

Kakao Corp. and Subsidiaries

Consolidated Financial Statements

December 31, 2017 and 2016

Kakao Corp. and Subsidiaries
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December 31, 2017 and 2016

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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.

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, 2017 and 2016 and the consolidated statements of comprehensive income, the consolidated statements of changes in equity and the consolidated statements of cash flows for the years then ended, and notes to the consolidated financial statements, including a summary of significant accounting policies and other explanatory information.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of the consolidated financial statements in accordance with International Financial Reporting Standards as adopted by the Republic of Korea ("Korean IFRS") and for such internal control as management determines is necessary to enable the preparation of financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's Responsibility

Our responsibility is to express an opinion on the consolidated financial statements based on our audits. We conducted our audits in accordance with Korean Standards on Auditing. Those standards require that we comply with ethical requirements, and plan and perform the audit to obtain reasonable assurance about whether the consolidated financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the consolidated financial statements. The procedures selected depend on our judgment, including the assessment of the risks of material misstatement of the consolidated financial statements, whether due to fraud or error. In making those risk assessments, we consider internal control relevant to the Company's preparation and fair presentation of the consolidated financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Company's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of accounting estimates made by management, as well as evaluating the overall presentation of the consolidated financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

Opinion

In our opinion, the accompanying consolidated financial statements present fairly, in all material respects, the consolidated financial position of Kakao Corp. and its subsidiaries as at December 31, 2017 and 2016, and its consolidated financial performance and its consolidated cash flows for the years then ended in accordance with Korean IFRS.

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 financial statements may differ from those generally accepted and applied in other countries.

The image shows the signature of Samil PricewaterhouseCoopers in a cursive script, enclosed within a rectangular border.

Seoul, Korea
March 8, 2018

This report is effective as at March 8, 2018, 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
As at December 31, 2017 and 2016

<i>(in millions of Korean won)</i>	Notes	2017		2016	
Assets					
Current assets					
Cash and cash equivalents	4,5,7,8	₩	1,116,793	₩	641,644
Short-term financial instruments	4,5,7		394,152		236,748
Available-for-sale securities	5,7,9		103		-
Derivative financial assets	4,5,7,23		53,650		3,942
Trade receivables	4,5,7,10		179,238		173,853
Other current financial assets	4,5,7,11		134,342		83,340
Inventories			21,560		12,555
Other current assets	14		93,258		64,876
			<u>1,993,096</u>		<u>1,216,958</u>
Non-current assets					
Long-term financial instruments	4,5,7		10,685		10,000
Available-for-sale securities	5,7,9		160,037		93,182
Investments in associates and joint venture	15		161,950		117,076
Other non-current financial assets	4,5,7,11		39,879		35,269
Property and equipment	16		271,044		253,854
Intangible assets	17		3,689,582		3,733,166
Other non-current assets	14		8,789		6,584
Deferred income tax assets	21		14,366		18,028
			<u>4,356,332</u>		<u>4,267,159</u>
Total assets		₩	<u>6,349,428</u>	₩	<u>5,484,117</u>
Liabilities					
Current Liabilities					
Trade and other payables	4,5,7,12	₩	280,380	₩	263,130
Short-term borrowings	4,5,7,18		174,372		203,900
Current portion of long-term borrowings	4,5,7,18		-		42
Other current financial liabilities	4,5,7,13		42,247		17,228
Income tax payable			115,123		30,944
Provisions	22		1,934		1,350
Derivative financial liabilities	4,5,7,23		2,254		7,375
Other current liabilities	14		424,553		282,051
			<u>1,040,863</u>		<u>806,020</u>
Non-current liabilities					
Non-current trade and other payables	4,5,7,12		1,607		2,548
Long-term borrowings	4,5,7,18		620,808		795,927
Non-current provisions	22		4,211		4,099
Net defined benefit liabilities	19		1,963		1,440
Other long-term employee benefits liabilities	20		32,015		28,220
Deferred income tax liabilities	21		139,502		142,919
Other non-current financial liabilities	4,5,7,13		640		-
			<u>800,746</u>		<u>975,153</u>
Total liabilities		₩	<u>1,841,609</u>	₩	<u>1,781,173</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
As at December 31, 2017 and 2016

<i>(in millions of Korean won)</i>	Notes	2017	2016
Equity			
Share capital	1,24	₩ 34,004	₩ 33,858
Share premium	24	3,603,587	3,105,014
Other component of equity	25,26	(6,026)	(11,232)
Accumulated other comprehensive income	27	(4,968)	920
Retained earnings	28	402,542	303,952
Equity attributable to owners of the Parent Company		<u>4,029,139</u>	<u>3,432,512</u>
Non-controlling interest		<u>478,681</u>	<u>270,432</u>
Total equity		<u>4,507,820</u>	<u>3,702,944</u>
Total liabilities and equity		<u>₩ 6,349,428</u>	<u>₩ 5,484,117</u>

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
For the Years ended December 31, 2017 and 2016

	Note	2017	2016
<i>(in millions of Korean won, except per share amounts)</i>			
Revenue	6	₩ 1,972,326	₩ 1,464,233
Operating expenses	29	<u>1,806,947</u>	<u>1,348,098</u>
Operating income		165,379	116,135
Other non-operating income	30	36,247	25,257
Other non-operating expenses	30	90,568	31,406
Finance income	31	78,947	24,673
Finance costs	31	45,744	23,979
Share of net income (loss) of associates and joint venture	15	<u>9,037</u>	<u>(10,384)</u>
Profit before income tax		<u>153,298</u>	<u>100,296</u>
Income tax expense	21	<u>28,204</u>	<u>34,841</u>
Profit for the year		<u>125,094</u>	<u>65,455</u>
Profit is attributable to:			
Equity holders of the Parent Company		108,596	57,674
Non-controlling interest		<u>16,498</u>	<u>7,781</u>
Other comprehensive income (loss)			
Items not to be reclassified subsequently to profit or loss:			
Remeasurement of net defined benefit liabilities		(2,561)	3,312
Items to be reclassified subsequently to profit or loss:			
Gains (losses) on valuation of available-for-sale securities, net of tax		(1)	(3,895)
Share of other comprehensive income of associates, net of tax		(803)	561
Foreign currency translation adjustments, net of tax		<u>(2,614)</u>	<u>(540)</u>
Other comprehensive income (loss) for the year, net of tax		(5,979)	(562)
Total comprehensive income for the year		<u>₩ 119,115</u>	<u>₩ 64,893</u>
Total comprehensive income for the year is attributable to:			
Equity holders of the Parent Company		₩ 102,708	₩ 57,765
Non-controlling interest		<u>₩ 16,407</u>	<u>₩ 7,128</u>
Earnings per share to the equity holders of the Parent Company	32		
Basic earnings per share		<u>₩ 1,602</u>	<u>₩ 874</u>
Diluted earnings per share		<u>₩ 1,552</u>	<u>₩ 850</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
For the Years ended December 31, 2017 and 2016

(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, 2016		₩ 30,098	₩ 2,274,186	₩ (9,032)	₩ 829	₩ 256,313	₩ 2,552,394	₩ 33,081	₩ 2,585,475
Comprehensive income :									
Profit for the year		-	-	-	-	57,674	57,674	7,781	65,455
Foreign currency translation adjustments, net of tax		-	-	-	(571)	-	(571)	31	(540)
Share of other comprehensive income of associates, net of tax		-	-	-	292	-	292	269	561
Loss on valuation of available-for-sale securities, net of tax		-	-	-	(3,014)	-	(3,014)	(881)	(3,895)
Remeasurement of defined benefit obligation		-	-	-	3,384	-	3,384	(72)	3,312
Total comprehensive income for the year		-	-	-	91	57,674	57,765	7,128	64,893
Transactions with equity holders :									
Exercise of stock options	24,25	303	9,842	(2,241)	-	-	7,904	213	8,117
Issue of ordinary shares	24	3,457	754,226	-	-	-	757,683	-	757,683
Share-based compensation	25	-	-	41	-	-	41	1,733	1,774
Cash dividends		-	-	-	-	(10,035)	(10,035)	(1,303)	(11,338)
Change in ownership interest over subsidiaries		-	66,760	-	-	-	66,760	86,536	153,296
Change in scope of consolidation		-	-	-	-	-	-	143,044	143,044
Total transactions with equity holders		3,760	830,828	(2,200)	-	(10,035)	822,353	230,223	1,052,576
Balance at December 31, 2016		₩ 33,858	₩ 3,105,014	₩ (11,232)	₩ 920	₩ 303,952	₩ 3,432,512	₩ 270,432	₩ 3,702,944

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
For the Years ended December 31, 2017 and 2016

(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, 2017		₩ 33,858	₩ 3,105,014	₩ (11,232)	₩ 920	₩ 303,952	₩ 3,432,512	₩ 270,432	₩ 3,702,944
Comprehensive income :									
Profit for the year		-	-	-	-	108,596	108,596	16,498	125,094
Foreign currency translation adjustments, net of tax		-	-	-	(2,961)	-	(2,961)	347	(2,614)
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)	129	(1)
Remeasurement of defined benefit obligation		-	-	-	(1,728)	-	(1,728)	(833)	(2,561)
Total comprehensive income for the year		-	-	-	(5,888)	108,596	102,708	16,407	119,115
Transactions with equity holders :									
Exercise of stock options	24,25	121	1,955	(428)	-	-	1,649	1,501	3,150
Conversion of convertible bonds	18	25	5,954	-	-	-	5,979	-	5,979
Share-based compensation	25	-	-	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	192,999	683,663
Change in scope of consolidation		-	-	-	-	-	-	3,792	3,792
Total transactions with equity holders		146	498,573	5,205	-	(10,006)	493,918	191,842	685,761
Balance at December 31, 2017		₩ 34,004	₩ 3,603,587	₩ (6,026)	₩ (4,968)	₩ 402,542	₩ 4,029,139	₩ 478,681	₩ 4,507,820

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
For the Years ended December 31, 2017 and 2016

<i>(in millions of Korean won)</i>	Note	2017	2016
Cash flows from operating activities			
Cash generated from operations	34	₩ 362,297	₩ 370,705
Interest received		13,198	9,381
Interest paid		(3,400)	(9,131)
Dividend received		2,481	659
Income tax paid		(2,650)	(54,355)
Net cash inflow from operating activities		<u>371,927</u>	<u>317,259</u>
Cash flows from investing activities			
Decrease (increase) in short-term financial instruments		(155,359)	254,077
Decrease (increase) in long-term financial instruments		(126)	193
Purchase of property and equipment	16	(75,165)	(80,964)
Disposal of property and equipment		2,942	521
Purchase of intangible assets	17	(29,676)	(24,261)
Disposal of intangible assets		1,845	368
Acquisition of available-for-sale securities	9	(85,030)	(52,496)
Disposal of available-for-sale securities		22,401	6,912
Acquisition of associates	15	(48,316)	(60,750)
Disposal of associates		5,847	1,265
Acquisition of subsidiaries, net of cash acquired		8,852	(1,044,383)
Disposal of subsidiaries, net of cash acquired		-	970
Decrease in other non-current financial assets		5,955	10,009
Increase in other non-current financial assets		(7,913)	(13,070)
Increase in other non-current financial liabilities		692	-
Decrease (increase) in short-term loan receivables		(3,620)	398
Increase in long-term loan receivables		-	(150)
Acquisition of derivative financial assets		-	(3,702)
Disposal of derivative financial assets		2,030	5,093
Other cash outflow from investing activities		(29)	(41)
Net cash outflow from investing activities		<u>(354,669)</u>	<u>(1,000,011)</u>
Cash flows from financing activities			
Proceeds from short-term borrowings		452,163	1,000,000
Repayments of short-term borrowings		(653,770)	(800,450)
Repayments of long-term borrowings		(250)	-
Exercise of stock options		3,150	8,117
Issuance of corporate bonds, convertible bonds, and exchangeable bonds		-	794,549
Repayments of corporate bonds		(168)	(201,987)
Payments of dividends		(16,000)	(11,338)
Acquisition of non-controlling interests		-	(2,600)
New shares issued by subsidiaries (to non-controlling interest shareholders)		686,204	137,521
Distribution of investments		(3,724)	-
Other cash outflow from financing activities		-	(19)
Net cash inflow from financing activities		<u>₩ 467,605</u>	<u>₩ 923,793</u>

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
For the Years ended December 31, 2017 and 2016

<i>(in millions of Korean won)</i>	Note	2017	2016
Net increase in cash and cash equivalents	₩	484,863	₩ 241,041
Effect of exchange rate changes on cash and cash equivalents		(9,714)	3,426
Cash and cash equivalents at the beginning of year		641,644	397,177
Cash and cash equivalents at the end of year	₩	<u>1,116,793</u>	₩ <u>641,644</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, 2017 and 2016

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 63 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, 2017, the Parent Company’s share capital amounted to ₩34,004 million and the Parent Company’s shareholders are as follows:

	<u>Number of shares</u>	<u>Percentage of ownership (%)</u>
Kim Bum Soo	12,534,461	18.46
K Cube Holdings Co., Ltd.	9,949,467	14.65
MAXIMO PTE. LTD.	5,599,849	8.24
Star Invest Holdings Limited	2,777,986	4.09
National Pension Service	4,806,958	7.08
Other related parties	1,939,850	2.86
Others	30,294,768	44.61
	<u>67,903,339</u>	<u>99.99</u>
Treasury shares	5,188	0.01
	<u>67,908,527</u>	<u>100.00</u>

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2017 and 2016

Details of the consolidated subsidiaries as at December 31, 2017, 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.	61,057	Service operations	Singapore	December 31	73,128,000	100.0
PT. PATH MOBILE INDONESIA ¹	4,810	Service operations	Indonesia	December 31	4,400,000	100.0
DK Service	511	Service operations	Korea	December 31	102,136	100.0
DK Techin	993	Service operations	Korea	December 31	198,605	100.0
DK Business	1,074	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. ²	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
KAKAO SINGAPORE PTE. Ltd.	299	Software development and services	Singapore	December 31	3,300	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
Ultra Interactive, Inc. ⁴	18	Software development and services	USA	December 31	1,000,000	100.0
KAKAO JAPAN Corp.	2,111	Software development and services	Japan	December 31	465,240	100.0
Kids Note Co., Ltd.	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
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	490	60.6
KAKAO Venture Fund ^{7,8}	27,000	Investment/Holding company	Korea	December 31	110	36.7
Locnall Inc.	391	Software development and services	Korea	December 31	122,231	100.0
Kakao Friends Corp.	1,600	Contents sales	Korea	December 31	160,000	100.0
Valuepotion ¹⁵	99	Mobile marketing service	Korea	December 31	19,714	100.0
Valuepotion Pte.LTD ⁹	825	Mobile marketing service	Singapore	December 31	985,442	100.0
CARDOC Inc. ⁶	535	Online information service	Korea	December 31	313,100	58.5
Kakao Games Corp.	451	Game development and services	Korea	December 31	67,460	74.9
NGLE CORPORATION ³	205	Game development and services	Korea	December 31	210,000	51.2
Peoplug Inc. ³	1	Game development and services	Korea	December 31	3,454	78.9
SuperNova11 Corp. ³	136	Game development and services	Korea	December 31	1,359,001	100.0
Kakao Games Europe B.V. ³	1,296	Game development and services	Netherlands	December 31	1,000,000	100.0
Kakao Games USA. Inc. ¹²	2,305	Game development and services	USA	December 31	1,000,000	100.0
About-time	11	Software development and services	Korea	December 31	22,223	100.0
Podotree Inc.	7,427	Software development and services	Korea	December 31	8,466,404	57.0
Kakao digital contents Fund ⁸	37,100	Investment/Holding company	Korea	December 31	150	40.4

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

December 31, 2017 and 2016

(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	30,000	Investment/Holding company	Korea	December 31	30,000	100.0
Linkage Lab	100	Services	Korea	December 31	20,000	100.0
LOEN ENTERTAINMENT, INC.	12,646	Recording Media Reproduction	Korea	December 31	19,322,346	76.4
STARSHIP ENTERTAINMENT CORP. ¹⁰	54	Entertainment management	Korea	December 31	7,000	64.8
PLAN A ENTERTAINMENT ¹⁰	50	Entertainment management	Korea	December 31	7,000	70.0
MTECHCREW, INC. ¹⁰	50	Data processing business	Korea	December 31	10,000	100.0
Fave Entertainment Co., Ltd. ¹⁰	200	Entertainment management	Korea	December 31	32,000	80.0
Cre.ker Entertainment Co., Ltd. ¹⁰	200	Entertainment management	Korea	December 31	32,000	80.0
Mun Hwa In Co., Ltd. ¹⁰	148	Entertainment management	Korea	December 31	20,000	67.5
Krispy Studio Corporation	50	Mobile video contents production	Korea	December 31	100,000	100.0
Parking Square Inc.	81	Software development and services	Korea	December 31	162,502	100.0
Numberworks Inc.	102	Software development and services	Korea	December 31	1,023,076	100.0
KVG SG PTE.LTD ⁶	1,313	Holding company	Singapore	December 31	1,100,000	100.0
KAKAO_CCVC Jeju Creative Economy Innovative Fund	2,000	Investment/Holding company	Korea	December 31	190	95.0
BLUEPIN INC. ⁶	796	Software development and services	Korea	December 31	81,231	51.0
Kakao Makers Corp. ⁵	53	Software development and services	Korea	December 31	103,070	97.2
KAKAO Brain ⁵	100	Software development	Korea	December 31	200,000	100.0
Kakao Investment Co., Ltd. ¹⁶	14,372	Investment/Holding company	Korea	December 31	1,437,221	100.0
K Venture Group ^{5,6}	100	Investment/Holding company	Korea	December 31	10,000	100.0
Tangram Design Lab Inc.	218	Communication design	Korea	December 31	42,035	96.5
HASYS	246	Computer program development	Korea	December 31	250,540	51.0
Fixel Hub Co.,Ltd. ¹³	500	Software development and services	Korea	December 31	51,000	51.0
Pinplay ¹³	3,000	Software development and services	Korea	December 31	310,007	51.7
Kakaopay Corp. ⁵	9,494	Software development and services	Korea	December 31	11,563,447	60.9
Kakao Mobility Corp. (formerly, KM Company Ltd.) ⁵	2,394	Software development and services	Korea	December 31	17,325,000	72.4
Mega monsters (formerly, Storyplant)	13,700	Software development and services	Korea	December 31	24,400,000	89.1
House of Music ^{5, 11}	100	Entertainment management	Korea	December 31	154,000	77.0
Kakao VX ³	9,427	Service operations	Korea	December 31	1,885,333	100.0
TAE SIK Trading Company ¹⁴	579	Service operations	Korea	December 31	1	100.0
Gswing China Corporation ¹⁴	574	Service operations	Korea	December 31	1	100.0

¹ 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, 2017.

