(7,443)	-
Loss on disposal of financial assets at fair value through profit or loss	269	-
Gain on valuation of financial assets at fair value through profit or loss	(23,830)	-
Loss on valuation of financial assets at fair value through profit or loss	23,602	-
Loss on disposal of financial assets at fair value through other comprehensive income	272	-
Impairment losses on other assets	2,871	312
Gain on valuation of derivative financial instruments	(988)	(51,708)
Loss on valuation of derivative financial instruments	732	13,253
Gain on transaction of derivative financial instruments	-	(30)
Other bad debt expenses	3,761	881
Changes in operating assets and liabilities	-	-
Trade receivables	(1,482)	(1,951)
Inventories	(8,951)	538
Other current financial assets	(63,994)	(45,778)
Other current assets	(91,627)	(27,737)
Other non-current assets	(6,758)	(2,925)
Trade payables and other payables	154,417	3,352
Other current liabilities	393,992	122,147
Other current financial liabilities	(782)	17,036
Other non-current financial liabilities	882	-
Other non-current liabilities	(2,441)	(3,077)
Net defined benefit liabilities	(33,329)	(28,180)
Other long-term employee benefit liabilities	(2,887)	(3,576)
Other provisions	882	(1,869)

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Others	(8,605)	20,406
Cash generated from operations	<u>₩ 608,033</u>	<u>₩ 362,297</u>

Significant transactions not affecting cash flows for the years ended December 31, 2018 and 2017 are as follows:

<i>(in millions of Korean won)</i>	2018	2017
Write-offs of trade receivables	₩ 336	₩ 2,846
Provision for restoration to specific property and equipment account	2,258	72
Change of other payables related to acquisition of property and equipment	5,628	5,576
Change of other payables related to acquisition of intangible assets	540	951
Change of advanced payments related to acquisition of property and equipment	-	1,840
Change of advanced payments related to acquisition of intangible assets	8,636	150
Change of advances from customers and deferred revenues related to disposal of intangible assets	10,325	-
Payment of the transfer consideration by issuing own equity instruments	-	42,620
Acquisition of investments in associates by investment in kind with loans receivable	-	4,140
Transfer from long-term available-for-sale securities to investments in associates	1,977	6,093
Conversion of convertible bonds	2,990	5,979
Conversion of redeemable convertible preferred shares	4,456	22,667
Transfer to current portion of long-term borrowings	575,931	170,300

Changes in net liabilities arising from financial activities for the years ended December 31, 2018 and 2017, are as follows:

<i>(in millions of Korean won)</i>	Other assets		Liabilities from financing activities		Total
	Cash and cash equivalents	Short-term financial assets	Short-term borrowings	Long-term borrowings	
At January 1, 2018	₩ 1,116,793	₩ 394,152	₩ (174,372)	₩ (620,808)	₩ 715,765
Cash flows	9,747	514,098	139,350	(3,229)	659,966
Exchange differences	30,483	8,305	(2)	-	38,786
Changes in consolidation scope	89,990	7,661	(5,309)	(7,838)	84,503
Transfer from/to current portion	-	-	(575,931)	575,931	-
Unwind of discount	-	-	(1,788)	(312)	(2,100)
Others (conversion of convertible bond, etc.)	-	-	8,572	11,261	19,833
At December 31, 2018	<u>₩ 1,247,013</u>	<u>₩ 924,215</u>	<u>₩ (609,480)</u>	<u>₩ (44,995)</u>	<u>₩ 1,516,753</u>

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(in millions of Korean won)

	Other assets		Liabilities from financing activities		Total
	Cash and cash equivalents	Short-term financial assets	Short-term borrowings	Long-term borrowings	
At January 1, 2017	₩ 641,644	₩ 236,748	₩ (203,942)	₩ (795,927)	₩ (121,477)
Cash flows	484,863	156,920	201,607	250	843,640
Exchange differences	(9,714)	483	-	-	(9,231)
Changes in consolidation scope	-	-	(6,483)	-	(6,483)
Transfer from/to current portion	-	-	(170,300)	170,300	-
Unwind of discount	-	-	(450)	(1,410)	(1,860)
Others (conversion of convertible bond, etc.)	-	-	5,195	5,979	11,174
At December 31, 2017	₩ 1,116,793	₩ 394,152	₩ (174,372)	₩ (620,808)	₩ 715,765

36. Commitments and Contingencies

The Company has provided the following guarantees as at December 31, 2018 and 2017:

(in millions of Korean won)

Beneficiary	Guarantor	Amount		Guaranteed item
		2018	2017	
Employees ¹	Woori Bank	₩ 292	₩ 175	Employee loans
Customers ²	Daehan Savings Bank, etc.	4,923	13,334	Guarantee for sales instalment
Credit guarantee	Intercontinental Hongkong, etc.	1,144	-	Credit guarantee for LC

¹ The Company provided its employees payment guarantee with banks for the employees' bank loans related to their welfare and the Company's deposits of ₩ 9,786 million are pledged as collateral.

² Debt guarantee provided for the customer's installment amount for financial institutions among the purchase amount. In relation to such debt guarantee, one promissory note (₩ 300 million) and financial instruments of ₩ 250 million of the Company are provided as collateral.

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The Company has been provided the following guarantees by others as at December 31, 2018 and 2017:

(in millions of Korean won)

Guarantor	Details	Amount		Beneficiary
		2018	2017	
Seoul Guarantee Insurance and others	Performance guarantee and others	₩ 7,928	₩ 6,459	Korea Workers' Compensation & Welfare Service, etc.
Korea Technology Finance Corporation	General Guarantee for borrowings	-	250	KEB Hana Bank, etc.
Korea Credit Guarantee Fund	Guarantee for borrowings	1,523	-	Woori Bank, etc.
TRAVIX TRAVEL USA INC	Performance guarantee	112	-	Customers
		₩ 9,563	₩ 6,709	

In addition to the above, the Company has been received a payment guarantee from KB Kookmin Bank regarding the issuance of exchangeable bonds (Note 19).

