Hyundai Wia Corporation and its subsidiaries

Consolidated financial statements
for the year ended December 31, 2017
with the independent auditors' report

Hyundai Wia Corporation

Table of contents

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Independent auditors' report

The Shareholders and Board of Directors
Hyundai Wia Corporation

We have audited the accompanying consolidated financial statements of Hyundai Wia Corporation (the "Company") and its subsidiaries (collectively referred to as the "Group"), which comprise the consolidated statement of financial position as at December 31, 2017, and the consolidated statement of profit or loss and other comprehensive income, consolidated statement of changes in equity and consolidated statement of cash flows for the year then ended, and a summary of significant accounting policies and other explanatory information.

Management's responsibility for the consolidated financial statements

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

Auditors' responsibility

Our responsibility is to express an opinion on these consolidated financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the Republic of Korea. 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 the auditors' 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, the auditors consider internal control relevant to the entity'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 entity's internal control. 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 consolidated financial statements present fairly, in all material respects, the financial position of the Group as at December 31, 2017, and its financial performance and cash flows for the year then ended in accordance with Korean International Financial Reporting Standards.

Other matter

The accompanying consolidated financial statements of the Group as at and for the year ended December 31, 2016, were audited by other auditor, who expressed an unqualified opinion in its independent auditors' report on March 9, 2017.

Ernst & Young Han Young

March 8, 2018

This audit report is effective as at March 8, 2018, the independent auditors' report date. Accordingly, certain material subsequent events or circumstances may have occurred during the period from the independent auditors' report date to the time this report is used. Such events and circumstances could significantly affect the accompanying consolidated financial statements and may result in modifications to this report.

Hyundai Wia Corporation and its subsidiaries

Consolidated financial statements
for the years ended December 31, 2017 and 2016

"The accompanying financial statements, including all footnotes and disclosures, have been prepared by, and are the responsibility of, the Group."

Kim, Kyung-Bae

Chief Executive Officer

Hyundai Wia Corporation

Hyundai Wia Corporation and its subsidiaries
Consolidated statements of financial position
as at December 31, 2017 and 2016

(Korean won)

	Notes		2017		2016
Assets					
Current assets:					
Cash and cash equivalents	33	₩	931,335,151,866	₩	799,263,907,582
Other current financial assets	14,33,34		576,751,999,557		691,466,174,007
Trade receivables	5,33,35		1,172,586,252,091		1,188,716,193,879
Loans and other receivables	5,33,35		63,086,259,299		70,780,247,691
Other current assets	6		61,533,351,893		43,405,272,722
Current tax asset			7,968,125,332		-
Inventories	4,7		890,939,858,796		771,588,300,071
The gross amount due from customers for contract work as an asset	15		155,183,689,506		178,124,016,133
Total current assets			3,859,384,688,340		3,743,344,112,085
Non-current assets:					
Other non-current financial assets	14,33,34		221,014,296		191,827,159
AFS securities	8,33,34		73,688,089,944		70,769,647,907
Non-current loans and other receivables	5,20,33		59,187,883,615		36,929,437,375
Property, plant and equipment	4,11		2,600,274,429,076		2,548,322,913,146
Investment property	12		1,522,714,000		1,522,714,000
Intangible assets	4,13		243,739,964,023		245,653,812,521
Investment in associates	9		326,781,783,351		349,005,960,961
Investment in joint arrangements	10		18,639,228,077		22,407,130,947
Deferred tax assets	31		9,953,269,589		1,980,477,044
Other non-current assets	6		288,913,708		1,951,109,930
Total non-current assets			3,334,297,289,679		3,278,735,030,990
Total assets		₩	**7,193,681,978,019**	₩	**7,022,079,143,075**

(Continued)

Hyundai Wia Corporation and its subsidiaries
Consolidated statements of financial position
as at December 31, 2017 and 2016 (cont'd)

(Korean won)