² 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, 2017.

³ 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, 2017.

⁴ As a subsidiary of Ultra Caption Corp., the number of shares and the percentage of ownership represent Ultra Caption Corp.'s ownership as at December 31, 2017.

Kakao Corp. and Subsidiaries

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⁵ Newly established in 2017.

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, 2017.

⁷ As a subsidiary of K CUBE VENTURES Co., Ltd., the number of shares and the percentage of ownership represent K CUBE VENTURES Co., Ltd.'s ownership as at December 31, 2017.

⁸ Classified as a subsidiary although the ownership is less than 50% as the Company is considered to have a control over the investees.

⁹ As a subsidiary of Valuepotion, the number of shares and the percentage of ownership represent Valuepotion's ownership as at December 31, 2017.

¹⁰ As a subsidiary of LOEN ENTERTAINMENT, INC., the number of shares and the percentage of ownership represent LOEN ENTERTAINMENT, INC.'s ownership as at December 31, 2017.

¹¹ 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, 2017.

¹² 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, 2017.

¹³ As a subsidiary of BLUEPIN INC., the number of shares and the percentage of ownership represent BLUEPIN INC.'s ownership as at December 31, 2017.

¹⁴ As a subsidiary of Kakao VX, the number of shares and the percentage of ownership represent Kakao VX's ownership as at December 31, 2017.

¹⁵ As a subsidiary of Podotree Inc., the number of shares and the percentage of ownership represent Podotree Inc.'s ownership as at December 31, 2017.

¹⁶ Established by equity spinoff of Kakao Games Holdings Co., Ltd. (formerly, K Venture Group).

Kakao Corp. and Subsidiaries

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The reason why the aforementioned subsidiaries are newly included in consolidation for the year ended December 31, 2017, is as follows:

Subsidiaries	Reason
Tangram Design Lab Inc.	Reclassified to a subsidiary from an associate through additional acquisition
HASYS	Reclassified to a subsidiary from an associate through additional acquisition
KAKAO Brain	Newly established
Kakao Makers Corp.	Newly established
Krispy Studio Corporation	Newly established
Fixel Hub Co.,Ltd.	Newly acquired
Kakaopay Corp.	Newly established
Kakao Mobility Corp. (formerly, KM Company Ltd.)	Newly established
Mega monsters (formerly, Storyplant)	Newly acquired
Kakao Investment Co., Ltd.	Newly established
K Venture Group ¹	Newly established
Pinplay	Newly acquired
House of Music	Newly acquired
Kakao VX	Newly acquired
TAE SIK Trading Company	Newly acquired
Gswing China Corporation	Newly acquired

¹K Venture Group was newly established and the former K Venture Group changed its name to Kakao Games Holdings Co., Ltd..

Status of subsidiaries excluded from consolidation for the year ended December 31, 2017, is as follows:

Company	Reason
King Kong Entertainment Co., Ltd.	Merged with STARSHIP ENTERTAINMENT CORP.
Lotiple Inc.	Liquidation
Thinkreals Corp.	Liquidation
Kakao Lab Corp.	Liquidation
Sunnyloft Corp.	Liquidation
Genie labs	Liquidation
Aina Corporation	Liquidation
NAVIRO Co.,Ltd.	Liquidation
Sellit Inc.	Disposal of investments
Kakao Games Holdings Co., Ltd.	Merged with Kakao Corp.

Kakao Corp. and Subsidiaries
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The summarized financial information for consolidated subsidiaries as at and for the year ended December 31, 2017, is as follows:

(in millions of Korean won)

	2017					
	Assets	Liabilities	Equity	Revenue	Net income (loss)	Comprehensive income (loss)
Daum Global Holdings	₩ 694	₩ 10	₩ 685	₩ -	₩ (1,014)	₩ (1,014)
PATH MOBILE INC. PTE. LTD.	8,862	133	8,729	1,470	(25,762)	(26,600)
PT. PATH MOBILE INDONESIA	2,471	411	2,060	860	(1,397)	(1,493)
DK Service	2,406	1,751	655	12,898	73	28
DK Techin	2,205	1,319	885	10,617	52	(79)
DK Business	3,692	1,783	1,909	15,260	161	(52)
Daum Service CHINA Co., Ltd.	426	48	378	375	(38)	(51)
Daum Service CHINA YanJiao Co., Ltd.	899	244	655	3,287	64	55
ImageOn Corp.	2,868	610	2,258	3,296	1,112	1,108
Buzzpia Company	3,643	2,989	654	61	37	37
KAKAO SINGAPORE PTE. Ltd.	74	-	74	-	(4)	(8)
Beijing KAKAO Co., Ltd.	6,284	684	5,600	69	(3,337)	(3,782)
Ultra Caption Corp.	262	1	261	-	(22)	(22)
KAKAO JAPAN Corp.	27,860	8,825	19,036	25,677	(21,654)	(22,625)
Kids Note Co., Ltd.	1,314	1,831	(517)	2,367	(1,797)	(1,797)
TNK Factory	21,730	3,312	18,417	22,495	2,782	2,696
K CUBE VENTURES Co., Ltd.	22,418	1,012	21,406	2,381	1,036	1,036
K Cube Venture Fund no.1	21,742	144	21,598	-	16,415	15,383
KAKAO Venture Fund	24,270	578	23,692	-	(648)	(1,309)
Loconn Inc.	3,360	16,882	(13,522)	110	(11,130)	(11,750)
Kakao Friends Corp.	62,257	15,309	46,948	97,604	19,967	19,992
Valuepotion	11,645	23,832	(12,188)	1,519	(2,169)	(2,168)
Valuepotion.Pte.LTD.	154	763	(610)	791	(500)	(395)
CARDOC Inc.	5,258	229	5,029	2,094	(1,471)	(1,471)
Kakao Games Corp.	278,258	83,444	194,815	163,240	56,734	60,106
NGLE CORPORATION	974	169	805	2,338	252	252
Peoplug Inc.	273	2,312	(2,039)	30	(917)	(917)
SuperNova11 Corp.	2,397	5,694	(3,297)	1,651	(3,358)	(3,358)
KAKAO Games Europe B.V.	44,183	16,739	27,443	91,436	11,328	11,103
KAKAO Games USA. Inc.	3,303	149	3,154	4,205	1,432	1,414
About-time	93	-	93	-	(23)	(23)
Podotree Inc.	174,821	13,942	160,880	131,801	7,803	7,464
Kakao Digital Contents Fund	35,922	211	35,711	-	(423)	(468)
Kakao Game Growth Share Fund	32,357	119	32,238	-	(1,049)	2,784
Linkage Lab	514	123	391	902	(214)	(214)
LOEN ENTERTAINMENT, INC.	520,384	178,256	342,128	550,021	71,508	75,080
STARSHIP ENTERTAINMENT CORP.	22,271	9,449	12,822	31,351	877	877
PLAN A ENTERTAINMENT	10,180	2,258	7,922	9,295	703	703
MTECHCREW, Inc.	1,590	336	1,254	5,023	256	256
Fave Entertainment Co., Ltd.	2,104	352	1,752	3,839	513	504
Cre.ker Entertainment Co., Ltd.	2,872	3,708	(836)	1,224	(1,817)	(1,821)
Mun Hwa In Co., Ltd.	3,353	1,661	1,692	6,191	(638)	(638)
Krispy Studio Corporation ¹	348	96	252	247	(748)	(748)
Parking Square Inc.	501	62	440	2,038	(151)	(137)
Numberworks Inc.	25	1	24	-	(48)	(48)
KVG SG PTE.LTD.	1,296	-	1,296	-	(28)	(51)
KAKAO_CCVC Jeju Creative Economy Innovative Fund	1,972	12	1,961	-	(68)	(68)
BLUEPIN Inc.	6,194	715	5,478	3,098	47	47
Kakao Makers Corp. ¹	6,958	1,346	5,612	19,525	1,122	1,122
KAKAO Brain ¹	16,862	502	16,360	10	(3,636)	(3,636)
Kakao Investment Co., Ltd. ¹	116,688	1,765	114,922	29	(9,335)	(9,460)

(in millions of Korean won)

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	Assets	Liabilities	Equity	Revenue	Net income (loss)	Comprehensive income (loss)
K Venture Group ¹	979	3	976	-	(21)	(18)
Tangram Design Lab Inc. ¹	223	275	(52)	689	(487)	(487)
HASYS ¹	4,288	1,954	2,333	6,432	(252)	(294)
Fixel Hub Co.,Ltd. ¹	955	548	407	731	305	305
Kakaopay Corp. ¹	284,222	79,771	204,452	10,594	(25,410)	(25,410)
Kakao Mobility Corp. (formerly, KM Company Ltd.) ¹	265,871	9,451	256,420	16,262	(10,051)	(10,051)
Mega monsters (formerly, Storyplant) ¹	11,042	53	10,988	7	(547)	(547)
House of Music ¹	100	2	98	-	(2)	(2)
Pinplay ¹	4,651	1,710	2,941	-	-	-
Kakao VX ¹	36,758	7,944	28,814	-	-	-
TAE SIK Trading Company ¹	3,010	2,842	168	-	-	-
Gswing China Corporation ¹	642	895	(253)	-	-	-

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

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.

Kakao Corp. and Subsidiaries

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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, 2017. The adoption of these amendments did not have any significant impact on the consolidated financial statements.

*- Amendments to Korean IFRS 1007 *Statement of Cash Flows* (“Korean IFRS 1007”)*

Amendments to Korean IFRS 1007 require to provide disclosures that enable users of the consolidated financial statements to evaluate changes in liabilities arising from financing activities, including both changes arising from cash flows and non-cash flows (Note 34).

*- Amendments to Korean IFRS 1012 *Income Tax* (“Korean IFRS 1012”)*

Amendments to Korean IFRS 1012 clarify how to account for deferred tax assets related to debt instruments measured at fair value. Korean IFRS 1012 provides requirements on the recognition and measurement of current or deferred tax liabilities or assets. The amendments issued clarify the requirements on recognition of deferred tax assets for unrealized losses, to address diversity in practice.

*- Amendments to Korean IFRS 1112 *Disclosures of Interests in Other Entities* (“Korean IFRS 1112”)*

Amendments to Korean IFRS 1112 clarify when an entity's interest in a subsidiary, a joint venture or an associate is classified as held for sales in accordance with Korean IFRS 1105, the entity is required to disclose other information except for summarized financial information in accordance with Korean IFRS 1112.

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

Certain new accounting standards and interpretations that have been published that are not mandatory for annual reporting period commencing January 1, 2017 and have not been early adopted by the Company are set out below.

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

When an investment in an associate or a joint venture is held by, or it 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 that investment at fair value through profit or loss in accordance with Korean IFRS 1109. The amendments clarify that an entity shall make this election separately for each associate or joint venture, at initial recognition of the associate or joint venture. The amendments will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Company does not expect the amendments to have a significant impact on the financial statements because the Company is not a venture capital organization.

- Amendment to Korean IFRS 1040 *Transfers of Investment Property* ("Korean IFRS 1040")

Paragraph 57 of 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 provides a list of circumstances as examples. The amendment will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Company does not expect the amendment to have a significant impact on the consolidated financial statements.

- Amendments to Korean IFRS 1102 *Share-based Payment* ("Korean IFRS 1102")

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 amendments will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Company does not expect the amendments to have a significant impact on the consolidated financial statements.

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

According to these enactments, 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. If there are multiple payments or receipts in advance, the entity shall determine a date of the transaction for each payment or receipt of advance consideration. These enactments will be effective for annual periods beginning on or after January 1, 2018, with early adoption permitted. The Company does not expect the enactments to have a significant impact on the consolidated financial statements.

Kakao Corp. and Subsidiaries

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- Enactment of Korean IFRS 1116 *Leases* (“*Korean IFRS 1116*”)

Korean IFRS 1116 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*, Interpretation 2104 *Determining whether an Arrangement contains a Lease*, Interpretation 2015 *Operating Leases-Incentives*, and Interpretation 2027 *Evaluating the Substance of Transactions Involving the Legal Form of a Lease*.

At inception of a contract, the Company shall assess whether the contract is, or contains, a lease. Also, at the date of initial application, the Company shall assess whether the contract is, or contains, a lease in accordance with the standard. However, the entity will not need to reassess all contracts with applying the practical expedient because the entity elected to apply the practical expedient only to contracts entered before the date of initial application.

For a contract that is, or contains, a lease, the Company shall account for each lease component within the contract as a lease separately from non-lease components of the contract. A lessee is required to recognize a right-of-use asset representing its right to use the underlying leased asset and a lease liability representing its obligation to make lease payments. The lessee may elect not to apply the requirements to short-term lease (a lease term of 12 months or less at the commencement date) and low value assets. In addition, as a practical expedient, the lessee may elect, by class of underlying asset, not to separate non-lease components from lease components, and instead account for each lease component and any associated non-lease components as a single lease component.

A lessee shall apply this standard to its leases either:

- retrospectively to each prior reporting period presented applying Korean IFRS 1008 Accounting Policies, Changes in Accounting Estimates and Errors (Full retrospective application); or
- retrospectively with the cumulative effect of initially applying the standard recognized at the date of initial application.

The Company has not yet elected the application method.

The Company performed an impact assessment to identify potential financial effects of applying Korean IFRS 1116. The assessment was performed based on available information as at December 31, 2017 to identify effects on 2017 financial statements. The Company is analyzing the effects on the consolidated financial statements; however, it is difficult to provide reasonable estimates of financial effects until the analyses is complete.

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- Enactment of Korean IFRS 1109 *Financial Instruments* (“Korean IFRS 1109”)

The new standard for financial instruments issued on September 25, 2015 is effective for annual periods beginning on or after January 1, 2018 with early application permitted. This standard will replace Korean IFRS 1039 *Financial Instruments: Recognition and Measurement*. The Company will apply the standards for annual periods beginning on or after January 1, 2018.

The standard requires retrospective application with some exceptions. For example, an entity is not required to restate prior period in relation to classification and measurement (including impairment) of financial instruments. The standard requires prospective application of its hedge accounting requirements for all hedging relationships except the accounting for time value of options and other exceptions.

Korean IFRS 1109 requires three main areas including: (a) classification and measurement of financial assets on the basis of the entity’s business model for managing financial assets and the contractual cash flow characteristics of the financial assets, (b) a new impairment model of financial instruments based on the expected credit losses, and (c) hedge accounting including expansion of the range of eligible hedging instruments and hedged items that qualify for hedge accounting or change of a method of hedge effectiveness assessment.

An effective implementation of Korean IFRS 1109 requires preparation processes including financial impact assessment, accounting policy establishment, accounting system development and the system stabilization. The impact on the Company’s financial statements due to the application of the standard is dependent on judgements made in applying the standard, financial instruments held by the Company and macroeconomic variables.