As at December 31, 2018, the Company is involved in 16 lawsuits amounting to ₩ 12,818 million as a defendant or co-defendant. The Company does not expect that these cases would have a material impact on its consolidated financial statements.

The Company's agreements with financial institutions and commitments as at December 31, 2018, are as follows:

(in millions of Korean won)

Financial Institution	Agreements	Maximum limit	Amount executed
Industrial Bank of Korea	Loans for operation capital	₩ 2,000	₩ -
Industrial Bank of Korea	Loans for operation capital	200	-
Woori Bank	Credit limit of borrowings	958	958
Shinhan Bank	Credit limit of borrowings	500	500
Woori Bank	General borrowings	5,000	5,000
KB CAPITAL	General borrowings	22	22
Shinhan Bank	General loans (limit)	2,500	-
THE KUMAMOTO DAI-ICHI SHINKIN BANK	Loans for operation capital	172	172
THE KUMAMOTO DAI-ICHI SHINKIN BANK	Loans for investments	1,401	1,401
Japan Finance Corporation.	Loans for investments	26	26
Orix	Loans for operation capital	157	157
Woori Bank	General borrowings	916	916
KB Kookmin Bank	General borrowings	20,000	20,000
Shinhan Bank	General borrowings	770	770
Shinhan Bank	Loans for operation capital	50	50
Industrial Bank of Korea	Loans for operation capital	600	600
		₩ 35,273	₩ 30,573

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In 2016, the Parent Company has entered into a securities lending agreement with each of two underwriters of the exchangeable bonds, Citigroup Global Markets Limited and Morgan Stanley & Co. International plc for up to an aggregate 2,191,885 shares of LOEN ENTERTAINMENT, INC., equivalent to 100% of the total exchangeable shares, 8.67% of the ownership. According to the agreement, the shares will be lend up to the date specified such as the date of the 5th anniversary of the issuance of the bonds, the date on which all of the bonds are redeemed, or exchanged through the underwriters' agent, NH Investment & Securities Co., Ltd. However, shares subject to the agreement became treasury shares of the Company due to the merge with Kakao M Corp. (formerly, LOEN ENTERTAINMENT, INC.) occurred in 2018. As a result, the number of treasury shares subject to the agreement became 1,791,466 shares with the percentage of merger.

In the past, the Company granted a right to a customer for reselling equipment to the Company at 50% of a price when it sells to a customer after a certain period of time, and the Company recognized the expected amount of a repurchase as a provision.

(in millions of Korean won)

Sales subject to repurchase		Repurchase agreement		Provision		Contingent liabilities	
₩	4,218	₩	2,109	₩	844	₩	1,265

In accordance with the shareholder agreements in relation to Kakaopay Corp., a subsidiary, the right to request a subsidiary to issue new shares for an additional 9.9% that does not affect the Company's control through a capital increase is provided to non-controlling interest investors within three years after the initial investment. If a subsidiary issues new shares with the approval of the Board of Directors non-controlling interest investors may take over those shares at \$150,000,000. In addition, in accordance with the shareholder agreements, If it is determined that reduced cooperation and collaboration in the case of changes in governance structure may cause difficulties in management and operation under the above agreements, the non-controlling interest investors of a subsidiary may request the Company to purchase those shares for a period of time in the agreements at fair value, and the management of the Company believes that the Company can control prerequisites for investors to claim the purchase and therefore, as at December 31, 2018, the Company determines that there is no possibility for investors to claim the purchase.

In accordance with the agreements with non-controlling interests of some subsidiaries including Kakao Page Corp., the Company is required to obtain a consent from investors, when the Company 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. (Note 1).

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Financial instruments restricted as at December 31, 2018 and 2017:

(in millions of Korean won)

	2018	2017	Purpose of restriction
	₩ 20,000	₩ 10,000	Withdrawal restriction in relation to firm banking ¹
	559	536	Related to legal procedure
	1,350	1,350	Pledged as collateral for Shinhan Card and etc. ²
	9,286	8,086	Payment guarantee for employees' loan
	250	-	Guarantee for the third party
Short-term financial instruments	4,935	4,607	Payment guarantee for lease
	1,150	-	Pledged as collateral for a franchise contract
	250	400	Guarantee for instalment sales of a customer
	239,600	-	Pledged as collateral for overseas exchangeable bonds ³
	1,800	-	Performance guarantee
	1,000	-	Pledged as collateral for Shinhan Card
Long-term financial instruments	500	-	Payment guarantee for employee's loan
Investments in associates	45,856	-	Lock-up ⁴
	₩ 326,537	₩ 24,979	

¹ The withdrawal is restricted in relation to the firm banking contract with DGB Daegu Bank.

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 Payment guarantee is provided by KB Kookmin Bank in relation to exchangeable bonds and time deposits of ₩ 239,600 million are provided as collateral for the payment guarantee (Note 19).

⁴ 10,421,421 ordinary shares are locked up from May 10, 2018 to May 19, 2019 for additional listing of UBCARE CO., LTD.

The following assets are pledged as collateral in relation to guarantees for contract fulfilment as at December 31, 2018:

(in millions of Korean won)

Asset	Beneficiary	Book value	Collateralized amount	Type of Guarantee
Financial instruments	Seoul Guarantee Insurance Company	₩ 1,800	₩ 10,100	Payment performance for ticket sales
	Shinhan Card	1,000	1,300	Pledged as collateral for Shinhan Card

In addition to the above, treasury shares and short-term financial instruments of the Parent Company regarding the payment guarantee received from KB Kookmin Bank for the exchangeable bonds are provided as collateral (Notes 19 and 36).