	NOTES	2017	2016
Liabilities and equity			
Liabilities			
Current liabilities:			
Trade payables	4,16,33,35	₩ 1,246,031,502,802	₩ 1,307,622,734,766
Non-trade payables	4,16,33,35	152,653,521,670	85,668,079,810
Short-term borrowings	17,33	14,889,776,840	-
Current portion of long-term liabilities	17,33	182,823,879,406	154,939,044,400
Income taxes payable		3,075,368,523	29,682,147,858
Other current financial liabilities	19,33,34	61,294,794	441,725,906
Provisions	18	20,098,363,227	17,334,282,694
Other current liabilities	21	56,792,663,042	48,648,017,726
The gross amount due to customers for contract work as a liability	15	51,499,761,034	54,554,045,893
Total current liabilities		1,727,926,131,338	1,698,890,079,053
Non-current liabilities:			
Other non-current non-trade payables	4,16,33	4,355,742,800	4,219,198,106
Long-term borrowings	17,33	858,204,697,422	849,336,082,396
Bonds payable	17,33	1,196,919,413,947	957,322,624,599
Employee benefits		9,091,955,989	9,277,105,770
Other non-current financial liabilities	19,33,34	121,582,003	4,519,459
Long-term provisions	18,35	176,339,769,574	126,513,019,938
Deferred tax liability	31	80,624,691,035	114,289,733,914
Defined benefit liability	20	-	3,637,462,650
Total non-current liabilities		2,325,657,852,770	2,064,599,746,832
Total liabilities		4,053,583,984,108	3,763,489,825,885
Equity			
Issued capital	1,22	135,975,415,000	135,975,415,000
Other contributed capital	23	387,327,701,240	387,327,701,240
Other capital components	24	10,127,022,071	45,741,254,573
Retained earnings	25	2,606,667,855,600	2,689,544,946,377
Non-controlling interests		-	-
Total equity		3,140,097,993,911	3,258,589,317,190
Total liabilities and equity		**₩ 7,193,681,978,019**	**₩ 7,022,079,143,075**

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

Hyundai Wia Corporation and its subsidiaries
Consolidated statements of profit or loss and other comprehensive income
for the years ended December 31, 2017 and 2016
(Korean won)

	Notes		2017		2016
Sales	4,15,26,34	₩	7,487,391,747,448	₩	7,589,447,382,673
Cost of sales	7,15,30,34		7,193,349,181,632		7,012,733,093,582
Gross profit			**294,042,565,816**		**576,714,289,091**
Selling expenses	27,30		100,915,924,879		128,552,669,713
Administrative expenses	27,30		176,408,801,430		185,429,408,218
Operating profit	4		**16,717,839,507**		**262,732,211,160**
Other income	28		78,332,078,874		122,993,366,756
Other expenses	28		148,578,940,429		133,368,872,398
Financial income	29		15,906,556,346		18,066,108,004
Financial expenses	29		57,832,574,857		52,464,948,637
Gain(loss) on equity method	9,10		(5,177,922,067)		14,807,700,436
Gain resulting from business combination	36		3,576,238,152		-
Profit (loss) before tax			**(97,056,724,474)**		**232,765,565,321**
Income tax expense (benefits)	31		(34,053,094,525)		102,038,756,970
Profit (loss) for the year			**(63,003,629,949)**		**130,726,808,351**
Other comprehensive income:					
Other comprehensive income to be reclassified to profit or loss in subsequent periods:					
Exchange differences on translation of foreign operations			(27,176,561,217)		(3,776,277,485)
Gain on valuation of AFS financial assets	8,24		2,848,442,037		1,565,111,110
Changes in equity from equity method	9,10,24		(13,984,068,120)		(9,119,364,071)
Income tax that will be reclassified to current net income			2,697,954,798		1,822,654,823
			(35,614,232,502)		**(9,507,875,623)**
Other comprehensive income not to be reclassified to profit or loss in subsequent periods:					
Remeasurements of defined benefit plans	20,25		12,309,894,707		4,481,893,117
Income tax that will not be reclassified to current net income			(2,965,453,635)		(1,079,688,052)
			9,344,441,072		**3,402,205,065**
Other comprehensive loss for the year, net of tax			**(26,269,791,430)**		**(6,105,670,558)**
Total comprehensive income (loss) for the year, net of tax		₩	**(89,273,421,379)**	₩	**124,621,137,793**
Income (loss) attributable to:					
Owners of the parent			(63,003,629,949)		130,726,808,351
Non-controlling interests			-		-
		₩	(63,003,629,949)	₩	130,726,808,351
Comprehensive income (loss) attributable to:					
Owners of the parent			(89,273,421,379)		124,621,137,793
Non-controlling interests			-		-
		₩	(89,273,421,379)	₩	124,621,137,793
Earnings per share:					
Basic and diluted, profit (loss) for the year attributable to owners of the parent	32	₩	(2,372)	₩	4,922

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

Hyundai Wia Corporation and its subsidiaries
Consolidated statements of changes in equity
for the years ended December 31, 2017 and 2016
(Korean won)