The Company performed an impact assessment to identify potential financial effects of applying Korean IFRS 1109. The assessment was performed based on available information as at December 31, 2017, and the results of the assessment are explained as below. The Company plans to perform more detailed analyses on the financial effects based on additional information in the future; therefore, the results of the assessment may change due to additional information that the Company may obtain after the assessment.

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(a) *Classification and Measurement of Financial Assets*

When implementing Korean IFRS 1109, the classification of financial assets will be driven by the Company's business model for managing the financial assets and contractual terms of cash flow. The following table shows the classification of financial assets measured subsequently at amortized cost, at fair value through other comprehensive income and at fair value through profit or loss. If a hybrid contract contains a host that is a financial asset, the classification of the hybrid contract shall be determined for the entire contract without separating the embedded derivative.

<i>Business model for the contractual cash flows characteristics</i>	Solely represent payments of principal and interest	All other
<i>Hold the financial asset for the collection of the contractual cash flows</i>	Measured at amortized cost ¹	
<i>Hold the financial asset for the collection of the contractual cash flows and sale</i>	Recognized at fair value through other comprehensive income ¹	Recognized at fair value through profit or loss ²
<i>Hold for sale</i>	Recognized at fair value through profit or loss	

¹ A designation at fair value through profit or loss is allowed only if such designation mitigates an accounting mismatch (irrevocable).

² Equity investments not held for trading can be recorded in other comprehensive income (irrevocable).

With the implementation of Korean IFRS 1109, the criteria to classify the financial assets at amortized cost or at fair value through other comprehensive income are more strictly applied than the criteria applied with Korean IFRS 1039. Accordingly, the financial assets at fair value through profit or loss may increase by implementing Korean IFRS 1109 and may result an extended fluctuation in profit or loss.

As at December 31, 2017, the Company owns financial assets at fair value through profit or loss of ₩ 53,650 million, loans and receivables of ₩ 1,875,090 million, and financial assets available-for-sales of ₩ 160,140 million.

According to Korean IFRS 1109, a debt instrument is measured at amortized cost if: a) the objective of the business model is to hold the financial asset for the collection of the contractual cash flows, and b) the contractual cash flows under the instrument solely represent payments of principal and interest. As at December 31, 2017, the Company measured loans and receivables of ₩ 1,875,090 million at amortized costs.

Kakao Corp. and Subsidiaries

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Based on results from the impact assessment of Korean IFRS 1109, the application of the new standard as at December 31, 2017 does not have a material impact on the Company's consolidated financial statements. This is because the Company holds the majority of financial assets measured at amortized cost that meets the both criteria: a) the contractual terms of the financial assets that the Company holds give rise to cash flows that are solely payments of principal and interest on the principal amount outstanding on a specified date, and b) the Company holds the financial assets in order to collect contractual cash flow.

According to Korean IFRS 1109, a debt instrument is measured at fair value through other comprehensive income if the objective of the business model is achieved both by collecting contractual cash flows and selling financial assets; and the contractual cash flows represents solely payments of principal and interest on a specific date under contract terms. As at December 31, 2017, the Company holds debt instruments of ₩ 7,283 million classified as financial assets available-for-sale in total.

Based on results from the impact assessment of Korean IFRS 1109, if Korean IFRS 1109 is applied for the above debt instruments classified as financial assets available-for-sale, the Company expects the majority of the financial assets to be measured at fair value through other comprehensive income. Meanwhile, the financial assets contain host debt contracts of ₩ 5,470 million, and these assets do not meet the criteria of the contractual cash flows under the instrument solely represent payments of principal and interest on the principal amount. The financial assets that do not meet the criteria are measured at fair value through profit or loss and as a result volatility in profit or loss may increase.

According to Korean IFRS 1109, equity instruments that are not held for trading, the Company can make an irrevocable election at initial recognition to classify the instruments as assets measured at fair value through other comprehensive income, which all subsequent changes in fair value being recognized in other comprehensive income and not recycled to profit or loss. As at December 31, 2017, the Company holds equity instruments of ₩ 152,828 million classified as financial assets available-for-sale.

Based on results from the impact assessment of Korean IFRS 1109, the Company plans to designate equity instruments, which are classified in financial assets available-for-sale, as instruments measured at fair value through other comprehensive income for long-term investment purpose. Therefore, the Company expects the application of Korean IFRS 1109 on these financial assets will not have a material impact on the consolidated financial statements, but a part of available-for-sale financial assets that meet the criteria as financial assets at fair value through profit or loss may cause volatility in profit or loss to increase.

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According to Korean IFRS 1109, debt instruments those contractual cash flows do not represent solely payments of principal and interest and held for trading, and equity instruments that are not designated as instruments measured at fair value through other comprehensive income are measured at fair value through profit or loss. As at December 2017, the Company holds financial instruments classified as financial assets at fair value through profit or loss that amount to ₩ 53,650 million.

Based on results from the impact assessment, the Company expects the application of Korean IFRS 1109 on the aforementioned financial assets will not have a material impact on the consolidated financial statements.

(b) Classification and Measurement of Financial Liabilities

Korean IFRS 1109 requires the amount of the change in the liability's fair value attributable to changes in the credit risk to be recognized in other comprehensive income, unless this treatment of the credit risk component creates or enlarges a measurement mismatch. Amounts presented in other comprehensive income are not subsequently transferred to profit or loss.

Under Korean IFRS 1039, all financial liabilities designated at fair value through profit or loss recognized their fair value movements in profit or loss. However, under Korean IFRS 1109, certain fair value movements will be recognized in other comprehensive income and as a result profit or loss from fair value movements may decrease. As at December 31, 2017, the Company recognized financial liabilities at amortized cost of ₩ 1,120,054 million and ₩ 2,254 million of financial liabilities measured at fair value through profit or loss (derivative liabilities).

Based on results from the impact assessment, the financial liabilities in applying Korean IFRS 1109 may not be expected to have a material impact on the consolidated financial statements.

(c) Impairment: Financial Assets and Contract Assets

The new impairment model requires the recognition of impairment provisions based on expected credit losses (ECL) rather than only incurred credit losses as is the case under Korean IFRS 1039. It applies to financial assets classified at amortized cost, debt instruments measured at fair value through other comprehensive income, lease receivables, contract assets, loan commitments and certain financial guarantee contracts.

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Under Korean IFRS 1109 ‘expected loss’ model, a credit event (or impairment ‘trigger’) no longer has to occur before credit losses are recognized. The Company will always recognize (at a minimum) 12-month expected credit losses in profit or loss. Lifetime expected losses will be recognized on assets for which there is a significant increase in credit risk after initial recognition.

Stage¹		Loss allowance
1	No significant increase in credit risk after initial recognition ²	12-month expected credit losses (expected credit losses that result from those default events on the financial instrument that are possible within 12 months after the reporting date)
2	Significant increase in credit risk after initial recognition	Lifetime expected credit losses (expected credit losses that result from all possible default events over the life of the financial instrument)
3	Credit-impaired	

¹ A loss allowance for lifetime expected credit losses is required for a financial instrument if the credit risk on that financial instrument has increased significantly since initial recognition. It is also required for contract assets or trade receivables that are not, according to Korean IFRS 1115 Revenue from Contracts with Customers, considered to contain a significant financing component. Additionally, the Company can elect an accounting policy of recognizing lifetime expected credit losses for all contract assets and/or all trade receivables, including those that contain a significant financing component.

² If the financial instrument has low credit risk at the end of the reporting period, the Company may assume that the credit risk has not increased significantly since initial recognition.

Under Korean IFRS 1109, the asset that is credit-impaired at initial recognition would recognize all changes in lifetime expected credit losses since the initial recognition as a loss allowance with any changes recognized in profit or loss.

As at December 31, 2017, the Company owns debt investment carried at amortized cost of ₩ 1,918,526 million (loans and receivables of ₩ 1,918,526 million), debt investments carried at fair value through other comprehensive income, which classified as financial assets available-for-sales, of ₩ 7,238 million. And, the Company recognized loss allowance of ₩ 43,436 million for these assets.

Based on results from the impact assessment, the Company does not expect that these financial items would have a material impact on its consolidated financial statements.

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- Enactment of Korean IFRS 1115 *Revenue from Contracts with Customers* (“Korean IFRS 1115”)

Korean IFRS 1115 issued on November 6, 2015 will be effective for annual reporting periods beginning on or after January 1, 2018 with early adoption permitted. This standard replaces Korean IFRS 1018 *Revenue*, Korean IFRS 1011 *Construction Contracts*, Interpretation 2031 *Revenue-Barter Transactions Involving Advertising Services*, Interpretation 2113 *Customer Loyalty Programs*, Interpretation 2115 *Agreements for the Construction of Real Estate* and Interpretation 2118 *Transfers of assets from customers*.

The Company must apply Korean IFRS 1115 within annual reporting periods beginning on or after January 1, 2018, and will elect the modified retrospective approach which will recognize the cumulative impact of initially applying the revenue standard as an adjustment to retained earnings as at January 1 2018, the period of initial application.

Korean IFRS 1018 and other current revenue standard identify revenue as income that arises in the course of ordinary activities of an entity and provides guidance on a variety of different types of revenue, such as, sale of goods, rendering of services, interest, dividends, royalties and construction contracts. However, the new standard is based on the principle that revenue is recognized when control of a good or service transfers to a customer so the notion of control replaces the existing notion of risks and rewards. A new five-step process must be applied before revenue from contract with customers can be recognized:

- Identify contracts with customers
- Identify the separate performance obligation
- Determine the transaction price of the contract
- Allocate the transaction price to each of the separate performance obligations, and
- Recognize the revenue as each performance obligation is satisfied.

For the preparation of implementing Korean IFRS 1115, the Company formed a task force team consist of members from accounting department and external accounting firm. And, as at December 31, 2017, an impact assessment is underway to identify potential financial effects of applying Korean IFRS 1115. The Company plans to perform detailed analysis on financial effects of applying the standard and disclose the results of the analysis in the notes on the consolidated financial statements as at March 31, 2018. The assessment was performed based on available information as at December 31, 2017, and the results of the assessment are explained as below.

(a) Identify performance obligation

The Company operates its major business in advertising, sale of contents and provision of web and mobile platform. With the implementation of Korean IFRS 1115, the Company is required to separately identify performance obligations from some combined services. The timing of revenue recognition depends on a performance obligation is satisfied at a point in time or over time. Where a performance obligation is satisfied over time, the related revenue is also recognized over time.

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(b) Allocation of the transaction price and revenue recognition

In adopting of Korean IFRS 1115, the Company allocates the total price of transaction based upon the relative stand-alone selling prices of various performance obligations identified from a single contract. Price allocation is based on the individual market value of multiple goods and services subject to performance obligation, where individual market price is determined at inception of the transaction. Stand-alone selling price is the price at which the Company separately sells goods or services it has promised to the customer, and the best evidence is the observable price when the Company may separately sell goods or services to a similar customer under similar circumstances. Proceeds adjusted as a result of the allocation are recognized as revenue based on the type and duration in which each service is offered.

(c) Incremental costs of obtaining a contract

The Company pays the fees to its clients when a new customer of using the game service pays for the service provided by the Company. These fees are incremental costs of obtaining a contract that incurs to obtain a contract with a customer that it would not have incurred if the contract had not been obtained. In accordance with Korean IFRS 1115, the Company shall recognize such incremental costs of obtaining a contract with a customer as an asset and amortize it over certain period.

As a result of the impact assessment, the Company expected the application of IFRS 1115 will not have a material impact on the consolidated financial statements.

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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.

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.

(b) Non-controlling interests

The Company attributes the profit or loss and each component of other comprehensive income to the owners of the Parent Company and to the non-controlling interests. The Company also attributes total comprehensive income to the owners of the Parent Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

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Changes in a parent's ownership interest in a subsidiary that do not result in the parent losing control of the subsidiary are equity transactions.

(c) 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.

(d) 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

Foreign currency transactions are translated into the functional currency using the exchange rates prevailing at the dates of the transactions or valuation where items are re-measured. Foreign exchange gains and losses resulting from the settlement of such transactions and from the translation at year-end exchange rates of monetary assets and liabilities denominated in foreign currencies are recognized in profit or loss.

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Exchange differences arising from non-monetary financial assets and liabilities such as equity instruments at fair value through profit or loss and available-for-sale equity instruments are recognized in profit or loss and in other comprehensive income, respectively, as part of the fair value gain or loss.

(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 and measurement

The Company classifies its financial assets into the following categories: financial assets at fair value through profit or loss, available-for-sale financial assets, loans and receivables, and held-to-maturity financial assets. Regular purchases and sales of financial assets are recognized on the trade date.

At initial recognition, financial assets are measured at fair value plus, in the case of financial assets not carried at fair value through profit or loss, transaction costs. Transaction costs of financial assets carried at fair value through profit or loss are expensed in the statement of comprehensive income. After the initial recognition, available-for-sale financial assets and financial assets at fair value through profit or loss are subsequently carried at fair value. Loans and receivables, and held-to-maturity investments are subsequently carried at amortized cost using the effective interest rate method.

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Changes in fair value of financial assets at fair value through profit or loss are recognized in profit or loss and changes in fair value of available-for-sale financial assets are recognized in other comprehensive income. When the available-for-sale financial assets are sold or impaired, the fair value adjustments recorded in equity are reclassified into profit or loss.

(b) Impairment

The Company assesses at the end of each reporting period whether there is objective evidence that a financial asset or a group of financial assets is impaired. A financial asset or a group of financial assets is impaired and impairment losses are incurred only if there is objective evidence of impairment as a result of one or more events that occurred after the initial recognition of the asset (a 'loss event') and that loss event (or events) has an impact on the estimated future cash flows of the financial asset or a group of financial assets that can be reliably estimated.

Impairment of loans and receivables is presented as a deduction in an allowance account and impairment of other financial assets is directly deducted from book value of the assets. The Company writes off financial assets when the assets are determined to be no longer recoverable.

The objective evidence that a financial asset is impaired includes significant financial difficulty of the issuer or obligor; a significant delinquency in interest or principal payments; or the disappearance of an active market for that financial asset because of financial difficulties. A significant decline in the fair value of an available-for-sale equity instrument from its cost or a prolonged decline below its cost for more than six months is also objective evidence of impairment.

(c) Derecognition

If the Company transfers a financial asset and the transfer does not result in derecognition because the Company has retained substantially all of the risks and rewards of ownership of the transferred asset due to a recourse in the event the debtor defaults, the Company continues to recognize the transferred asset in its entirety and recognizes a financial liability for the consideration received. The related financial liability is classified as 'borrowings' in the consolidated statement of financial position.

(d) Offsetting of financial instruments

Financial assets and liabilities are offset and the net amount reported in the consolidated 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.

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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 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 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.

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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 value of goodwill is compared to the recoverable amount, which is the higher of value in use and the fair value less costs to sell.

(b) Membership and brand

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

(c) Other intangible assets

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

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

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

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.

2.15 Financial Liabilities

(a) Classification and measurement

Financial liabilities at fair value through profit or loss are financial instruments held for trading. Financial liabilities are classified in this category if incurred principally for the purpose of repurchasing them in the near term. Derivatives that are not designated as hedges or bifurcated from financial instruments containing embedded derivatives are also categorized 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 presented as 'trade payables and other payables', 'borrowings' in the consolidated statement of financial position.

Preferred shares that provide for a mandatory redemption at a particular date are classified as liabilities. Interest expenses on these preferred shares calculated using the effective interest method are recognized in the consolidated statement of comprehensive income as 'finance costs', together with interest expenses recognized relating to 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, cancelled or expired or when the terms of an existing financial liability are substantially modified.

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2.16 Provisions

Provisions are measured at the present value of the expenditures expected to be required to settle the obligation and the increase in the provision due to 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 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.

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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 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.

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(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.

2.20 Revenue Recognition

Revenue is measured at the fair value of the consideration received or receivable for the sale of goods or rendering of services arising from the normal activities of the Company. It is presented as net of value added taxes, returns, rebates and discounts, after elimination of intra-company transactions.

The Company recognizes revenue when the amount of revenue can be reliably measured; when it is probable that future economic benefits will flow to the entity; and when specific criteria have been met for each of the Company's activities, as described below. The Company bases its estimate on historical results, taking into consideration the type of customer, the type of transaction and the specifics of each arrangement.

(a) Rendering of services

Revenue from internet and portal services is recognized when such services are rendered and the other revenue is recognized when substantially all contractual obligations of the service have been fulfilled by the Company based on the terms of the contracts.

(b) Sale of goods

Revenue from the sale of goods is recognized when products are delivered to the customer.

(c) Interest income

Interest income is recognized using the effective interest method. When a loan and receivable is impaired, the Company reduces the carrying amount to its recoverable amount and continues unwinding the discount as interest income. Interest income on impaired loan and receivables is recognized using the original effective interest rate.