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As at December 31, 2018, the Company has signed agreements with shareholders of KakaoBank of Korea Corp. to hold call options and grant put options in relation to investment to KakaoBank of Korea Corp. as follows:

		Details
Call option	Requisites	In case the Bank Act has been amended so that KakaoBank of Korea Corp.'s maximum limit of stake with voting rights raised to 15% or more with an approval from the financial authorities in accordance with related laws.
	Rights	Korea Investment Holdings Co., Ltd. should sell its shares to the company at face value up to the company's maximum holding limit and should sell remaining shares to the third party to make Korea Investment Holdings Co.,Ltd's share the company's maximum holding limit (-) 1 share.
Put option	Requisites	In case the Bank Act has been amended so that KakaoBank of Korea Corp.'s maximum limit of stake with voting rights raised to 15% or more.
	Obligations	All or part of the shares held by Korea Investment Holdings Co.,Ltd. should be purchased up to the Company's equity limit by Kakao Corp.

In addition, the Company's rights relating to convertible preferred shares of KakaoBank of Korea Corp., held by the Company are as follows:

	Details
Voting right	No voting right
Preferred dividends right	Preferred dividend at a rate of 1% (participating/Non-cumulative)
Convertible ratio	One share of ordinary share per one preferred share
Conversion conditions	Convertible into ordinary share within 2 years from the effective date of the Bank Act, if the Bank Act is amended by September 22, 2025 or within 2 years from September 23, 2025, if it is not amended (If conversion right is not exercised within conversion period, the conversion right is expired and able to be converted into ordinary share at the same time)

The Company cannot exercise the option indicated above and the conversion right as at December 31, 2018. However, when the Company qualifies the condition as the excess shareholder in accordance to the law and regulation of the Special Act on the Establishment and Operation of Internet-specialized Banking amended in October 16, 2018 and enforced in January 17, 2019 and the financial authorities approve the company as the excess shareholders, the Company is able to the right to hold maximum 34% of the shares with voting right of KakaoBank of Korea Corp. In this case, the shares of KakaoBank of Korea Corp. can be classified as the investment in associate and others in accordance to the percentage of investment, ownership of

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shares with voting right and etc.

37. Business Combinations

In 2018, the Company acquired the shares of nineteen companies including JOH&Company, which became its subsidiaries. Details of the percentage of ownership acquired, the consideration paid and goodwill recognized thereto are as follow:

<i>(in millions of Korean won)</i>			
Company	Percentage of ownership acquired (%)	Consideration	Goodwill
E&T Story Entertainment	60.0	₩ 700	₩ 114
Nylon Korea Media	65.7	1,296	898
Accio Inc.	50.5	4,700	2,180
JOH&Company	100.0	29,334	18,044
SamyangCNC Co.,Ltd. ²	50.0	5,872	5,275
luxi Co., Ltd.	100.0	24,765	20,868
KIWI PLUS	55.8	14,000	7,937
DK CORPORATION	100.0	3,734	2,851
ZUBON Inc.	100.0	108	68
Pinplay	64.5	26,900	14,346
J,WIDE-COMPANY ¹	100.0	8,500	6,437
READY ENTERTAINMENT ¹	100.0	15,872	8,379
BH Entertainment ¹	100.0	27,000	23,667
SOOP management ¹	99.4	14,000	15,992
SONNORI CORP.	58.3	9,929	4,830
NeoBazar	68.4	17,760	13,555
DA'ON CREATIVE	66.2	9,924	8,985
MOVILL Co., Ltd	70.0	1,400	1,517
TIDESQAURE ^{1,2}	28.9	34,666	15,509
		<u>₩ 250,461</u>	<u>₩ 171,453</u>

¹ Presented at a provisional amount as purchase price allocation amount related to the business combination is not determined.

² Classified as a subsidiary although the ownership is less than 50% as the Company is considered to have a control over the entity. As at December 31, 2018, the Company holds 51% of the ownership due to additional acquisition of shares during 2018.

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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 2018, are as follows:

(in millions of Korean won)

Company	Consideration transferred	Assets acquired and liabilities assumed			Goodwill	Total
		Fair value of net asset	Non-controlling interest	Subtotal		
E&T Story Entertainment	₩ 700	₩ 977	₩ (391)	₩ 586	₩ 114	₩ 700
Nylon Korea Media	1,296	605	(208)	398	898	1,296
Acciio Inc.	4,700	4,986	(2,466)	2,520	2,180	4,700
JOH&Company	29,334	11,290	-	11,290	18,044	29,334
SamyangCNC Co.,Ltd.	5,872	853	(256)	597	5,275	5,872
luxi co., ltd.	24,765	3,896	-	3,896	20,868	24,765
KIWI PLUS	14,000	10,871	(4,807)	6,063	7,937	14,000
DK CORPORATION	3,734	883	-	883	2,851	3,734
ZUBON Inc.	108	40	-	40	68	108
Pinplay	26,900	19,452	(6,898)	12,554	14,346	26,900
J,WIDE-COMPANY	8,500	2,063	-	2,063	6,437	8,500
READY ENTERTAINMENT	15,872	7,493	-	7,493	8,379	15,872
BH Entertainment	27,000	3,333	-	3,333	23,667	27,000
SOOP management	14,000	(2,005)	13	(1,992)	15,992	14,000
SONNORI CORP.	9,929	(1,539)	6,638	5,098	4,830	9,929
NeoBazar	17,760	4,782	(577)	4,206	13,555	17,760
DA'ON CREATIVE	9,924	1,419	(480)	939	8,985	9,924
MOVILL Co,Ltd	1,400	(168)	50	(117)	1,517	1,400
TIDESQAURE	34,666	66,696	(47,539)	19,157	15,509	34,666
	₩ 250,461	₩ 136,022	₩ (57,013)	₩ 79,008	₩ 171,453	₩ 250,461

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38. Related Parties Transactions

The list of related parties as at December 31, 2018 and 2017, is as follows:

2018	
Relationship	Related parties
Associates	Adcredit, DMS Network, Inc., NBT Inc., Dunamu Inc., Futurewiz, IGIS Networks, Dunamu Investment Management Co., Ltd., Dunamu&Partners, ROOTONESOFT, Tapas Media, Inc., DAUM Venture Fund, NBT AMERICA INC., NBT CHINA INC, MannaCEA, Manna Town, , Farmit, Farmit2, Oscar Entertainment., Left Right Co., Ltd. , SCI VENTURE, INC., Tangram Factory, TANGRAMFACTORY AMERICA, INC., CNT TECH CO.,LTD., You Are the Designer, LUXROBO Co., Ltd., Leferi Inc., Deleo Korea Co.,Ltd., D&C MEDIA CO.,LTD., D&C OF STORM CO.,LTD., K Cube NEO Fund, Skelter Labs, Inc., TOROOC Inc., DIGISONIC Co., Ltd., Supergene Inc., BUNJANG Corp., (Dreamcide SPC Ltd., InnoSignal Co.,Ltd., PoteNit Co.,Ltd., Korea Credit Data, Doctorbrain SPC Ltd., CLAIR, Inc., KIF-Kakao Wooribank Technology Financing Fund, 13MILE.CO.LTD, ADSOTA CORP., CARDOC Inc., Kakao Kids (formerly, BLUEPIN Inc.), Fixel Hub Co.,Ltd., HASYS, FOR YOUR KIDS CO.,LTD., Action Square Co., Ltd., NOWBUSKING COMPANY, LINE WORK Corp., CHEQUER Inc., LUFTT KOREA Inc., Rebittance Inc., mycelebs, DAIWAON. C. I. INC, Haksan Publinshing Co.Ltd., peoplefund, Seoul Media Comics, Allstay Co.,LTD, UBCARE CO., LTD. and other 63 companies
Joint venture	DAUM KAKAO PHILIPPINES CORP.
Other related parties	K Cube Holdings Co., Ltd., T for Invest, New learn English Inc., Onyx K., MODUDA, PLUS 2 PERCENT, NPLUTO, Daeheung Co., Ltd., kakao Impact Foundation
2017	
Relationship	Related parties
Associates	Adcredit, DMS Network, Inc., NBT Inc., Dunamu Inc., Tapas Media, Inc., DAUM Venture Fund, DAUM KAKAO PHILIPPINES CORP., NBT AMERICA INC., Manna CEA, Manna Town, Farmit, Farmit2, Neobazar, PT.Neo Bazar Indonesia, Silver Star Games Inc., Oscar Entertainment, Left Right Co., Ltd., SCI VENTURE, INC. (formerly, Bitmarket.ph, Inc.), Tangram Factory, TANGRAMFACTORY AMERICA, INC., SONNORI CORP. (formerly, ROI GAMES CORP.), Toonnori Corp.(formerly, Roicomi co.,ltd), CNT TECH CO.,LTD., JOH&Company, You are the designer, LUXROBO Co., Ltd., Leferi Inc., Deleo Korea Co.,Ltd. (formerly, Wex 24 Korea), D&C MEDIA CO.,LTD., K Cube NEO Fund, Skelter Labs, Inc., TOROOC Inc., DIGISONIC Co., Ltd., Supergene Inc., BUNJANG Corp. (formerly, Quicket Co., Ltd.), Dreamcide SPC Ltd., InnoSignal Co.,Ltd., PoteNit Co.,Ltd., Korea Credit Data, Doctorbrain SPC

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	Ltd., CLAIR, Inc., KIF-Kakao Wooribank Technology Financing Fund, others (60 companies)
Other related parties	K Cube Holdings Co., Ltd., T for Invest (formerly, Climix edu), New learn English Inc., Onyx K., Smart and Growth, MODUDA, PLUS 2 PERCENT, Sounds Good Co.,Ltd., NPLUTO CORPORATION, BeCONN Games, Kyros

Transactions with the related parties for the years ended December 31, 2018 and 2017 and the receivables from and payables to the related parties as at December 31, 2018 and 2017, are as follows:

Transactions

(in millions of Korean won)	2018					
	Revenues			Purchases		
	Sales	Interest income	Other income	Service fee	Advertising expense	Others
Associates						
MannaCEA	₩ 54	₩ -	₩ -	₩ 21	₩ -	₩ -
Dunamu Inc. ²	1,454	-	-	134	-	-
You Are the Designer	1	-	-	-	-	-
CNT TECH CO.,LTD.	1,049	-	-	570	146	1
Leferi Inc.	57	-	-	-	-	-
CARDOC Inc.	39	-	-	-	-	-
BUNJANG Corp.	-	330	-	-	-	40
CLAIR, Inc.	-	-	-	-	-	507
Korea Credit Data	42	-	-	150	-	-
NOWBUSKING COMPANY	3	-	-	1	-	1
Kakao Kids (formerly, BLUEPIN Inc.) ¹	499	-	-	63	-	17,666
futurewiz	45	-	-	-	-	-
NBT Inc.	305	-	-	220	-	-
Fixel Hub Co.,Ltd.	3	-	-	100	-	-
Left Right Co., Ltd.	-	-	-	-	-	-
D&C MEDIA CO.,LTD.	57	-	-	12,004	-	37
Doctorbrain SPC Ltd.	4	-	-	-	-	-
K Cube NEO Fund	-	-	385	-	-	-
KIF-Kakao Wooribank Technology Financing Fund	-	-	1,368	-	-	-
DAIWAON. C. I. INC	4	-	-	4	-	1
Haksan Publinshing Co.Ltd.	-	-	-	9	-	-
FOR YOUR KIDS CO.,LTD.	479	-	-	-	-	-
LUFTT KOREA Inc.	-	-	-	-	-	-
13MILE.CO.LTD	-	4	-	2	-	-
peoplefund	130	-	-	-	-	-
Tapas Media, Inc.	144	-	-	-	-	-
HASYS	2,054	-	-	-	-	-
Pinplay	5	-	-	-	-	-
WishLink	16	-	-	-	-	-
	₩ 6,442	₩ 334	₩ 1,753	₩ 13,279	₩ 146	₩ 18,252
Other related parties						
kakao Impact Foundation	₩ 63	₩ -	₩ -	₩ -	₩ -	₩ 4,000
NPLUTO	-	-	-	-	-	197
Daeheung Co., Ltd.	-	42	-	-	-	-
	₩ 63	₩ 42	₩ -	₩ -	₩ -	₩ 4,197

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₩	6,505	₩	376	₩	1,753	₩	13,279	₩	146	₩	22,449
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¹ Includes purchases of investments in Pinplay from Kakao Kids (formerly, BLUEPIN Inc.) in 2018.