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(d) Dividend income

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

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 Group 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.

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.

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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.

2.26 Approval of Issuance of the Financial Statements

The issuance of the December 31, 2017 financial statements of the Company was approved by the Board of Directors on February 22, 2018, 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 17).

(b) Income taxes

The Company is operating in numerous countries and the income generated from these operations is 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 21).

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If certain portion of the taxable income is not used for investments, 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 system. As the Company's income tax is dependent on the investments, increase in wages and dividends, there exists uncertainty with regard to 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).

(d) Provisions

As at December 31, 2017, the Company recognizes provisions as explained in Notes 2.16. These provisions are estimated based on past experience.

(e) 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 19).

(f) 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 20).

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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.

As at December 31, 2017, 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, 2017, would have been increased/decreased by ₩3,707 million (2016: ₩213 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, 2017, if all other variables were constant and the value of marketable equity indexes had increased or decreased by 5.0%, other comprehensive income (before income tax) would have been increased or decreased by ₩1,557 million (2016: ₩954 million).

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.

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As at December 31, 2017, the Company has deposits in foreign currencies, that are exposed to foreign exchange risk. 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, 2017, would have been increased/decreased by ₩4,820 million.

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 8).

Details of the Company's level of maximum exposure to credit risk as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Cash and cash equivalents	₩	1,116,793	₩	641,644
Short-term financial instruments		394,152		236,748
Trade receivables		179,238		173,853
Derivative financial assets		53,650		3,942
Other current financial assets		134,343		83,340
Long-term financial instruments		10,685		10,000
Other non-current financial assets		39,879		35,269
	₩	1,928,740	₩	1,184,796

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.

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Details of the Company's liquidity risk analysis as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)

	2017		
	Less than 1 year	Between 1 and 2 years	Over 2 years
Trade and other payables	₩ 280,380	₩ -	₩ -
Short-term and long-term borrowings	181,488	585,479	41,175
Other current financial liabilities	42,247	-	-
Other non-current financial liabilities	-	-	640
Non-current trade and other payables	-	196	1,411
	<u>₩ 504,115</u>	<u>₩ 585,675</u>	<u>₩ 43,226</u>

(in millions of Korean won)

	2016		
	Less than 1 year	Between 1 and 2 years	Over 2 years
Trade and other payables	₩ 263,172	₩ -	₩ -
Short-term and long-term borrowings	218,624	177,063	632,928
Other current financial liabilities	17,228	-	-
Non-current trade and other payables	-	1,123	1,425
	<u>₩ 499,024</u>	<u>₩ 178,186</u>	<u>₩ 634,353</u>

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.

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, 2017 and 2016, are as follows:

(in millions of Korean won)	2017		2016	
Total liabilities (A)	₩	1,841,609	₩	1,781,173
Total equity (B)	₩	4,507,820	₩	3,702,944
Debt-to-capital ratio (A/B)		40.85%		48.10%

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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, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	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.

<i>(in millions of Korean won)</i>	2016				
	Gross assets	Gross liabilities offset	Net amounts presented in the statement of financial position	Amounts not offset	Net amount
Trade receivables ¹	₩ 43,647	₩ (11,004)	₩ 32,643	₩ -	₩ 32,643

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

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5 Fair Value

5.1 Fair Value of Financial Instruments

Carrying amount and fair value of financial instruments as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
	Carrying amount	Fair value	Carrying amount	Fair value
Financial assets				
Cash and cash equivalents	₩ 1,116,793	₩ 1,116,793	₩ 641,644	₩ 641,644
Short-term financial instruments	394,152	394,152	236,748	236,748
Trade receivables	179,238	179,238	173,853	173,853
Other financial assets	134,343	134,343	83,340	83,340
Derivative financial assets	53,650	53,650	3,942	3,942
Available-for-sale securities ¹	149,440	149,440	53,196	53,196
Long-term financial instruments	10,685	10,685	10,000	10,000
Other non-current financial assets	39,879	39,879	35,269	35,269
	<u>₩ 2,078,180</u>	<u>₩ 2,078,180</u>	<u>₩ 1,237,992</u>	<u>₩ 1,237,992</u>
Financial liabilities				
Trade and other payables	₩ 280,380	₩ 280,380	₩ 263,130	₩ 263,130
Short-term borrowings	174,372	174,372	203,942	203,942
Other financial liabilities	42,247	42,247	17,228	17,228
Non-current trade and other payables	1,607	1,607	2,548	2,548
Long-term borrowings	620,808	628,944	795,927	771,888
Derivative financial liabilities	2,254	2,254	7,375	7,375
Other non-current financial liabilities	640	640	-	-
	<u>₩ 1,122,308</u>	<u>₩ 1,130,444</u>	<u>₩ 1,290,150</u>	<u>₩ 1,266,111</u>

¹ Certain equity securities, which are measured at cost since their quoted market prices do not exist in an active market and their fair values cannot be measured reliably, are excluded.

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5.2 Financial Instruments Measured at Cost

Available-for-sale securities measured at cost as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017
Daum Soft	₩ 326
Lunosoft Inc.	1,250
NURIDA Corporation	200
Stonebridge Drama Fund	-
SM Contents Investment, Inc.	1,000
GAIA BROADCASTING CONTENTS INVESTMENT FUND	500
Leferi Inc.	-
ROOF FUNDING	1,400
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	1,500
Zipdoc	833
B-bros Corp.	2,000
MERLOT Lab.	1,293
EVERSPIN CORP.	-
Wex 24 Korea	-
Others	397
	<u>₩ 10,700</u>

<i>(in millions of Korean won)</i>	2016
Daum Soft	₩ 326
KakaoBank of Korea Corp.	30,000
Lunosoft Inc.	1,250
NURIDA Corporation	200
Stonebridge Drama Fund	344
SM Contents Investment, Inc.	1,000
GAIA BROADCASTING CONTENTS INVESTMENT FUND	-
Leferi Inc.	862
ROOF FUNDING	1,400
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	-
Zipdoc	-
B-bros Corp.	-
MERLOT Lab.	-
EVERSPIN CORP.	2,000
Wex 24 Korea	1,842
Others	762
	<u>₩ 39,986</u>

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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 (Level 1).
- Inputs other than quoted prices included within Level 1 that are observable for the asset or liability, either directly (that is, as prices) or indirectly (that is, derived from prices) (Level 2).
- Inputs for the asset or liability that are not based on observable market data (that is, unobservable inputs) (Level 3).

Fair value hierarchy classifications of the financial assets and liabilities that are measured at fair value as at December 31, 2017 and 2016:

(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
	<u>₩ 32,969</u>	<u>₩ -</u>	<u>₩ 170,121</u>	<u>₩ 203,090</u>
Derivative financial liabilities	₩ -	₩ -	₩ 2,254	₩ 2,254

(in millions of Korean won)

	2016			
	Level 1	Level 2	Level 3	Total
Available-for-sale securities	₩ 20,969	₩ -	₩ 32,227	₩ 53,196
Derivative financial assets	-	-	3,942	3,942
	<u>₩ 20,969</u>	<u>₩ -</u>	<u>₩ 36,169</u>	<u>₩ 57,138</u>
Derivative financial liabilities	₩ -	₩ -	₩ 7,375	₩ 7,375

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.

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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, 2017, 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:

<i>(in millions of Korean won)</i>	Fair value	Level	Valuation technique	Inputs
Available-for-sale securities				
Mediacreate	₩ 3,402	3	Discounted cash flow	Estimated cash flow, discount rate
TransLink Capital Partners II, L.P.	4,440	3	Net asset value method	Net asset value
TransLink Capital Partners III, L.P.	4,075	3	Net asset value method	Net asset value
Collaborative Fund II, L.P.	2,971	3	Net asset value method	Net asset value
Altos Korea opportunity Fund	5,487	3	Net asset value method	Net asset value
Strong Seed Fund I	1,168	3	Net asset value method	Net asset value
2010 KIF–Stonebridge IT Venture Fund	859	3	Net asset value method	Net asset value
SMCI Fund7	988	3	Net asset value method	Net asset value
Quber Co., Ltd.	201	3	Net asset value method	Net asset value
KakaoBank of Korea Corp.	66,786			
Bluehole INC.	3,970	3	Discounted cash flow	Estimated cash flow, discount rate
Others	22,124	3	Net asset value method	Net asset value
Total	<u>₩ 116,471</u>			
Derivative financial assets				
Right for redemption	₩ 217	3	Binomial tree model	Probability of risk neutral, increase in risk neutral
Early redemption right and conversion right	53,432	3	Binomial tree model	Discount rate, dividend rate, increase and decrease rate
Total	<u>₩ 53,649</u>			
Derivative financial liabilities				
Right for conversion and early redemption (redeemable convertible preferred shares)	₩ 2,254	3	Binomial tree model	Probability of risk neutral, increase in risk neutral, decrease in risk neutral

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.

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6 Segment Information

The Company is operated as single operating segment.

Breakdown of the Company's revenue for the years ended December 31, 2017 and 2016, is as follows:

(in millions of Korean won)

	2017			
	Advertising	Contents	Others	Total
Revenue	₩ 605,176	₩ 1,081,580	₩ 470,758	₩ 2,157,514
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>

(in millions of Korean won)

	2016			
	Advertising	Contents	Others	Total
Revenue	₩ 536,952	₩ 792,003	₩ 282,304	₩ 1,611,259
Inter-company revenue	(2,957)	(90,123)	(53,946)	(147,026)
Net revenue	<u>₩ 533,995</u>	<u>₩ 701,880</u>	<u>₩ 228,358</u>	<u>₩ 1,464,233</u>

For the years ended December 31, 2017 and 2016, the Company's most of the revenue arise in Korea, and most of non-current assets held by the Company as December 31, 2017 and 2016 are located in Korea.

There was no external customer contributing more than 10% of the total revenue for the years ended December 31, 2017 and 2016.

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7 Financial Instruments by Category

Categorizations of financial assets and liabilities as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Financial assets at fair value through profit or loss		
Derivative financial assets	₩ 53,650	₩ 3,942
Loans and receivables		
Cash and cash equivalents	1,116,793	641,644
Short-term financial instruments	394,152	236,748
Trade receivables, net	179,238	173,853
Other current financial assets	134,343	83,340
Long-term financial instruments	10,685	10,000
Other non-current financial assets	39,879	35,269
	<u>1,875,090</u>	<u>1,180,854</u>
Available-for-sale financial assets		
Short-term available-for-sale securities	103	-
Long-term available-for-sale securities	160,037	93,182
	<u>160,140</u>	<u>93,182</u>
	<u>₩ 2,088,880</u>	<u>₩ 1,277,978</u>
Financial liabilities at fair value through profit or loss		
Derivative financial liabilities	₩ 2,254	₩ 7,375
Financial liabilities carried at amortized cost		
Trade and other payables	280,380	263,130
Short-term borrowings	174,372	203,942
Other current financial liabilities	42,247	17,228
Non-current trade and other payables	1,607	2,548
Long-term borrowings	620,808	795,927
Other non-current financial liabilities	640	-
	<u>1,120,054</u>	<u>1,282,775</u>
	<u>₩ 1,122,308</u>	<u>₩ 1,290,150</u>

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Gains or losses of financial instruments by category for the years ended December 31, 2017 and 2016 are as follows:

	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
<i>(in millions of Korean won)</i>				
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
	2016			
	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
<i>(in millions of Korean won)</i>				
Financial assets				
Financial assets at fair value through profit or loss	₩ -	₩ 91	₩ -	₩ -
Available-for-sale financial assets	(5,138)	(96)	659	-
Loans and receivables	-	756	9,492	7,719
Financial liabilities				
Financial liabilities at fair value through profit or loss	-	(288)	-	-
Financial liabilities carried at amortized costs	-	(2,575)	(14,308)	-

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8 Credit Quality of Financial Assets

The credit quality of financial deposits that are neither past due nor impaired is assessed by reference to external credit ratings, if available, or to historical information about counterparty's default rates.

Cash and cash equivalents are all deposited in the financial institutions with high credit ratings.

9 Available-for-sale Securities

Changes in available-for-sale securities for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Beginning balance	₩ 93,182	₩ 30,892
Increase due to changes in scope of consolidation	749	12,835
Acquisition	85,030	52,496
Transfer	4,329	8,891
Disposal	(13,905)	(6,899)
Valuation	(1)	(5,138)
Impairment	(9,753)	(109)
Amortization	509	214
Ending balance	<u>₩ 160,140</u>	<u>₩ 93,182</u>

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Details of available-for-sale securities as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)

	2017			2016
	Acquisition cost	Fair value	Book value	Book value
Equity securities				
Daum Soft ¹	₩ 326	₩ 326	₩ 326	₩ 326
2010 KIF–Stonebridge IT Venture Fund	-	859	859	1,179
Mediacreate	2,084	3,402	3,402	2,549
TransLink Capital Partners II, L.P.	5,620	4,440	4,440	5,892
TransLink Capital Partners III, L.P.	4,453	4,075	4,075	3,607
Collaborative Fund II, L.P.	1,974	2,972	2,972	3,635
Altos Korea opportunity Fund	2,222	5,487	5,487	4,092
Strong Seed Fund I	-	1,168	1,168	1,083
SMCI Fund 7	1,000	988	988	988
Quber Co., Ltd.	1,192	201	201	193
KakaoBank of Korea Corp. ³	80,000	66,786	66,786	30,000
YD ONLINE CORP. ²	5,000	6,086	6,086	-
Epipolar	-	-	-	20
Lunosoft Inc. ¹	1,250	1,250	1,250	1,250
NURIDA Corporation ¹	200	200	200	200
LONGTU KOREA Inc.	-	-	-	4,544
Momo Corp ¹	100	100	100	100
Eugene Jarang Private Equity Securities Investment Trust No. 2	300	22	22	25
FNC ENTERTAINMENT ²	11,003	4,817	4,817	5,493
SEOUL MEDIA.INC. ¹	30	30	30	30
FEENTERTAINMENT ¹	104	104	104	104
Cooperative of Music Record Duplicators ¹	8	8	8	8
Stonebridge Drama Fund	-	-	-	344
SM Contents Investment, Inc. ¹	1,000	1,000	1,000	1,000
GAIA BROADCASTING CONTENTS INVESTMENT FUND ¹	500	500	500	-
EVERSPIN CORP.	2,000	-	-	2,000
ROOFFUNDING ¹	1,400	1,400	1,400	-
FUNDA ¹	2	2	2	-
Zipdoc ¹	833	833	833	-
B-bros Corp. ¹	2,000	2,000	2,000	-
MERLOT Lab. ¹	1,294	1,294	1,294	-
Supergene Global Services, Inc. ¹	3	3	3	-
Ubion CO.LTD ²	43	22	22	-
LG Chem. ²	18	18	18	-
SM ENTERTAINMENT Co., Ltd. ²	84	62	62	-
NEPTUNE Corp. ²	10,187	20,129	20,129	9,038
MARS AUTO INC. ¹	150	150	150	-
Others	22,387	22,124	22,124	5,797
	<u>₩ 158,768</u>	<u>₩ 152,857</u>	<u>₩ 152,857</u>	<u>₩ 83,496</u>
Debt securities				
Government bonds	2,000	1,813	1,813	1,894
Bluehole INC. ⁴	3,298	3,970	3,970	3,298
Convertible bonds-Leferi Inc. ⁵	-	-	-	862
Convertible bonds-ROOF FUNDING ⁶	-	-	-	1,400
Convertible bonds-Wex 24 Korea ⁵	-	-	-	1,843
Convertible bonds- You Are the Designer ⁵	-	-	-	389
Convertible bonds-BUNJANG Corp. (formerly, Quicket Co., Ltd.) ¹	1,500	1,500	1,500	-
	<u>6,798</u>	<u>7,283</u>	<u>7,283</u>	<u>9,686</u>
	<u>₩ 165,566</u>	<u>₩ 160,140</u>	<u>₩ 160,140</u>	<u>₩ 93,182</u>

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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 shareholders of KakaoBank of Korea Corp (Note 35).

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 23).

⁵ Converted and reclassified as investments in associates during 2017.

⁶ Converted and reclassified as equity securities during 2017.

10 Trade receivables

Trade receivables and allowance for doubtful accounts as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Trade receivables	₩	187,000	₩	182,249
Less: allowance for doubtful accounts		<u>(7,762)</u>		<u>(8,396)</u>
Trade receivables, net	₩	<u>179,238</u>	₩	<u>173,853</u>

The aging analysis of trade receivables as at December 31, 2017 and 2016, is as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Receivables not past due	₩	<u>167,159</u>	₩	<u>156,304</u>
Past due but not impaired				
Up to 3 months		1,544		1,453
3 to 6 months		<u>7,886</u>		<u>5,045</u>
		<u>9,430</u>		<u>6,498</u>
Impaired ¹				
Up to 3 months		4,687		9,874
3 to 6 months		533		3,515
Over 6 months		<u>5,191</u>		<u>6,058</u>
		<u>10,411</u>		<u>19,447</u>
	₩	<u>187,000</u>	₩	<u>182,249</u>

¹ The amount of the allowance provision is ₩7,762 million as at December 31, 2017 (2016: ₩8,396 million). The individually impaired receivables mainly relate to customers, which are in unexpectedly difficult economic situations. It was assessed that a portion of the receivables is expected to be recovered.