² Received dividends of ₩ 800 million from Dunamu Inc. in 2018.

Transactions

(in millions of Korean won)

	2017					
	Revenues			Purchases		
	Sales	Interest income	Other income	Service fee	Advertising expense	Others
Associates						
NBT Inc.	₩ 800	₩ -	₩ 45	₩ 1,454	₩ 366	₩ -
WishLink	-	-	-	655	-	-
Dunamu Inc.	838	-	-	89	-	-
Tangram Factory	4	79	-	-	-	-
Leferi Inc.	1	-	-	-	-	-
MannaCEA	17	-	-	-	-	21
Left Right Co., Ltd.	-	-	-	11	-	-
Oscar Entertainment	-	-	-	-	-	34
You are the designer	5	-	-	-	-	12
CNT TECH CO.,LTD.	462	-	-	277	814	1
Tapas Media, Inc.	155	-	-	-	-	-
CLAIR, Inc.	-	-	-	-	-	-
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	-	-	-	1	-	-
LUXROBO Co., Ltd.	-	-	-	-	-	3
D&C MEDIA CO.,LTD	16	-	-	6,431	-	-
UserStory Lab	-	-	-	-	-	200
Korea Credit Data	2	-	-	-	-	-
Doctorbrain SPC Ltd.	1	-	-	-	-	-
	₩ 2,302	₩ 79	₩ 45	₩ 8,917	₩ 1,179	₩ 272
Other related parties						
Moduda	₩ -	₩ -	₩ -	₩ -	₩ -	₩ -
	₩ 2,302	₩ 79	₩ 45	₩ 8,917	₩ 1,179	₩ 272

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Receivables and Payables

(in millions of Korean won)

	2018				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables	Non-trade payables	Other payables
Associates					
MannaCEA	₩ -	₩ -	₩ -	₩ 124	₩ -
CNT TECH CO.,LTD.	65	-	-	97	-
NOWBUSKING COMPANY	3	-	-	-	-
Dunamu Inc.	113	-	-	12	-
Kakao Kids (formerly, BLUEPIN Inc.)	16	-	-	-	-
Fixel Hub Co.,Ltd.	1	-	2	7	-
Left Right Co., Ltd.	-	-	-	-	-
D&C MEDIA CO.,LTD.	11	-	2,316	634	-
Dreamcide SPC Ltd.	-	-	400	-	-
Doctorbrain SPC Ltd.	1	-	400	-	-
Haksan Publinshing Co.Ltd.	-	-	1,394	787	-
DAIWAON. C. I. INC	-	-	-	254	-
Seoul Media Comics	-	-	785	143	-
CLAIR, Inc.	-	-	-	33	-
NBT Inc.	9	-	-	5	-
FOR YOUR KIDS CO.,LTD.	113	-	-	-	-
You Are the Designer	-	-	-	-	-
CARDOC Inc.	-	-	-	-	-
LUFTT KOREA Inc.	-	-	-	-	-
BUNJANG Corp.	-	-	-	11	-
13MILE.CO.LTD	-	450	4	2	-
peoplefund	82	-	-	-	-
HASYS	221	-	530	520	-
Allstay Co.,LTD	-	100	-	1	-
	₩ 635	₩ 550	₩ 5,832	₩ 2,631	₩ -
Other related parties					
kakao Impact Foundation	₩ 28	₩ -	₩ -	₩ -	₩ -
	₩ 663	₩ 550	₩ 5,832	₩ 2,631	₩ -

Receivables and Payables

(in millions of Korean won)

	2017				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables	Non-trade payables	Other payables
Associates					
NBT Inc.	₩ 130	₩ -	₩ -	₩ 119	₩ 37
Dunamu Inc.	60	-	-	34	-
3 Point Inc. ¹	3	50	-	-	-
WishLink	-	-	-	10	-
SONNORI CORP.. (formerly, ROI GAMES CORP.)	-	-	500	-	-
Tangram Factory	26	-	-	-	-
MannaCEA	-	-	-	1	-
Left Right Co., Ltd.	-	-	-	-	-
CNT TECH CO.,LTD.	98	-	-	210	-
D&C MEDIA CO.,LTD.	17	-	1,725	789	-
Tapas Media, Inc.	5	-	-	-	-
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	-	-	-	-	-
Dreamcide SPC Ltd.	-	-	400	-	-
Doctorbrain SPC Ltd.	-	-	401	-	-

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	₩	339	₩	50	₩	3,026	₩	1,164	₩	37
Other related parties										
Onyx K.	₩	-	₩	-	₩	-	₩	-	₩	-
	₩	-	₩	-	₩	-	₩	-	₩	-
	₩	339	₩	50	₩	3,026	₩	1,164	₩	37

¹ As at December 31, 2017, allowance for doubtful accounts has been set for the total amount of loans to 3 Point Inc..

Loans arising from related parties for the periods ended December 31, 2018 and 2017, are as follows:

(in millions of Korean won)

	2018				
	Beginning balance	Loans	Repayments	Changes in scope of consolidation	Ending balance
Associates					
3Points Inc. ¹	₩ 50	₩ -	₩ -	₩ (50)	₩ -
SONNORI CORP.	-	1,500	-	(1,500)	-
BUNJANG Corp.	-	150	(150)	-	-
Allstay Co.,LTD	-	300	(500)	300	100
	₩ 50	₩ 1,950	₩ (650)	₩ (1,250)	₩ 100
Other related parties					
Daeheung Co., Ltd.	₩ -	₩ 2,000	₩ (2,000)	₩ -	₩ -
	₩ 50	₩ 3,950	₩ (2,650)	₩ (1,250)	₩ 100

¹ 3Points Inc. was excluded from the details of loans arising from the related parties due to being excluded from the scope of related parties.