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Changes in allowance for doubtful accounts for trade receivables for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Beginning balance	₩ (8,396)	₩ (3,864)
Bad debt expense	(1,154)	(437)
Write-offs	2,846	786
Decrease (increase) due to changes in scope of consolidation	(1,058)	(4,885)
Other increase	-	4
Ending balance	<u>₩ (7,762)</u>	<u>₩ (8,396)</u>

Bad debt expense is included in 'operating expenses' in the consolidated statement of comprehensive income. Amounts charged to the allowance account are generally written off when there is no expectation of additional collection.

The maximum exposure amount to credit risk of accounts receivable are equivalent to the carrying value of the accounts receivable book value at the end of the reporting date.

11 Other Financial Assets

Other financial assets as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Other current financial assets		
Non-trade receivables	₩ 127,928	₩ 77,180
Accrued revenues	3,247	1,869
Short-term loans receivable	2,413	4,251
Short-term loans to employees	755	40
	<u>134,343</u>	<u>83,340</u>
Other non-current financial assets		
Long-term loans to employees	-	504
Leasehold deposits	38,918	34,660
Long-term loans receivable	961	105
	<u>39,879</u>	<u>35,269</u>
	<u>₩ 174,222</u>	<u>₩ 118,609</u>

The maximum exposure amounts to credit risk of other financial assets are equivalent to the carrying amount of the other financial assets book value at the end of the reporting period.

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12. Trade and Other payables

Trade and other payables as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Trade and other payables				
Trade payables	₩	108,265	₩	95,456
Non-trade payables		172,115		167,674
		<u>280,380</u>		<u>263,130</u>
Non-current trade and other payables				
Long-term non-trade payables		1,513		2,310
Withhold deposits received		60		152
Leasehold deposits received		34		86
		<u>1,607</u>		<u>2,548</u>
	₩	<u>281,987</u>	₩	<u>265,678</u>

13. Other Financial Liabilities

Other financial liabilities as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Other current financial liabilities				
Accrued expenses	₩	42,247	₩	17,228
Other non-current financial liabilities				
Long-term accrued expenses		640		-
	₩	<u>42,887</u>	₩	<u>17,228</u>

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14. Other Assets and Liabilities

Other assets as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Other current assets		
Advance payments	₩ 70,936	₩ 46,487
Prepaid expenses	20,703	18,086
Prepaid value added tax	1,143	133
Corporate tax refund receivable	476	170
	<u>93,258</u>	<u>64,876</u>
Other non-current assets		
Long-term advance payments	270	-
Long-term prepaid expenses	8,419	6,485
Other investments	100	100
	<u>8,789</u>	<u>6,585</u>
	<u>₩ 102,047</u>	<u>₩ 71,461</u>

Other liabilities as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Other current liabilities		
Advances from customers	₩ 256,665	₩ 187,891
Deferred revenues	65,448	51,111
Withholdings	59,723	11,199
Value added tax payable	42,717	31,644
Government grants	-	206
	<u>₩ 424,553</u>	<u>₩ 282,051</u>

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15. Investments in Associates and Joint Venture

Investments in associates and joint venture as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)

Name ¹	Location	Percentage of ownership (%)	2017		2016	
			Acquisition cost	Net assets value	Book value	Book value
Associates						
Flowgamez ⁶	Korea	-	₩ -	₩ -	₩ -	₩ -
Nine Flava ⁶	Korea	-	-	-	-	-
Adcredit ³	Korea	17.7	314	92	92	83
DMS Network, Inc. ³	USA	19.7	1,987	109	-	-
Tapas Media, Inc.	USA	27.8	2,981	753	2,999	2,656
NBT Inc. ³	Korea	10.5	37	2,012	2,012	1,719
3Point Inc. ⁶	Korea	-	-	-	-	-
UserStory Lab ⁶	Korea	-	-	-	-	-
DAUM Venture Fund	Korea	39.5	8,366	8,656	8,656	9,764
Dunamu Inc.	Korea	22.3	4,594	29,631	33,376	4,439
Oscar Entertainment.	Korea	20.0	1,997	745	745	1,997
CNT TECH CO.,LTD. ³	Korea	18.0	5,001	4,008	5,994	5,894
Korea Credit Data	Korea	32.0	4,400	1,346	4,658	-
MannaCEA	Korea	28.6	10,000	3,835	3,835	8,591
NeoBazar	Korea	26.3	625	580	738	478
Silver Star Games Inc.	Korea	20.0	94	4	-	104
Left Right Co., Ltd.	Korea	40.0	400	64	291	373
SCI VENTURE, INC. (formerly, Bitmarket.ph, Inc.)	Philippines	41.0	1,239	614	1,293	655
SONNORI CORP. (formerly, ROI GAMES CORP.)	Korea	40.1	5,929	(407)	3,767	5,635
JOH&Company	Korea	45.5	10,000	4,702	8,673	9,793
You Are the Designer ³	Korea	19.2	500	(490)	-	-
LUXROBO Co., Ltd. ³	Korea	15.9	5,287	508	5,222	-
Leferi Inc. ³	Korea	11.0	1,500	171	171	638
Deleo Korea Co.,Ltd. (formerly, Wex 24 Korea) ³	Korea	10.7	3,000	807	807	1,158
HASYS ²	Korea	-	-	-	-	3,438
Tangram Design Lab Inc. ²	Korea	-	-	-	-	-
Tangram Factory	Korea	44.6	3,168	864	-	-
Skelter Labs, Inc. ³	Korea	20.1	2,501	467	2,658	-
TOROOC Inc. ³	Korea	22.7	2,500	467	2,400	-
Dreamcide SPC Ltd.	Korea	49.0	5	4	4	-
DIGISONIC Co., Ltd. ³	Korea	12.9	100	83	83	-
D&C MEDIA CO.,LTD. ^{3,5}	Korea	18.5	12,614	5,908	16,291	-
K Cube NEO Fund ³	Korea	15.0	750	711	711	-
BUNJANG Corp. (formerly, Quicket Co., Ltd.)	Korea	26.7	2,882	597	958	-
Supergene Inc. ³	Korea	10.0	997	187	994	-
InnoSignal Co.,Ltd.	Korea	25.0	100	11	86	-
PoteNit Co.,Ltd. ³	Korea	16.7	2,000	646	2,000	-
Doctorbrain SPC Ltd.	Korea	49.0	5	2	2	-
CLAIR, Inc. ³	Korea	3.4	500	122	500	-
KIF-Kakao Wooribank Technology Financing Fund ³	Korea	19.7	3,000	2,973	3,000	-
Others (60 companies) ⁴	Korea	3.2~27.9	52,287	6,612	44,820	54,963
Joint Venture						
DAUM KAKAO PHILIPPINES CORP.	Philippines	50.0	5,609	4,115	4,115	4,698
			₩ 157,267	₩ 81,507	₩ 161,950	₩ 117,076

Kakao Corp. and Subsidiaries

Notes to the Consolidated Financial Statements

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- ¹ Investments in associates and joint venture excluding D&C MEDIA Co., LTD. are all unlisted securities.
- ² As the Company obtained control over the entities in 2017, 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 3.2%~27.9% and classified as associates as the Company is considered to have a significant influence.
- ⁵ Listed securities
- ⁶ Sold or liquidated during 2017.

Kakao Corp. and Subsidiaries
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Changes in carrying amounts of investments in associates and joint venture for the years ended December 31, 2017 and 2016 are as follows:

(in millions of Korean won)

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	₩	₩	₩	₩	₩	₩	₩	₩	₩	₩
Adcredit	83	-	-	-	-	8	-	-	92	
DMS Network, Inc.	-	-	-	-	-	-	-	-	-	
Tapas Media, Inc. ²	2,656	-	-	-	-	(678)	(337)	1,358	2,999	
NBT Inc.	1,720	-	-	-	-	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.	372	-	-	-	-	(81)	-	-	291	
SCI VENTURE INC. (formerly, Bitmarket.ph, Inc.)	656	-	578	-	-	(62)	122	-	1,293	
SONNORI CORP. (formerly, ROI GAMES 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	-	-	171	
Deleo Korea Co.,Ltd. ^{2,3,7} (formerly, Wex 24 Korea)	1,158	-	-	(2,090)	1,842	(97)	-	(6)	807	
HASYS ¹	3,437	(3,437)	-	-	-	-	-	-	-	
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	
TOROOC 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	

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

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
Doctorbrain SPC Ltd. ⁵	-	-	5	-	-	(3)	-	-	2
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
	<u>₩ 117,076</u>	<u>₩ (3,572)</u>	<u>₩ 50,652</u>	<u>₩ (27,825)</u>	<u>₩ 6,093</u>	<u>₩ 9,036</u>	<u>₩ (1,188)</u>	<u>₩ 11,677</u>	<u>₩ 161,950</u>

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 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
Notes to the Consolidated Financial Statements
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(in millions of Korean won)

Name	2016							
	Beginning balance	Changes in scope of consolidation	Acquisition	Disposal and impairment ⁶	Gain (loss) on valuation of equity-method investments	Share in other comprehensive income (loss) of associates	Others	Ending balance
Adcredit (formerly, Add2paper)	₩ 342	₩ -	₩ -	₩ (240)	₩ (19)	₩ -	₩ -	₩ 83
NBT Inc.	1,306	-	-	-	414	-	-	1,720
DAUM Venture Fund	9,393	-	-	-	361	10	-	9,764
DMS Network, Inc.	109	-	-	-	(109)	-	-	-
Tapas Media, Inc. ⁵	1,870	-	1,142	-	(488)	132	-	2,656
DAUM KAKAO PHILIPPINES CORP.	5,393	-	-	-	(579)	(116)	-	4,698
3Point Inc.	287	-	-	(267)	(20)	-	-	-
HASYS	3,456	-	-	-	(9)	(10)	-	3,437
MannaCEA	9,660	-	-	-	(1,374)	305	-	8,591
NeoBazar	606	-	-	-	(128)	-	-	478
Silver Star Games Inc.	94	-	-	-	10	-	-	104
Oscar Entertainment ¹	-	-	1,997	-	-	-	-	1,997
Tangram Design Lab Inc. ²	-	1,915	-	-	(1,888)	(27)	-	-
NAVIRO Co.,Ltd. (formerly, DeNA Locations) ³	4,202	(4,125)	-	-	(316)	239	-	-
Left Right Co., Ltd. ¹	-	-	400	-	(28)	-	-	372
Bitmarket.ph, Inc. ¹	-	-	661	-	(94)	89	-	656
ROI GAMES CORP. ¹	-	-	5,929	-	(293)	-	-	5,636
CNT TECH CO.,LTD. ^{1,4}	-	-	5,001	-	115	-	778	5,894
JOH&Company ¹	-	-	10,000	-	(207)	-	-	9,793
Leferi Inc. ¹	-	-	638	-	-	-	-	638
Wex 24 Korea ¹	-	-	1,158	-	-	-	-	1,158
Others ^{1,4}	31,986	-	33,825	(4,071)	(5,732)	422	2,971	59,401
	<u>₩ 68,704</u>	<u>₩ (2,210)</u>	<u>₩ 60,751</u>	<u>₩ (4,578)</u>	<u>₩ (10,384)</u>	<u>₩ 1,044</u>	<u>₩ 3,749</u>	<u>₩ 117,076</u>

¹ Newly acquired during 2016.

² Reclassified as investments in associates, as the Company lost its control over the entity in 2016.

³ Reclassified from investments in associates to subsidiary, as the Company obtained control over the entity in 2016.

⁴ Others include gain or loss on disposal from changes in percentage of ownership with maintaining significant influence during 2016.

⁵ During 2016, the Company acquired additional 1,980,198 shares.

⁶ During 2016, the Company recognized impairment loss for investments in 3Point Inc. and other five associates as their recoverable amounts are considered less than their book values as at December 31, 2016.

Kakao Corp. and Subsidiaries
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Fair value of investments in associates that has a quoted market price as at December 31, 2017 and 2016, is as follows:

<i>(in millions of Korean won)</i>	Company	2017		2016	
		Fair value	Book value	Fair value	Book value
Associates	D&C MEDIA CO.,LTD.	₩ 15,693	₩ 16,291	₩ -	₩ -

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)

	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, 2017 and 2016, is as follows:

(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)
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. (formerly, Bitmarket.ph,Inc.)	5,062	1,213	4,789	-	28,480	554	-	554
SONNORI CORP. (formerly, ROI GAMES 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. (formerly, Wex 24 Korea)	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)
TOROOC 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. (formerly, Quicket Co., Ltd.) ¹	1,739	4,024	757	2,771	1,370	142	-	142

Kakao Corp. and Subsidiaries
Notes to the Consolidated Financial Statements
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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)
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	-	-	-	-
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	-	-	-	-	-
DAUM KAKAO PHILIPPINES CORP.	8,232	-	1	-	-	(9)	-	(9)
Others (60 companies)	61,002	30,483	29,451	8,937	32,514	(48,669)	-	(48,669)
	<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.

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

	2016					
	Assets	Liabilities	Equity	Revenue	Profit (loss)	Comprehensive income (loss)
Flowgamez	₩ 107	₩ 1,859	₩ (1,752)	₩ 41	₩ (231)	₩ (231)
Nine Flava	24	225	(201)	-	(4)	(4)
Adcredit (formerly, Add2paper)	784	395	389	1,307	(147)	(147)
NBT Inc.	25,837	10,332	15,505	46,162	1,925	1,925
DAUM Venture Fund	26,095	171	25,924	1,784	1,106	1,106
DMS Network, Inc.	892	307	585	200	38	38
Tapas Media, Inc.	360	15	345	109	(1,605)	(1,580)
UserStory Lab	637	560	77	54	(457)	(457)
DAUM KAKAO PHILIPPINES CORP.	9,398	28	9,370	13	(918)	(1,150)
3Point Inc.	84	342	(258)	44	(117)	(117)
HASYS	4,693	524	4,169	4,658	399	371
MannaCEA	11,011	902	10,109	709	(2,674)	(2,674)
NeoBazar	1,021	107	914	32	(162)	(162)
Silver Star Games Inc.	28	7	21	120	49	49
Oscar Entertainment ¹	2,586	511	2,075	2,358	(330)	(330)
Tangram Design Lab Inc.	7,347	6,626	721	2,272	(3,309)	(3,351)
Left Right Co., Ltd. ¹	366	4	362	38	(69)	(69)
Bitmarket.ph, Inc. ¹	947	324	623	21,285	(168)	(88)
ROI GAMES CORP. ¹	3,068	145	2,923	99	(586)	(586)
CNT TECH CO.,LTD. ¹	30,927	9,218	21,709	4,052	639	639
JOH&Company ¹	13,716	1,399	12,317	2,116	(332)	(332)
Leferi Inc. ¹	2,225	2,036	189	-	-	-
Wex 24 Korea ¹	5,534	2,854	2,680	-	-	-
Others (63 companies)	101,304	34,064	67,240	29,519	(37,784)	(37,784)
	<u>₩ 248,991</u>	<u>₩ 72,955</u>	<u>₩ 176,036</u>	<u>₩ 116,972</u>	<u>₩ (44,737)</u>	<u>₩ (44,934)</u>

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

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16. Property and Equipment

Changes in property and equipment for the years ended December 31, 2017 and 2016 are as follows:

(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	6,382	76,613
Changes in scope of consolidation	1,788	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)	-	(60,732)
Transfer	-	-	-	(58)	-	4,707	(4,649)	-
Currency translation effects	-	-	-	29	(1)	(34)	-	(5)
Ending balance	₩ 57,220	₩ 53,771	₩ 215	₩ 119,161	₩ 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	-	(5,059)	(65)	(132,133)	(869)	(44,823)	-	(182,950)
Net book value	₩ 57,220	₩ 53,771	₩ 215	₩ 119,161	₩ 520	₩ 38,423	₩ 1,733	₩ 271,044

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

	2016						
	Land	Buildings	Structures	Machinery and equipment	Vehicles	Furniture	Total
Beginning balance	₩ 39,910	₩ 47,317	₩ 260	₩ 106,950	₩ 313	₩ 24,302	₩ 219,052
Acquisition	17,832	6,932	-	37,998	273	19,611	82,646
Changes in scope of consolidation	(1,153)	318	(82)	7,579	27	2,240	8,929
Disposals	-	-	-	(100)	(9)	(445)	(554)
Depreciation	-	(1,410)	(27)	(42,429)	(152)	(12,177)	(56,195)
Transfer	-	-	74	(82)	-	8	-
Currency translation effects	-	-	-	-	-	(24)	(24)
Ending balance	<u>₩ 56,589</u>	<u>₩ 53,157</u>	<u>₩ 225</u>	<u>₩ 109,916</u>	<u>₩ 452</u>	<u>₩ 33,515</u>	<u>₩ 253,854</u>
December 31, 2016							
Acquisition cost	₩ 56,589	₩ 56,432	₩ 280	₩ 216,063	₩ 952	₩ 65,287	₩ 395,603
Government grants	-	-	-	(63)	-	(377)	(440)
Accumulated depreciation	-	(3,275)	(55)	(106,084)	(500)	(31,395)	(141,309)
Net book value	<u>₩ 56,589</u>	<u>₩ 53,157</u>	<u>₩ 225</u>	<u>₩ 109,916</u>	<u>₩ 452</u>	<u>₩ 33,515</u>	<u>₩ 253,854</u>

As at December 31, 2017, a certain portion of land is pledged as collateral for contract fulfilment (Notes 35).

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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, 2017 are as follows:

(in millions of Korean won)

	<u>2017</u>
Minimum lease payments	₩ 19,074

Total minimum lease payments in relation to non-cancellable operating leases that are payable after December 31, 2017 are as follows:

(in millions of Korean won)

	<u>2017</u>
Within one year	₩ 20,052
Later than one year but not later than five years	43,867
	<u>₩ 63,919</u>

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17. Intangible Assets

Changes in intangible assets for the years ended December 31, 2017 and 2016 are as follows:

(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	₩ 8,405	₩ 349,596	₩ 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)	(4,356)	(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	₩ 350,405	₩ 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)	(5)
Accumulated impairment	(51,033)	(6,431)	(1,168)	-	(549)	(15,586)	(74,767)
Other	-	-	-	(130)	-	-	(131)
Net book value	₩ 3,020,579	₩ 16,231	₩ 37,187	₩ 6,500	₩ 350,405	₩ 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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<i>(in millions of Korean won)</i>	2016							Total
	Goodwill ¹	Development costs	Industrial property rights	Exclusive rights	Membership / Brand	Other intangible assets ²		
Beginning balance	₩ 1,563,152	₩ 28,033	₩ 32,856	₩ -	₩ 96,355	₩ 135,208	₩ 1,855,604	
Acquisition	-	2	606	460	2,609	32,122	35,799	
Transfer	-	-	51	-	-	(51)	-	
Changes in scope of consolidation	1,476,280	2,675	211	10,911	250,751	168,693	1,909,521	
Disposal	-	(2)	-	(5)	(119)	(18)	(144)	
Amortization	-	(7,241)	(4,110)	(2,831)	-	(43,401)	(57,583)	
Impairment	(6,527)	-	(22)	-	-	(3,644)	(10,193)	
Other	-	-	-	(130)	-	-	(130)	
Currency translation effects	153	31	25	-	-	83	292	
Ending balance	<u>₩ 3,033,058</u>	<u>₩ 23,498</u>	<u>₩ 29,617</u>	<u>₩ 8,405</u>	<u>₩ 349,596</u>	<u>₩ 288,992</u>	<u>₩ 3,733,166</u>	
December 31, 2016								
Acquisition cost	₩ 3,044,502	₩ 41,751	₩ 38,696	₩ 11,366	₩ 349,596	₩ 359,692	₩ 3,845,603	
Accumulated amortization	-	(12,195)	(8,850)	(2,831)	-	(65,892)	(89,768)	
Government grants	-	-	(2)	-	-	(7)	(9)	
Accumulated impairment	(11,444)	(6,058)	(227)	-	-	(4,801)	(22,530)	
Other	-	-	-	(130)	-	-	(130)	
Net book value	<u>₩ 3,033,058</u>	<u>₩ 23,498</u>	<u>₩ 29,617</u>	<u>₩ 8,405</u>	<u>₩ 349,596</u>	<u>₩ 288,992</u>	<u>₩ 3,733,166</u>	

¹ The impairment loss on goodwill is recognized for SuperNova11 Corp. and certain other subsidiaries, as the recoverable amount decreased and became less than the carrying amount.

² The impairment loss on other intangible assets is recognized from Beijing KAKAO Co., Ltd. and certain other subsidiaries. The Company estimated the recoverable amount as at December 31, 2016, 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, 2017:

<i>(in millions of Korean won)</i>	Amount
Internet portal service and other service	₩ 1,410,206
Music service	1,459,418
Other mobile service	98,908
Game business	33,668
Others	18,379
	₩ 3,020,579

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 service	Music service	Other mobile service, game business and others
Operating income rate	16.4% ~ 27.8%	23.2% ~ 28.3%	(-)7.9% ~ 16.7%
Revenue growth rate	3.0% ~ 16.0%	4.8% ~ 16.5%	5.5% ~ 129.1%
Perpetual growth rate	2.0%	2.0%	0.0% ~ 1.0%
After-tax discount rate	11.1%	9.6%	8.7% ~ 13.4%

As a result of the impairment test of CGUs of other mobile service, game business and others, the Company recognized ₩39,589 million of impairment loss for the year ended December 31, 2017.

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18. Borrowings

Short-term borrowings as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)

Classification	Lender	Interest rate as at December 31, 2017	2017	2016
Commercial paper	Samsung securities Co., Ltd., Korea Investment & Securities Co., Ltd.	-	₩ -	₩ 200,000
Current portion of long-term borrowings	Small & medium Business Cooperation	-	-	42
Current portion of long-term borrowings ³	7 th non-guarantee public bonds		170,000	-
	Discount on issuance of bonds	2.42%	(170)	-
	Net		169,830	-
Bank loans for small and medium enterprises - special warranty for youth startups	Industrial Bank of Korea	-	-	100
General loans for working capital - technology guarantee	KEB Hana Bank	-	-	80
Loans for operation capital	Employees of subsidiaries	-	45	44
Bank loans for small and medium enterprises	Small & medium Business Cooperation	3.46%	13	-
Bank loans for technology creation enterprises	Shinhan Bank	3.19%	100	-
Bank loans for technology creation enterprises	Shinhan Bank	2.89%	100	-
General loans for enterprises	Shinhan Bank	5.10%	50	-
Redeemable convertible preferred shares ^{1,2}	Preferred shareholders		4,236	3,676
			<u>₩ 174,372</u>	<u>₩ 203,942</u>

¹ Redeemable convertible preferred shares are issued by subsidiaries and their redemption rights are exercisable as at December 31, 2017.

² During 2017, the redeemable convertible preferred shares issued by Kakao Games Corp. have been converted into ordinary shares of subsidiaries.

³ Reclassified to short-term borrowings as the maturity as at the year end has reached within a year.

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Details of redeemable convertible preferred shares issued by two subsidiaries as at December 31, 2017, are as follows:

	Issuer	
	Peoplug Inc.	BLUEPIN INC.
Date of issue	August 2013	November 2014
Value at issue (<i>in millions of Korean won</i>)	₩ 300	₩ 3,400
Dividend rate for preferred shares	1% of issue value	3% of par value
Guaranteed yield upon redemption	10%	5% (annual compound interest)
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 common share	1 preferred share for 1 common share : adjustable if (based on) a) business performance is low b) IPO price c) anti-dilution
Redemption period	Redeemable from three years after issuance date	Redeemable from issuance date to maturity date

These preferred shares are mandatorily redeemable at their par value plus its annual premium minus dividends paid before the redemption. In relation to these preferred shares, interest expense is recorded as finance costs in the consolidated statement of comprehensive income using effective interest rate method. These redeemable convertible preferred shares are classified as liabilities. The early redemption right and the conversion right are recorded as derivative financial liabilities in the case that they are considered as an embedded derivative which meets certain criteria accounting for separately from the host contract.

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Long-term borrowings and corporate bonds as at December 31, 2017 and 2016, are as follows:

(in millions of Korean won)

Classification	Lender	Interest rate as at December 31, 2017	2017	2016
Long-term borrowings				
Borrowing for establishing childcare facilities in the workplace	Woori Bank	-	₩ -	₩ 250
Bank loans for small and medium enterprises	Small & medium Business Corporation	-	-	42
Less: Discount on issuance of bonds			-	(42)
Subtotal			-	250
Corporate bonds¹				
	Public offering (7 th non-guaranteed public bonds)	-	-	170,000
	Private offering (8 th non-guaranteed private bonds)	2.08%	50,000	50,000
	Public offering (9-1 th non-guaranteed public bonds)	1.97%	60,000	60,000
	Public offering (9-2 th non-guaranteed public bonds)	2.30%	40,000	40,000
	Less: Discount on issuance of bonds		(223)	(745)
Subtotal			149,777	319,255
Convertible bonds				
	Private offering (10 th non-guaranteed private convertible bonds)	0.0%	244,000	250,000
	Less: Discount on issuance of bonds		(803)	(1,072)
Subtotal			243,197	248,928
Exchangeable bonds				
	Private offering (11 th US dollar-settled zero coupon guaranteed exchangeable bonds denominated in Korean won)	0.0%	230,000	230,000
	Less: Discount on issuance of bonds		(2,166)	(2,806)
Subtotal			227,834	227,194
Redeemable convertible preferred shares				
			-	300
Total			₩ 620,808	₩ 795,927

¹ During 2016, the Company redeemed corporate bonds from public offerings (₩30 billion from 7th, ₩120 billion from 9-1th, and ₩30 billion from 9-2th offerings) and private offerings (₩20 billion from 8th) before their original maturity dates, and recognized loss on redemption of bonds amounting to ₩2,575 million as finance costs.

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

		Detail
Type		10 th non-guaranteed private convertible bonds
Principal amount		₩244,000 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	₩120,014 (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
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.

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 2017, convertible bond of ₩5,979 million (principal amount of ₩6,000 million) has been converted into ordinary shares (Note 24).

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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	₩103,539 (per share)
	Exchange into	Shares of common stock, 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: - 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 the period of 30 consecutive trading days ending on the trading day immediately prior to the date of our redemption notice, is at least 130% of the prevailing exchange price. And the Company may claim early redemption if: - at least 90% of the initial principal amount of the bonds have been redeemed, repurchased and cancelled, or exchanged, or - certain changes relating to taxation in Korea that the Company becomes obliged to gross up for any payments on the bonds

The entire amount of financial instruments was accounted for liability as the event of default of the

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exchangeable bonds is considered contingent settlement provisions.

As at December 31, 2017, the Company has received payment guarantees from KB Kookmin Bank for the exchangeable bonds. In connection with the said payment guarantees, 2,529,171 ordinary shares of LOEN ENTERTAINMENT INC. held by the Parent Company (LOEN ENTERTAINMENT INC.'s market value per share as at December 31, 2017: ₩ 112,500) and the stock return rights for the remaining shares subject to exchange are provided as collateral. In addition, 2,221,389 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 35).

19. Net Defined Benefit Liabilities

Net defined benefit liabilities recognized in the consolidated statements of financial position as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Present value of funded defined benefit obligation	₩ 85,720	₩ 65,125
Fair value of plan assets	<u>(83,757)</u>	<u>(63,685)</u>
Liability in the consolidated statements of financial position	<u>₩ 1,963</u>	<u>₩ 1,440</u>

Changes in the defined benefit obligations for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Beginning balance	₩ 65,125	₩ 46,095
Increase due to change in scope of consolidation	2,029	7,061
Current service cost	23,305	20,479
Interest cost	1,722	1,284
Remeasurement	2,775	(2,213)
Benefits paid	(9,236)	(6,466)
Transfer to defined contribution obligations	-	(1,115)
Ending balance	<u>₩ 85,720</u>	<u>₩ 65,125</u>

Changes in the fair value of plan assets for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Beginning balance	₩ 63,685	₩ 37,784
Increase due to change in scope of consolidation	495	6,498
Interest income	1,673	972
Contribution	26,557	24,881
Payments from plans	(8,050)	(6,323)
Remeasurement:		
Actuarial loss	<u>(603)</u>	<u>(127)</u>
Ending balance	<u>₩ 83,757</u>	<u>₩ 63,685</u>

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The amounts recognized in the consolidated statements of comprehensive income for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Current service cost	₩ 23,305	₩ 20,479
Net interest cost	49	312
	<u>₩ 23,354</u>	<u>₩ 20,791</u>

Total service cost from defined benefit plan amounting to ₩23,354 million and ₩20,791 million is included in operating expenses for the years ended December 31, 2017 and 2016, respectively. In addition, total service cost from defined contribution plan was ₩2,669 million and ₩4,050 million for the years ended December 31, 2017 and 2016, respectively.

Principal assumptions on actuarial valuation as at December 31, 2017 and 2016 are as follows:

	2017	2016
Discount rate	2.3% ~ 4.2%	2.2% ~ 3.5%
Salary growth rate	5.0% ~ 7.5%	5.0% ~ 6.0%

The sensitivity analysis of the defined benefit obligations as at December 31, 2017 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%	7% decrease	8% increase
Salary growth rate	1%	8% increase	7% decrease

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.

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Plan assets as at December 31, 2017 and 2016 consist of the following:

<i>(in millions of Korean won)</i>	2017		2016	
Equity linked bond	₩	16,585	₩	13,330
Time deposits		9,847		15,964
Debt instruments		8,494		7,102
Financial instruments with fixed rate		40,595		27,290
Interest guarantee insurance		2,921		-
Others		5,315		-
	₩	<u>83,757</u>	₩	<u>63,685</u>

The weighted average duration of the defined benefit obligation is 3.70 ~ 11.34 years.

20. Other Long-term Employee Benefits Liabilities

Changes in other long-term employee benefits liabilities for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Beginning balance	₩	28,220	₩	24,968
Increase due to change in scope of consolidation		-		266
Current service cost		9,951		7,817
Interest cost		637		566
Remeasurement of the benefit liabilities		(3,218)		(2,218)
Benefits paid		(3,535)		(3,179)
Others		(40)		-
Ending balance	₩	<u>32,015</u>	₩	<u>28,220</u>

The amounts recognized on the consolidated statements of comprehensive income for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Current service cost	₩	9,951	₩	7,817
Interest cost		637		566
Remeasurement of the benefit liabilities		(3,218)		(2,218)
	₩	<u>7,370</u>	₩	<u>6,165</u>

Principal assumptions on actuarial valuation in relation to other long-term employee benefits liabilities for the years ended December 31, 2017 and 2016 are as follows:

	2017	2016
Discount rate	2.3% ~ 3.4%	2.2% ~ 2.8%
Salary growth rate	4.5% ~ 7.5%	5.0% ~ 6.0%

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21. Income Tax Expense and Deferred Tax

Income tax expense for the years ended December 31, 2017 and 2016 consists of:

<i>(in millions of Korean won)</i>	2017	2016
Current tax:		
Current tax on profit for the year	₩ 78,863	₩ 48,596
Adjustments due to changes in estimates related to prior years	(51,203)	-
Current income tax directly recognized in equity	-	-
	<u>27,660</u>	<u>48,596</u>
Deferred tax:		
Changes in temporary differences	(659)	(13,967)
Deferred tax charged or credited directly to equity	1,203	211
	<u>544</u>	<u>(13,756)</u>
Income tax expense	<u>₩ 28,204</u>	<u>₩ 34,840</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, 2017 and 2016 follows:

<i>(in millions of Korean won)</i>	2017	2016
Profit before income tax	₩ 153,298	₩ 100,296
Income tax expense computed at statutory tax rate	36,636	23,810
Adjustments:		
Non-taxable income	(14,116)	(43)
Non-deductible expenses	4,867	3,417
Changes in valuation allowance of deferred income tax asset	55,176	10,320
Adjustments due to changes in estimates related to prior years	(51,203)	-
Tax credits	(3,156)	(2,664)
Income tax expense	<u>₩ 28,204</u>	<u>₩ 34,840</u>

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Income tax effects related to components of other comprehensive income (expenses) for the years ended December 31, 2017 and 2016 are as follows:

<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)
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>₩ 1,202</u>	<u>₩ (3,365)</u>

<i>(in millions of Korean won)</i>	2016		
	Before tax	Tax effect	After tax
Other comprehensive income (expense):			
Gain on valuation of available-for-sale securities	₩ (5,138)	₩ 1,243	₩ (3,895)
Remeasurement of the net defined benefit liabilities	4,370	(1,058)	3,312
Share of other comprehensive income of associates	535	26	561
	<u>₩ (233)</u>	<u>₩ 211</u>	<u>₩ (22)</u>