(in millions of Korean won)

	2017			
	Beginning balance	Loans	Contribution in kind ¹	Ending balance
Associates				
3Points Inc.	₩ 50	₩ -	₩ -	₩ 50
Tangram Design Lab Inc.	2,100	-	(2,100)	-
Tangram Factory	1,540	500	(2,040)	-
	₩ 3,690	₩ 500	₩ (4,140)	₩ 50

During 2018, the Company made contribution sin kind and in cash to certain related parties (Note 16).

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Key management compensation

The compensation paid or payable to key management for the years ended December 31, 2018 and 2017 consists of:

(in millions of Korean won)

	2018	2017
Salaries	₩ 2,159	₩ 957
Retirement benefit expense	48	44
Other long-term employee benefits	28	23
Share-based payments	473	275
	<u>₩ 2,708</u>	<u>₩ 1,300</u>

39. Credit Risk

Credit risk arises from cash and cash equivalents, contractual cash flows of debt investments, favorable derivative financial instruments and deposits with banks and financial institutions, as well as credit exposures to corporate and individual customers, including outstanding receivables.

(a) Risk management

Credit risk is managed on a group basis. 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.

There are no significant concentrations of credit risk, whether through exposure to individual customers, specific industry sectors and/or regions.

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

(b) Security

For some trade receivables, the Company may obtain security in the form of guarantees or letters of credit, etc. which can be called upon if the counterparty is in default under the terms of the agreement.

(c) Impairment of financial assets

The Company 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,

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· other financial assets carried at amortized cost.

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

A. Trade receivables

The Company applies the simplified approach to measuring expected credit losses which uses a lifetime expected loss allowance for all trade receivables and contract assets.

To measure the expected credit losses, trade receivables have been grouped based on shared credit risk characteristics and the days past due. Aging analysis of trade receivables as at December 31, 2018, is as follows:

	2018					Total
	Current	Less than 3 months past due	Less than 6 months past due	Less than 9 months past due	Over 9 months	
Trade receivables						
Gross carrying amount	₩ 179,015	₩ 13,235	₩ 1,726	₩ 520	₩ 6,742	₩ 201,238

Movements in the loss allowance provision for trade receivables and contract assets for the years ended December 31, 2018 and 2017, are as follows:

	2018		2017	
	Trade receivables		Trade receivables	
Beginning balance – Korean IFRS 1039	₩	7,762	₩	8,396
Amounts restated through beginning balance of retained earnings		567		-
Loss allowance as at January 1, 2018 - calculated under Korean IFRS 1109		8,329		8,396
Changes in scope of consolidation		887		34
Increase in loss allowance recognized in profit or loss during the year		2,793		110
Unused amounts reversed		-		(3)
Receivables written off during the year as uncollectible		(4,441)		(776)
Ending balance (2017: amount under Korean IFRS 1039)	₩	7,568	₩	7,762

The maximum exposure to credit risk at the reporting date is the carrying amount of trade receivables.

Amounts recognized as 'bad debt expense' in profit or loss in relation to impairment for the years ended December 31, 2018 and 2017, are as follows:

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<i>(in millions of Korean won)</i>	2018		2017¹	
	Trade receivables		Trade receivables	
Changes in loss allowance provision for trade receivables	₩	2,793	₩	108
Other financial assets		292		1,046
Bad debt expense		3,084		1,154

¹ In the prior year, the impairment of trade receivables was assessed based on the incurred loss model. Individual receivables which were known to be uncollectible were written off by reducing the carrying amount directly. The other receivables were assessed collectively, to determine whether there was an objective evidence that an impairment had been incurred but not yet been identified. For these receivables, the estimated impairment losses were recognized in a separate provision for impairment. The Company considered that there was evidence of impairment if any of the following indicators were present:

- significant financial difficulties for of the debtor
- probability of the debtor's bankruptcy and financial restructuring, and
- default or delinquency in payments

B. Other financial assets amortized cost

Other financial assets at amortized cost include non-trade receivables, loans and other receivables.

Movements in loss allowance provision for other financial assets at amortized cost for the year ended December 31, 2018, are as follows:

<i>(in millions of Korean won)</i>	2018	
	Loss allowance provision	
Beginning balance - Korean IFRS 1039	₩	35,674
Amounts restated through beginning balance of retained earnings		1,046
Loss allowance as at initial application date - calculated under Korean IFRS 1109		36,720
Change in scope of consolidation		516
Increase in loss allowance recognized in profit or loss during the year		3,557
Write-offs		965
Ending balance	₩	41,757

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40. Changes in Accounting Policies

40.1 Adoption of Korean IFRS 1109 *Financial Instruments*

As explained in Note 2, the Company has applied Korean IFRS 1109 *Financial Instruments* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures for prior reporting period have not been restated. The impact of adoption of Korean IFRS 1109 on the financial statements is as follows:

(a) *Classification and measurement of financial instruments*

The total impact on the Company's retained earnings due to classification and measurement of financial instruments as at January 1, 2018, is as follows:

<i>(in millions of Korean won)</i>	Notes	Amount
Beginning balance - Korean IFRS 1039		₩ 402,542
Reclassification of available-for-sale financial assets to financial assets at fair value through profit or loss	1)	9,283
Increase in provision for impairment of trade receivables	39	(475)
Increase in provision for impairment of other financial assets at amortized cost		(881)
Transfer of accumulated impairment losses of financial instruments reclassified from available-for-sale financial assets to financial assets at fair value through other comprehensive income		4,348
Adjustments to retained earnings from adoption of Korean IFRS 1109		12,276
Beginning balance of retained earnings - Korean IFRS 1109		₩ 414,818