Deferred tax assets (liabilities) recognized in the consolidated statements of financial position as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Deferred tax assets		
Deferred tax assets to be recovered after more than 12 months	₩ 58,899	₩ 40,634
Deferred tax assets to be recovered within 12 months	21,937	20,184
	<u>80,836</u>	<u>60,818</u>
Deferred tax liabilities		
Deferred tax liabilities to be settled after more than 12 months	(193,308)	(179,640)
Deferred tax liabilities to be settled within 12 months	(12,665)	(6,069)
	<u>(205,973)</u>	<u>(185,709)</u>
Deferred tax liabilities, net	<u>₩ (125,137)</u>	<u>₩ (124,891)</u>

The gross movement in the deferred tax assets (liabilities) for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Beginning balance	₩ (124,891)	₩ (47,303)
Changes in scope of consolidation	(904)	(91,556)
Deferred income tax charged to profit or loss	(544)	13,756
Deferred income tax charged to other comprehensive income	1,203	212
Ending balance	<u>₩ (125,136)</u>	<u>₩ (124,891)</u>

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Changes in deferred income tax assets and liabilities for the years ended December 31, 2017 and 2016 without taking into consideration the offsetting of balances within the same tax jurisdiction are as follows:

(in millions of Korean won)

	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)	-	(18,526)
Treasury shares	(85)	-	-	-	(85)
Non-refundable tax	(1,169)	-	(6,475)	-	(7,644)
Others	(5,701)	-	(6,718)	-	(12,419)
	<u>(185,709)</u>	<u>(904)</u>	<u>(19,359)</u>	<u>-</u>	<u>(205,972)</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	-	4,473	-	11,072
Provisions	1,177	-	(134)	-	1,043
Government grants	103	-	(51)	-	52
Defined benefit liabilities	14,370	-	2,674	817	17,863
Other long-term employee benefits liabilities	6,848	-	139	-	6,988
Available-for-sale securities	2,090	-	2,484	-	4,575
Derivative instruments	-	-	5,854	-	5,854
Others	9,603	-	2,582	385	12,567
	<u>60,818</u>	<u>-</u>	<u>18,814</u>	<u>1,202</u>	<u>80,836</u>
Deferred tax assets (liabilities), net	<u>₩ (124,891)</u>	<u>₩ (904)</u>	<u>₩ (545)</u>	<u>₩ 1,202</u>	<u>₩ (125,136)</u>

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	2016				
	Beginning balance	Changes in scope of consolidation	Statement of profit or loss	Other comprehensive income	Ending balance
Deferred tax liabilities					
Accrued revenue	₩ (341)	₩ (248)	₩ 96	₩ -	₩ (493)
Property and equipment	(5,824)	-	-	-	(5,824)
Intangible assets	(60,621)	(98,373)	6,714	-	(152,280)
Non-trade receivables	(4,408)	-	-	-	(4,408)
Available-for-sale securities	(1,542)	(35)	85	-	(1,492)
Plan assets	(8,899)	(1,439)	(3,919)	-	(14,257)
Treasury shares	(85)	-	-	-	(85)
Non-refundable tax	(1,518)	-	349	-	(1,169)
Others	(1,860)	(3,203)	(638)	-	(5,701)
	<u>(85,098)</u>	<u>(103,298)</u>	<u>2,687</u>	<u>-</u>	<u>(185,709)</u>
Deferred tax assets					
Property and equipment	1,026	-	(1,015)	-	11
Advances from customers	893	-	1,433	-	2,326
Intangible assets	390	1,459	59	-	1,908
Allowance for doubtful accounts	8,553	3,242	(639)	-	11,156
Investments in associates	461	-	4,140	26	4,627
Other payables	87	3,731	2,781	-	6,599
Provisions	951	26	200	-	1,177
Government grants	57	-	46	-	103
Defined benefit liabilities	10,091	1,478	3,859	(1,058)	14,370
Other long-term employee benefits liabilities	6,249	84	515	-	6,848
Available-for-sale securities	2,601	224	(1,978)	1,243	2,090
Derivative instruments	1,834	-	(1,834)	-	-
Others	4,602	1,499	3,502	-	9,603
	<u>37,795</u>	<u>11,743</u>	<u>11,069</u>	<u>211</u>	<u>60,818</u>
Deferred tax assets (liabilities), net	<u>₩ (47,303)</u>	<u>₩ (91,555)</u>	<u>₩ 13,756</u>	<u>₩ 211</u>	<u>₩ (124,891)</u>

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The Company did not recognize deferred income tax asset of ₩39,986 million and ₩30,679 million as at December 31, 2017 and 2016, respectively, and deferred tax liabilities of ₩102,811 million as at December 31, 2017 related to the investments in subsidiaries and associates considering the possibility of realization.

As at December 31, 2017, the deferred tax assets of unrecognized deductible temporary differences arising from subsidiaries' net loss carryforwards and others amount to ₩32,929 million.

22. Provisions

Changes in provisions for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017			
	Current	Non-current		Total
	Provision for mileage	Provision for business losses¹	Provision for restoration	
Beginning balance	₩ 1,350	₩ 336	₩ 3,762	
Business combination	1,618	-	-	1,618
Addition	1,380	-	642	2,022
Reversal	(785)	-	-	(785)
Utilization	(1,629)	(336)	(193)	(2,158)
Ending balance	₩ 1,934	₩ -	₩ 4,211	₩ 6,145

¹With regard to the stock disposal agreement with Ergo Daum Direct General Insurance Co., Ltd. as at December 31, 2016, the Company has paid ₩ 336 million during 2017 which had been recognized as provision of business losses.

<i>(in millions of Korean won)</i>	2016			
	Current	Non-current		Total
	Provision for mileage	Provision for business losses¹	Provision for restoration	
Beginning balance	₩ 1,149	₩ 336	₩ 3,066	
Addition	6,149	-	709	6,858
Utilization	(5,948)	-	(13)	(5,961)
Ending balance	₩ 1,350	₩ 336	₩ 3,762	₩ 5,448

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23. Derivative Financial Instruments

The carrying amounts of derivative financial assets, liabilities and commitments as at December 31, 2017 and 2016, are as follows (Note 18):

<i>(in millions of Korean won)</i>	<u>2017</u>	<u>2016</u>
Redemption right (NBT Inc.) ¹	₩ 217	₩ 217
Derivatives Linked Securities	-	2,023
Redemption right and conversion right (Bluehole Inc.) ²	53,432	1,702
Total	<u>₩ 53,649</u>	<u>₩ 3,942</u>

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 Redemption right granted to preferred shares of Bluehole Inc. owned by the Company with redemption exercise period from October 19, 2018 to October 19, 2026. The Company may request redemption of either all or portion of the preferred shares, and the guaranteed yield on the redemption premium is 8% per annum. In addition, the host contract of this redeemable convertible preferred shares is recognized as available-for-sale securities separately from the derivative assets above (Note 9).

Derivative financial liabilities amounting to ₩2,254 million and ₩7,375 million as at December 31, 2017 and 2016, respectively, are related to the conversion and early redemption rights associated with the redeemable convertible preferred shares issued by the subsidiaries (Note 18).

24. Share Capital and Share Premium

As at December 31, 2017, the Parent Company's total number of authorized shares is 150 million and the total number of issued and outstanding ordinary shares are 68,008,527 and 67,908,527, 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, 2017, the number of outstanding stock options is 1,513,804 shares (Note 25).

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, 2017, the Parent Company has issued convertible bonds amounting to ₩244,000 million (Note 18).

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, 2017.

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Changes in share capital and additional paid-in capital during the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won, except number of shares)</i>		Number of	Share	Additional	Total
	Description	ordinary	capital	paid-in capital	
		shares			
At January 1, 2016	Beginning balance	60,196,088	₩ 30,098	₩ 2,274,538	₩ 2,304,636
At January 11, 2016	Exercise of stock options	70,000	35	9	44
At February 15, 2016	Exercise of stock options	221,567	111	4,074	4,185
At March 2, 2016	Exercise of stock options	138,214	69	4,175	4,244
At March 17, 2016	Issue of new shares ¹	6,913,339	3,457	754,226	757,683
At April 5, 2016	Exercise of stock options	18,333	9	295	304
At May 2, 2016	Exercise of stock options	550	-	8	9
At June 16, 2016	Exercise of stock options	52,851	26	458	484
At July 18, 2016	Exercise of stock options	1,000	1	8	8
At September 5, 2016	Exercise of stock options	13,170	7	130	137
At October 14, 2016	Exercise of stock options	78,775	39	596	635
At November 9, 2016	Exercise of stock options	11,828	6	90	96
At December 31, 2016	Ending balance	67,715,715	₩ 33,858	₩ 3,038,607	₩ 3,072,465
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	201
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	154
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	541
At September 26, 2017	Exercise of conversion right	16,664	8	1,984	1,992
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	261
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	996
At December 12, 2017	Exercise of stock options	11,324	6	195	201
At December 31, 2017	Ending balance	68,008,527	₩ 34,004	₩ 3,046,516	₩ 3,080,520

¹ In connection with the acquisition of LOEN ENTERTAINMENT, INC., a part of the acquisition consideration was paid by issuing the Parent Company's own equity instruments.

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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					Share capital	Difference
Stocks issued	Par value (in Korean won)	Total par value				
67,908,527	₩ 500	₩ 33,954	₩	34,004	₩	50

25. Share-based compensation

Details of the Parent Company's stock options as at December 31, 2017, 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:
 - 3rd - 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, 17th 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:
 - 1st - 2nd tranches: The requisite service period is two years, exercisable from two years to four years after grant date.
 - 3rd – 4th 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.

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(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 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 tranches: The requisite service period is two years, exercisable from two years to seven years after grant date limited to 50% of granted quantity. The requisite service period of remaining 50% of granted quantity is three years, exercisable from three years to seven years after grant date. It is exercisable only when it happens the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 150% of exercise price. If the average price of the shares calculated at the end of each month within two years to four years from grant date exceeds 200% of exercise price, all of granted quantity could be exercisable.

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Details of the Parent Company's equity-settled stock options outstanding as at December 31, 2017, are as follows:

Tranche	Grant date	Exercise price (in Korean won)	Number of shares				Outstanding as at December 31, 2017	Exercisable as at December 31, 2017
			Outstanding as at January 1, 2017	Granted	Forfeited	Exercised		
3 rd	May 20, 2010	₩ 500	94,000	-	-	(94,000)	-	-
4 th	March 25, 2011	1,607	33,777	-	-	(15,500)	18,277	18,277
5 th	June 10, 2011	1,607	41,320	-	-	(25,420)	15,900	15,900
6 th	November 11, 2011	6,428	68,221	-	-	(38,977)	29,244	29,244
9 th	January 20, 2012	7,714	17,000	-	-	(7,000)	10,000	10,000
10 th	March 30, 2012	10,285	9,277	-	-	(7,277)	2,000	2,000
11 th	March 30, 2012	10,285	1,000	-	-	-	1,000	1,000
12 th	August 31, 2012	12,857	49,937	-	-	(25,328)	24,609	24,609
13 th	August 31, 2012	12,857	15,252	-	-	(5,752)	9,500	9,500
14 th	December 14, 2012	12,857	11,432	-	-	-	11,432	11,432
16 th	March 28, 2013	32,143	50,908	-	-	(21,566)	29,342	29,342
17 th	March 28, 2013	32,143	2,000	-	-	(2,000)	-	-
18 th	March 2, 2017	85,350	-	349,500	12,000	-	337,500	-
19 th	March 2, 2017	85,350	-	546,000	20,000	-	526,000	-
20 th	March 17, 2017	84,650	-	100,000	-	-	100,000	-
21 st	May 2, 2017	88,600	-	348,500	15,000	-	333,500	-
22 nd	September 28, 2017	131,500	-	50,500	-	-	50,500	-
23 rd	September 28, 2017	131,500	-	15,000	-	-	15,000	-
			394,124	1,409,500	47,000	(242,820)	1,513,804	151,304

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

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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
3 rd	₩ 207	₩ 600	59%	0%	2 years	3.43%
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%
17 th	14,770	50,000	40%	0%	3 years	2.44%
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%

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, 2017, are as follows:

(In Korean won, except number of shares)

Tranche	Grant date	Exercise price	Number of shares				
			Outstanding as at January 1, 2017	Granted	Exercised	Outstanding as at December 31, 2017	Exercisable as at December 31, 2017
1 st	July 31, 2013	₩ 32,143	9,080	-	9,080	-	-
2 nd	October 31, 2013	50,144	7,777	-	7,777	-	-
3 rd	May 2, 2017	88,600	-	7,000	-	7,000	-
4 th	September 28, 2017	131,500	-	500	-	500	-
			16,857	7,500	16,857	7,500	-

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, 2017, no the cash-settled stock options are exercisable.

Share-based compensation recognized as expenses for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Equity-settled stock option ¹	₩	8,900	₩	1,774
Cash-settled stock option ²		933		(1,284)
	₩	<u>9,833</u>	₩	<u>490</u>

¹ Amounts for 2017 include ₩3,267 million (2016: ₩1,733 million) of share-based compensation recognized as expenses for the shares of subsidiaries.

² Amounts for 2017 include ₩313 million (2016: ₩(1,103) million) of share-based compensation recognized as expenses (gain) for the shares of subsidiaries.

26. Other Components of Equity

Other components of equity as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017		2016	
Other capital adjustments	₩	(5,430)	₩	(5,430)
Treasury shares		(798)		(798)
Losses on disposal of treasury shares		(5,941)		(5,941)
Stock options		6,142		937
	₩	<u>(6,026)</u>	₩	<u>(11,232)</u>

As at December 31, 2017, the Parent Company holds 5,188 shares of treasury shares in the amount of ₩798 million recognized as other components of equity.

27. Accumulated Other Comprehensive Income

Accumulated other comprehensive income as at December 31, 2017 and 2016, consists of:

<i>(in millions of Korean won)</i>	2017		2016	
Gain on valuation of available-for-sale securities, net of tax	₩	591	₩	721
Translation adjustments, net of tax		(2,585)		377
Shares of other comprehensive income (loss) of associates, net of tax		(174)		895
Remeasurement of defined benefit obligation, net of tax		(2,800)		(1,073)
	₩	<u>(4,968)</u>	₩	<u>920</u>

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Changes in accumulated other comprehensive income for the year ended December 31, 2017 and 2016, are as follows:

<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)	-	(173)
Remeasurement of defined benefit obligation, net of tax	(1,073)	(1,728)	-	(2,801)
	<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.

<i>(in millions of Korean won)</i>	January 1, 2016	Increase (Decrease)	Reclassified to profit and loss	December 31, 2016
Gain on valuation of available-for-sale securities, net of tax	₩ 3,735	₩ (3,014)	₩ -	₩ 721
Translation adjustments, net of tax	948	(571)	-	377
Shares of other comprehensive income of associates, net of tax	603	801	(509)	895
Remeasurement of defined benefit obligation, net of tax	(4,457)	3,384	-	(1,073)
	<u>₩ 829</u>	<u>₩ 600</u>	<u>₩ (509)</u>	<u>₩ 920</u>

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

28. Retained Earnings

Retained earnings as at December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Legal reserve ¹	₩ 10,461	₩ 5,422
Retained earnings before appropriation	<u>392,081</u>	<u>298,530</u>
	<u>₩ 402,542</u>	<u>₩ 303,953</u>

¹ The Commercial Code of the Republic of Korea requires the Parent Company to appropriate for each financial period, as a legal reserve, an amount equal to a minimum of 10% of cash dividends paid until such reserve equals 50% of its issued share capital. The reserve is not available for cash dividends payment, but may be transferred to share capital or used to reduce accumulated deficit.