On the date of initial application of Korean IFRS 1109, January 1, 2018, the Company's management has assessed which business models apply to the financial assets held by the Company and has classified its financial instruments into the appropriate Korean IFRS 1109 categories. The main effects resulting from this reclassification are as follows:

<i>(in millions of Korean won)</i>	Notes	Fair value through profit or loss	Fair value through other comprehensive income (Available-for-sale financial assets in 2017)	Amortized cost (Loans and receivables in 2017) ²	Total
Financial assets – January 1, 2018¹					
Beginning balance – Korean IFRS 1039		₩ 53,650	₩ 160,140	₩ 1,875,090	₩ 2,088,880

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Reclassification from available-for-sale financial assets to financial assets at fair value through profit or loss	1)	67,185	(67,185)	-	-
Reclassification from other assets to financial assets at amortized cost		-	-	5,769	5,769
Beginning balance - Korean IFRS 1109 ¹		₩ 120,835	₩ 92,955	₩ 1,880,859	₩ 2,094,649

¹ The beginning balance as at January 1, 2018, presented available-for-sale financial assets at fair value through other comprehensive income, and loans and receivables at amortized cost, respectively, see the table below for details. These reclassifications have no impact on the measurement categories.

² Includes cash and cash equivalents and impairment of financial assets are not included.

The impact on these changes on the Company's equity is as follows:

(in millions of Korean won)	Notes	Effect on accumulated other comprehensive income	Effects on fair value through other comprehensive income reserve	Effect on retained earnings ¹
Beginning balance – Korean IFRS 1039		₩ 591	₩ -	₩ 402,542
Reclassification from available-for-sale financial assets to financial assets at fair value through profit or loss	1)	(9,283)	-	9,283
Reclassification of equity investments that are not held for trading from available-for-sale financial assets to financial assets at fair value through other comprehensive income	2)	8,551	(8,551)	-
Reclassification of listed and unlisted debt securities from available-for-sale financial assets to financial assets at fair value through other comprehensive income	3)	142	(142)	-
Transfer of accumulated impairment losses of financial instruments reclassified from available-for-sale financial assets to financial assets at fair value through other comprehensive income		-	(4,348)	4,348
		(591)	(13,040)	13,631
Beginning balance - Korean IFRS 1109		₩ -	₩ (13,040)	₩ 416,173

¹ Impairment of financial assets are not included. See Note 39.

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(i) Reclassification from available-for-sale to fair value through profit or loss

As at January 1, 2018, beneficiary certificates of ₩ 21,488 million, compound financial instruments of ₩ 25,668 million and equity securities of ₩ 20,129 million were reclassified from available-for-sale to financial assets at fair value through profit or loss. They do not meet the criteria to be classified as at amortized cost in accordance with Korean IFRS 1109, because their cash flows do not represent solely payments of principal and interest. Related accumulated other comprehensive income of ₩ 9,283 million were transferred from the available-for-sale financial assets to retained earnings on January 1, 2018. During 2018, the changes in fair value of ₩ 228 million were recognized in profit or loss and deferred income tax of ₩ 55 million were incurred in relation to it.

(ii) Reclassification of equity investments from available-for-sale to fair value through other comprehensive income

The Company elected to present changes in the fair value of its equity investments not for trading previously classified as available-for-sale in other comprehensive income. As a result, assets with a fair value of ₩ 91,142 million were reclassified from available-for-sale financial assets to financial assets at fair value through other comprehensive income. As at January 1, 2018, related accumulated other comprehensive income of ₩ (-)8,551 million were not reclassified to profit or loss even though these assets are disposed of.

(iii) Reclassification of debt instruments from available-for-sale to fair value through other comprehensive income

Listed and unlisted bonds were reclassified from available for sale to fair value through other comprehensive income, as the Company's business model is achieved both by collecting contractual cash flows and selling of these assets. The contractual cash flows of these investments are solely principal and interest. As a result, listed and unlisted bonds with a fair value of ₩ 1,813 million were reclassified from available-for-sale financial assets to debt instruments at fair value through other comprehensive income on January 1, 2018.

(iv) Other financial assets

Equity securities held for trading are all required to be held as fair value through profit or loss under Korean IFRS 1109. There was no impact on the amounts recognized in relation to these assets from the adoption of Korean IFRS 1109.

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(v) Reclassifications of financial instruments on adoption of Korean IFRS 1109

On the date of initial application, January 1, 2018, the financial instruments of the Company with any reclassifications noted, were as follows:

(in millions of Korean won)	Measurement category		Carrying amount		
	Korean IFRS 1039	Korean IFRS 1109	Korean IFRS 1039	Korean IFRS 1109 ¹	Difference
Current financial assets					
Cash and cash equivalents	Amortized costs	Amortized costs	₩ 1,116,793	₩ 1,116,793	₩ -
Short-term financial instruments	Amortized costs	Amortized costs	394,152	394,152	-
Trade receivables	Amortized costs	Amortized costs	179,238	178,671	(567)
Other financial assets ⁴	Amortized costs	Amortized costs	134,343	139,066	4,723
Non-current financial assets					
Beneficiary certificates	Available-for-sale financial assets	Fair value through profit or loss ³	₩ 21,488	₩ 21,488	₩ -
Equity instruments	Available-for-sale financial assets	Fair value through profit or loss ³	20,129	20,129	-
Compound financial instruments	Available-for-sale financial assets	Fair value through profit or loss ³	32,855	32,855	-
Derivative financial assets	Financial assets at fair value through profit or loss	Fair value through profit or loss ³	53,650	53,650	-
Equity instruments	Available-for-sale financial assets	Fair value through other comprehensive income ²	83,855	83,855	-
Government bonds	Available-for-sale financial assets	Fair value through other comprehensive income ²	1,813	1,813	-
Long-term financial instruments	Amortized costs	Amortized costs	10,685	10,685	-
Other non-current financial assets	Amortized costs	Amortized costs	39,879	39,879	-

¹ Impairment of financial assets is included.