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29. Operating Expenses

Operating expenses for the years ended December 31, 2017 and 2016, are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Salaries	₩ 324,285	₩ 273,176
Retirement benefit expense	26,023	24,841
Compensation cost of share-based payments	9,834	489
Welfare	52,695	54,099
Travel and transportation expense	6,184	5,431
Taxes and dues	3,610	4,183
Rental expense	27,897	21,928
Commission	728,091	514,631
Advertising expense	116,453	83,753
Bad debt expense (reversal)	1,154	(1,159)
Depreciation	60,733	56,195
Amortization	69,085	57,584
Advertising agency fee	88,577	83,527
Cost of goods	133,247	59,698
Contents fee	121,350	79,731
Expenses for events	1,787	1,786
Others	35,942	28,205
	<u>₩ 1,806,947</u>	<u>₩ 1,348,098</u>

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30. Other Non-Operating Income and Expenses

Details of other non-operating income and expenses for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Other non-operating income		
Gain on disposal of property and equipment	₩ 588	₩ 228
Gain on disposal of intangible assets	968	230
Gain on disposal of equity method investments	22,216	12,380
Gain on foreign currency transactions	1,880	599
Gain on foreign currency translation	725	1,020
Rent income	27	22
Gain on disposal of other assets	-	1,135
Gain on exemption of debt	-	3,417
Miscellaneous income	9,840	6,226
Others	3	-
	<u>₩ 36,247</u>	<u>₩ 25,257</u>
Other non-operating expenses		
Loss on disposal of property and equipment	₩ 377	₩ 132
Loss on disposal of intangible assets	165	7
Loss on abandonment of property and equipment	459	120
Impairment losses on intangible assets	52,238	10,193
Impairment losses on other assets	312	4,130
Impairment losses on equity method investments	13,858	2,203
Donations	4,679	4,064
Service fees	4,557	1,885
Loss on foreign currency transactions	3,463	1,241
Loss on foreign currency translation	2,736	253
Loss on disposal of equity method investments	4,031	322
Miscellaneous losses	2,684	6,856
Other bad debt expenses	881	-
Loss on disposal of other assets	128	-
	<u>₩ 90,568</u>	<u>₩ 31,406</u>

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31. Finance Income and Costs

Finance income and Costs for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Finance income		
Interest income	₩ 14,589	₩ 9,492
Dividend income	2,481	659
Gain on valuation of derivatives	51,708	22
Gain on transactions of derivatives	30	69
Gain on disposal of available-for-sale securities	8,855	231
Gain on foreign currency transactions	809	5,853
Gain on foreign currency translation	474	8,347
	<u>₩ 78,946</u>	<u>₩ 24,673</u>
Finance costs		
Interest expense	₩ 11,240	₩ 14,308
Loss on disposal of available-for-sale securities	358	217
Loss on valuation of derivative financial instruments	13,253	288
Loss on foreign currency transactions	951	1,560
Loss on foreign currency translation	10,188	4,921
Loss on redemption of bonds	-	2,575
Impairment losses on available-for-sale securities	9,753	109
Others	-	1
	<u>₩ 45,743</u>	<u>₩ 23,979</u>

32. 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, 2017 and 2016 is calculated as follows:

<i>(in millions of Korean won, except per share data)</i>	2017	2016
Net income attributable to equity holders of the Parent Company	₩ 108,597	₩ 57,674
Weighted average number of ordinary shares outstanding	<u>67,769,979</u>	<u>66,014,260</u>
Basic earnings per share	<u>₩ 1,602</u>	<u>₩ 874</u>

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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 Group's shares) based on the monetary value of the subscription rights attached to outstanding share options. The number of shares calculated as above is compared with the number of shares that would have been issued assuming the share options are exercised. The convertible bond 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, 2017 and 2016, is calculated as follows:

<i>(in millions of Korean won, except per share data)</i>	2017	2016
Profit attributable to equity holders of the Parent Company	₩ 108,597	₩ 57,674
Interest cost for convertible bonds	188	135
	<u>108,785</u>	<u>57,809</u>
Weighted average number of ordinary shares outstanding	67,769,979	66,014,260
Adjustment for:		
Stock options	288,051	514,310
Convertible bonds	2,033,096	1,491,174
Weighted average number of diluted potential ordinary shares	<u>2,321,147</u>	<u>2,005,484</u>
Weighted average number of ordinary shares for diluted earnings per share	70,091,126	68,019,744
Diluted earnings per share	<u>₩ 1,552</u>	<u>₩ 850</u>

33. Dividends

Dividends paid by the Parent Company for the years ended December 31, 2017 and 2016, are ₩10,006 million (₩148 per share) and ₩10,035 million (₩167 per share), respectively.

The dividend to the shareholders of the Parent Company in respect of the year ended December 31, 2017, of ₩148 per share, amounting to total dividends of ₩10,050 million, is to be proposed at the annual general shareholders' meeting on March 16, 2018. The Company's consolidated financial statements as at December 31, 2017, do not reflect this dividend payable.

Kakao Corp. and Subsidiaries
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34. Cash Generated from Operations

Details of cash generated from operations for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Profit before income tax	₩ 153,298	₩ 100,296
Adjustments :		
Bad debt expense (Reversal of allowance for doubtful accounts)	1,154	(1,159)
Depreciation	60,733	56,195
Amortization	69,085	57,584
Impairment losses on intangible assets	52,238	10,193
Gain on disposal of property and equipment	(211)	(96)
Loss on abandonment of property and equipment	459	120
Gain (loss) on disposal of intangible assets	(803)	(223)
Retirement benefit expense	23,354	20,791
Compensation cost of share-based payments	9,834	489
Interest income	(14,589)	(9,492)
Interest expense	11,240	14,308
Dividend income	(2,481)	(659)
Share of net profit (loss) of associates	(9,036)	10,384
Loss on disposal of equity method investments	4,031	322
Gain on disposal of equity method investments	(22,216)	(12,380)
Impairment losses on equity method investments	13,858	2,203
Gain on foreign currency translations	(1,199)	(9,367)
Loss on foreign currency translations	12,925	5,175
Other long-term employee benefits	7,370	6,165
Gain on disposal of available-for-sale securities	(8,855)	(231)
Loss on disposal of available-for-sale securities	358	217
Impairment losses on available-for-sale securities	9,753	109
Impairment losses on other assets	312	4,130
Gain on valuation of derivative financial instruments	(51,708)	(22)
Loss on valuation of derivative financial instruments	13,253	288
Gain on transaction of derivative financial instruments	(30)	-
Other bad debt expenses	881	-
Addition to provision for mileage	835	-
Others	476	(20)
Changes in operating assets and liabilities		
Trade receivables	(1,951)	(28,440)
Inventories	538	(7,783)
Other current financial assets	(45,778)	(19,144)
Other current assets	(27,737)	(3,380)
Other non-current assets	(2,925)	(791)
Trade payables and other payables	3,352	105,168
Other current liabilities	122,147	92,399
Other current financial liabilities	17,036	3,774
Other non-current financial liabilities	(3,077)	(217)
Other non-current liabilities	-	(22)
Net defined benefit liabilities	(28,180)	(25,772)
Other long-term employee benefit liabilities	(3,576)	(1,219)
Other provisions	(1,869)	-
Others	-	816
Cash generated from operations	<u>₩ 362,297</u>	<u>₩ 370,705</u>

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Significant transactions not affecting cash flows for the years ended December 31, 2017 and 2016 are as follows:

<i>(in millions of Korean won)</i>	2017	2016
Write-offs of trade receivables	₩ 2,846	₩ 786
Provision for restoration to specific property and equipment account	72	618
Change of other payables related to acquisition of property and equipment	5,576	6,041
Change of other payables related to acquisition of intangible assets	951	306
Change of advanced payments related to acquisition of property and equipment	1,840	-
Change of advanced payments related to acquisition of intangible assets	150	10,271
Change of long-term advanced payments related to acquisition of intangible assets	-	984
Other payables related to business combination	-	1,950
Payment of the transfer consideration by issuing own equity instruments	42,620	757,702
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	6,093	-
Conversion of convertible bonds	5,979	-
Conversion of redeemable convertible preferred shares	22,667	-
Transfer to current portion of long-term borrowings	170,300	-

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

	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

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35. Commitments and Contingencies

The Company has provided the following guarantees as at December 31, 2017 and 2016:

(in millions of Korean won)

Beneficiary	Guarantor	Amount				Guaranteed item
		2017	2016	2017	2016	
Employees ¹	Woori Bank	₩	175	₩	475	Employee loans
	KEB Hana Bank		-		98	Employee loans

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 ₩8,086 million are pledged as collateral.

The Company has been provided the following guarantees by others as at December 31, 2017 and 2016:

(in millions of Korean won)

Guarantor	Details	Amount				Beneficiary
		2017	2016	2017	2016	
Seoul Guarantee Insurance and others	Performance guarantee and others	₩	6,249	₩	4,615	Korea Workers' Compensation & Welfare Service, etc.
Korea Technology Finance Corporation	General Guarantee for borrowings		250		80	KEB Hana Bank, etc.

In addition to the above, the Company has been received a payment guarantee from KB Kookmin Bank regarding the issuance of exchangeable bonds (Note 18).

As at December 31, 2017, the Company is involved in 15 lawsuits amounting to ₩2,553 million as a defendant or co-defendant, and one case is under investigation by Fair Trade Commission. 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, 2017, are as follows:

(in millions of Korean won)

Financial Institution	Agreements	Maximum	Amount
		limit	executed
Shinhan Bank	Operating loans with credit limits	₩ 10,000	₩ -
Shinhan Bank	Credit loan	250	250
Small & medium Business Corporation	Credit loan	100	13

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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.

Financial instruments restricted as at December 31, 2017 and 2016:

(in millions of Korean won)

	<u>2017</u>	<u>2016</u>	<u>Purpose of restriction</u>
	₩ 10,000	₩	- Withdrawal restriction by DGB Daegu Bank ¹
	536	604	Related to legal procedure
	1,350		- Pledged as collateral for Shinhan Card and etc. ²
Short-term	8,086	7,968	Payment guarantee for employees' loan
financial	-	1,430	Contractual obligation
instruments	4,607	4,183	Payment guarantee for lease
	-	50	Payment guarantee for borrowings
	-	450	Others
	<u>₩ 24,579</u>	<u>₩ 14,685</u>	

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'.

The following assets are pledged as collateral in relation to guarantees for contract fulfillment as at December 31, 2017:

(in millions of Korean won)

<u>Asset</u>	<u>Beneficiary</u>	<u>Book value</u>	<u>Collateralized amount</u>	<u>Type of Guarantee</u>
Land	Jeju Provincial Government	₩ 34,501	₩ 8,180	Guarantee for contract fulfillment

In addition to the above, shares of LOEN ENTERTAINMENT, INC., etc. regarding the payment guarantee received from KB Kookmin Bank for the exchangeable bonds are provided as collateral (Note 18).

Kakao Corp. and Subsidiaries

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As at December 31, 2017, 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
	Rights	Kakao Corp. is able to purchase shares held by Korea Investment Holdings Co.,Ltd., where Korea Investment Holdings Co., Ltd. must adjust its percentage of ownership below the maximum holding limit by selling additional shares
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..

36. Business Combinations

In 2017, the Company acquired the shares of six companies including Tangram Design Lab Inc., 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>	Percentage of ownership acquired (%)	Consideration	Goodwill
Tangram Design Lab Inc.	63.6	₩ 134	₩ -
HASYS ¹	35.0	3,438	1,442
Fixel Hub Co.,Ltd.	51.0	100	48
Mega monsters (formerly, Stroyplant)	100.0	100	1,964
Pinplay	51.7	3,100	1,580
Kakao VX	100.0	47,133	23,008
		₩ 54,005	₩ 28,042

¹ 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, 2017, the Company holds 51% of the ownership due to additional acquisition of shares during 2017.

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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 2017, 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			
Tangram Design Lab Inc.	₩ 135	₩ 135	₩ -	₩ 135	₩ -	₩ 135	
HASYS	3,438	5,701	(3,706)	1,995	1,442	3,438	
Fixel Hub Co.,Ltd.	100	101	(50)	52	48	100	
Mega monsters (formerly, Stroyplant)	100	(1,864)	-	(1,864)	1,964	100	
Pinplay	3,100	2,941	(1,422)	1,520	1,580	3,100	
Kakao VX	47,133	24,126	-	24,126	23,008	47,133	
	₩ 54,005	₩ 31,140	₩ (5,177)	₩ 25,963	₩ 28,042	₩ 54,005	

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37. Related Parties Transactions

The list of related parties as at December 31, 2017 and 2016, is as follows:

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 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
2016	
Relationship	Related parties
Associates	Flowgamez, Adcredit (formerly, Add2paper), DMS Network, Inc., Nine Flava, NBT Inc., Tapas Media, Inc., DAUM Venture Fund, UserStory Lab, DAUM KAKAO PHILIPPINES CORP., SNACKVOX INC. PTE. LTD., 3Point Inc., NBT Partners Japan, NBT AMERICA INC., HASYS, Manna CEA, Manna Town, Farmit, Farmit2, Neobazar, Silver Star Games Inc., Oscar Entertainment, Left Right Co., Ltd., Bitmarket.ph, Inc., Tangram Design Lab Inc., Tangram Factory, Tangramfactory America, ROI GAMES CORP., CNT TECH CO.,LTD., JOH&Company, Leferi Inc., Wex 24 Korea, PT.Neo Bazar Indonesia, others (64 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

Transactions with the related parties for the years ended December 31, 2017 and 2016 and the receivables from and payables to the related parties as at December 31, 2017 and 2016, are as follows:

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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	₩ 365	₩ -
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	-	-	-	-	-
Other related parties						
Moduda	-	-	-	-	-	-
	<u>₩ 2,301</u>	<u>₩ 79</u>	<u>₩ 45</u>	<u>₩ 8,917</u>	<u>₩ 1,179</u>	<u>₩ 271</u>

(in millions of Korean won)

	2016					
	Revenues			Purchases		
	Sales	Interest income	Service fee	Advertising expense	Purchase of intangible assets	Others
Associates						
NBT Inc.	₩ 2,298	₩ -	₩ 2,061	₩ 340	₩ -	₩ -
3Point Inc.	5	-	-	-	-	50
WishLink	-	-	655	-	38	-
NAVIRO Co.,Ltd. (formerly, DeNA Locations)	300	-	-	-	-	-
Dunamu Inc.	324	-	-	-	-	-
NeoBazar	-	-	2	28	-	-
Tangram Design Lab Inc.	-	70	-	-	-	-
Tangram Factory	13	71	-	-	-	-
SNACKVOX INC. PTE. LTD.	-	-	6	-	-	-
HASYS	72	-	9	-	-	-
MannaCEA	2	-	-	-	-	1
Left Right Co., Ltd.	-	-	10	-	-	-
Oscar Entertainment	-	-	305	-	-	-
You are the designer	1	-	-	-	-	1
CNT TECH CO.,LTD.	-	-	-	-	-	-
	<u>₩ 3,015</u>	<u>₩ 141</u>	<u>₩ 3,048</u>	<u>₩ 368</u>	<u>₩ 38</u>	<u>₩ 52</u>

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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	-	-
Other related parties					
Onyx K.	-	-	-	-	-
	<u>₩ 339</u>	<u>₩ 50</u>	<u>₩ 3,026</u>	<u>₩ 1,163</u>	<u>₩ 37</u>

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

(in millions of Korean won)

	2016				
	Receivables			Payables	
	Trade receivables	Loans	Other receivables	Non-trade payables	Other payables
Associates					
NBT Inc.	₩ 250	₩ -	₩ 660	₩ 185	₩ -
UserStory Lab	-	-	200	-	-
Dunamu Inc.	209	-	-	-	-
3 Point Inc.	3	50	-	-	-
WishLink	-	-	-	57	-
NeoBazar	-	-	-	-	-
Silver Star Games Inc.	-	-	-	-	-
Tangram Design Lab Inc.	-	2,100	93	-	-
Tangram Factory	-	1,540	75	-	-
HASYS	56	-	85	73	-
MannaCEA	-	-	-	1	-
Left Right Co., Ltd.	-	-	-	1	-
Oscar Entertainment	-	-	34	-	-
You are the designer	-	-	4	-	-
	<u>₩ 518</u>	<u>₩ 3,690</u>	<u>₩ 1,151</u>	<u>₩ 317</u>	<u>₩ -</u>

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Loans arising from related parties for the periods ended December 31, 2017 and 2016, are as follows:

(in millions of Korean won)

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

¹ During 2017, the Company made contributions in kind with loans receivable (Note 15).

(in millions of Korean won)

	2016				
	Beginning balance	Loans	Repayments	Changes in scope of consolidation	Ending balance
Associate					
3Points Inc.	₩ 50	₩ -	₩ -	₩ -	₩ 50
Tangram Design Lab Inc.	-	1,100	-	1,000	2,100
Tangram Factory	-	40	-	1,500	1,540
	<u>₩ 50</u>	<u>₩ 1,140</u>	<u>₩ -</u>	<u>₩ 2,500</u>	<u>₩ 3,690</u>

¹ During 2017, the Company made contributions in kind and in cash to certain related parties (Note 15).

Key management compensation

The compensation paid or payable to key management for the years ended December 31, 2017 and 2016 consists of:

(in millions of Korean won)

	2017		2016	
Salaries	₩	957	₩	1,446
Retirement benefit expense		44		47
Other long-term employee benefits		23		23
Share-based payments		275		-
	<u>₩</u>	<u>1,299</u>	<u>₩</u>	<u>1,516</u>

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38. Subsequent Event

With the resolution of the Board of Directors dated January 18, 2018, the Parent Company issued 8,261,731 of new shares on January 24, 2018, and issued foreign stock depository receipt of 1 billion dollars based on them.

With the resolution of the Board of Directors dated February 13, 2018, Kakao Games Corp., a subsidiary, issued 901,132 of new shares (amount : ₩ 140,001 million) on March 2, 2018 in the way of a capital increase by allocation to third parties.