² Financial assets at fair value through other comprehensive income: Investments in equity instruments and debt instruments.

³ Financial assets at fair value through profit or loss.

⁴ As at January 1, 2018, investments in performance planning amounting to ₩ 5,769,054 thousand were included in amounts reclassified from other assets to financial assets at amortized cost.

(b) Impairment of Financial Assets

The Company has three types of financial assets subject to Korean IFRS 1109's new expected

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credit loss model:

- Trade receivables depending on recognition of operating income
- Debt instruments at fair value through other comprehensive income
- Debt instruments at amortized cost

Upon adoption of Korean IFRS 1109, accounting policies for recognition of impairment have changed. The impact of the change in impairment methodology on the Company's beginning balance of retained earnings is disclosed in the table on (a) above.

The Company applies the simplified approach to measure the loss allowance at an amount equal to lifetime expected credit losses for trade receivables and other receivables at amortized cost.

40.2 Adoption of Korean IFRS 1115 *Revenue from Contracts with Customers*

As explained in Note 2, the Company has applied Korean IFRS 1115 *Revenue from Contracts with Customers* on January 1, 2018, the date of initial application. In accordance with the transitional provisions in Korean IFRS 1109, comparative figures for prior reporting period have not been restated. The impact of adoption of Korean IFRS 1109 on the financial statements is as follows:

The impact on the financial statements due to the application of Korean IFRS 1115 at the date of initial application (January 1, 2018) is as follows:

(in millions of Korean won)	December 31, 2017 (before adjustment)		Adjustment	January 1, 2018 (after adjustment)	
Other current assets ^{1,2}	₩	93,258	₩	2,828	₩ 96,086
Total assets		6,349,428		2,828	6,352,256
Other current liabilities ^{2,3}		424,553		1,292	425,845
Total liabilities		1,886,506		1,292	1,887,797
Retained earnings		402,542		747	403,289
Non-controlling interests		433,783		789	434,573
Total equity	₩	4,462,923	₩	1,536	₩ 4,464,459

(i) Accounting for incremental costs of obtaining a contract

Under the previous standard, incremental costs of obtaining a contract such as a market fee for game publishing contract were expensed as they do not meet the requirement to recognize as assets.

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Korean IFRS 1115 expects that such costs would be directly incurred from a contract and be recovered after generating resources used in performance of a contract.

To reflect this revised standards, incremental costs for obtaining a contract amounting to ₩ 2,747,400 thousand were recognized as assets.

(ii) Accounting for sales with a right of return

When the customer has a right to return the product within a given period, the Company is obliged to refund the purchase price. The Company previously recognized a provision for returns which was measured on a net basis at the margin on the sale.

Under Korean IFRS 1115, a contract liability (a refund liability) for the expected refunds to customers is recognized. At the same time, a right to recover the product from the customer where the customer exercises the right of return is recognized as a contract asset.

To reflect this revised standards, provisions for sales returns amounting to ₩ 130,391 thousand were reclassified on January 1, 2018 as a refund liability of ₩ 640,889 thousand and a refund asset of ₩ 510,498, respectively, and the reclassified amounts are included in other current assets and other current liabilities, respectively.

(iii) Identifying a performance obligation and allocation of transaction price

Under the previous standard, one contract was considered as one performance obligation and revenue was recognized accordingly. Under Korean IFRS 1115, revenue is recognized for each performance obligation based on the relative individual selling price for various performance obligations identified from a contract.

To reflect this revised standards, other current assets and other current liabilities, recognized in accordance with the previous accounting policy, were decreased by ₩ 429,992 thousand and increased by ₩ 650,898 thousand respectively.

Financial statement line items affected by the adoption of the new rules in the current period are as follows:

Statement of financial position

<i>(in millions of Korean won)</i>	Reported amount (December 31, 2018)	Adjustment	Amount before application of Korean IFRS 1115 ¹
Other current assets	₩ 223,605	₩ (4,042)	₩ 219,564
Total assets	7,959,542	(4,042)	7,955,501
Other current liabilities	705,998	(1,997)	704,001

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Total liabilities	2,332,385	(1,997)	2,330,388
Retained earnings	453,400	(959)	452,442
Non-controlling interests	490,307	(1,086)	489,221
Total equity	<u>₩ 5,627,158</u>	<u>₩ (2,045)</u>	<u>₩ 5,625,113</u>

¹ Amounts include adjustments arising from adoption of Korean IFRS 1109.

Statement of profit or loss

<i>(in millions of Korean won)</i>	Reported amount (2018)	Adjustment	Amount before application of Korean IFRS 1115
Operating income	₩ 2,416,992	₩ -	₩ 2,416,992
Operating expenses ¹	2,340,959	(508)	2,340,451
Other non-operating income (expenses)	(11,241)	-	(11,241)
Finance income (costs)	62,310	-	62,531
Share of net profit (loss) of associates and joint venture	6,652	-	6,652
Income tax expense	114,781	-	114,781
Profit for the year	<u>₩ 15,889</u>	<u>₩ (508)</u>	<u>₩ 15,380</u>
Total comprehensive income for the year	<u>₩ 24,223</u>	<u>₩ -</u>	<u>₩ 24,223</u>

¹ Includes bad debt expense.

Statement of cash flows

<i>(in millions of Korean won)</i>	Reported amount (2018)	Adjustment	Amount before application of Korean IFRS 1115
Profit for the year	₩ 15,889	₩ (508)	₩ 15,380
Changes in assets and liabilities			
Decrease (increase) in other current assets	(108,627)	1,214	(107,414)
Increase (decrease) in other current liabilities	390,806	(705)	390,101
Cash generated from operations	<u>₩ 491,470</u>	<u>₩ -</u>	<u>₩ 491,470</u>

Under Korean IFRS 1115, the cash flow from other current assets and liabilities was increased and decreased by ₩ 1,213 million and ₩ 705 million respectively. However, total cash generated from operations is identical, compared to the cash flows under the previous standard.