	Attributable to the owners of the parent						
	Issued capital	**Other contributed capital**	**Other capital components**	**Retained earnings**	**Subtotal**	**Non-controlling interests**	**Total equity**
Balance at January 1, 2016	₩ **135,975,415,000**	₩ **387,326,045,930**	₩ **55,249,130,196**	₩ **2,584,633,900,861**	₩ **3,163,184,491,987**	₩ **-**	₩ **3,163,184,491,987**
Gain on valuation of AFS financial assets	-	-	1,188,075,843	-	1,188,075,843	-	1,188,075,843
Changes in equity method of capital	-	-	(6,919,673,981)	-	(6,919,673,981)	-	(6,919,673,981)
Loss on foreign currency translations from overseas business	-	-	(3,776,277,485)	-	(3,776,277,485)	-	(3,776,277,485)
Remeasurements of defined benefit plans	-	-	-	3,402,205,065	3,402,205,065	-	3,402,205,065
Net income	-	-	-	130,726,808,351	130,726,808,351	-	130,726,808,351
Dividends	-	-	-	(29,217,967,900)	(29,217,967,900)	-	(29,217,967,900)
Disposal of treasury stock	-	1,655,310	-	-	1,655,310	-	1,655,310
Balance at December 31, 2016	₩ **135,975,415,000**	₩ **387,327,701,240**	₩ **45,741,254,573**	₩ **2,689,544,946,377**	₩ **3,258,589,317,190**	₩ **-**	₩ **3,258,589,317,190**
Balance at January 1, 2017	₩ **135,975,415,000**	₩ **387,327,701,240**	₩ **45,741,254,573**	₩ **2,689,544,946,377**	₩ **3,258,589,317,190**	₩ **-**	₩ **3,258,589,317,190**
Gain on valuation of AFS financial assets	-	-	2,162,252,350	-	2,162,252,350	-	2,162,252,350
Changes in equity method of capital	-	-	(10,599,923,635)	-	(10,599,923,635)	-	(10,599,923,635)
Loss on foreign currency translations from overseas business	-	-	(27,176,561,217)	-	(27,176,561,217)	-	(27,176,561,217)
Remeasurements of defined benefit plans	-	-	-	9,344,441,072	9,344,441,072	-	9,344,441,072
Net loss	-	-	-	(63,003,629,949)	(63,003,629,949)	-	(63,003,629,949)
Dividends	-	-	-	(29,217,901,900)	(29,217,901,900)	-	(29,217,901,900)
Balance at December 31, 2017	₩ **135,975,415,000**	₩ **387,327,701,240**	₩ **10,127,022,071**	₩ **2,606,667,855,600**	₩ **3,140,097,993,911**	₩ **-**	₩ **3,140,097,993,911**

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

Hyundai Wia Corporation and its subsidiaries
Consolidated statements of cash flows
for the years ended December 31, 2017 and 2016
(Korean won)

	Notes		2017		2016
Operating activities					
Cash generated from operating activities:					
Net Income (loss)		₩	(63,003,629,949)	₩	130,726,808,351
Additions of non-cash outflow expenses	37		384,473,816,454		436,822,775,559
Deductions of non-cash inflow income	37		(33,561,957,256)		(63,252,843,017)
Changes in operating assets and liabilities	37		(139,505,099,003)		55,678,008,440
Interest income received			16,178,503,443		18,222,810,258
Interest expense paid			(49,587,828,864)		(44,584,668,807)
Dividends received			4,320,010,121		3,018,835,200
Income taxes paid			(46,602,405,375)		(182,018,637,064)
Net cash flows provided by operating activities			**72,711,409,571**		**354,613,088,920**
Investing activities					
Cash inflows from investing activities:					
Decrease in other current financial assets			770,655,980,172		64,981,143,009
Decrease in loans and other receivables			68,653,373		116,462,507
Disposal of property, plant and equipment	11		653,066,766		44,300,539,120
Disposal of intangible assets	13		-		2,076,315,204
Decrease in non-current loans and other receivables			27,436,000		41,392,000
Government grants received	11,13		391,975,824		1,132,200
Cash outflows for investing activities:					
Acquisition of other current financial assets			(655,826,033,164)		(89,827,959,337)
Acquisition of property, plant and equipment	11		(308,140,847,194)		(438,285,212,583)
Acquisition of intangible assets	13		(42,005,734,469)		(48,076,744,697)
Government grants return			-		(99,182,160)
Increase in other non-current assets			-		(34,937,073)
Increase in non-current loans and other receivables			(242,791,822)		(83,668,634)
Acquisition of joint arrangements	10		-		(5,100,000,000)
Net cash flows used in investing activities			**(234,418,294,514)**		**(469,990,720,444)**
Financing activities					
Cash inflows from financing activities:					
Increase in short-term borrowings			8,000,000,000		-
Proceeds from debenture			388,328,520,000		129,393,400,000
Increase in long-term borrowings			218,649,865,373		496,751,743,900
Cash outflows for financing activities:					
Decrease in short-term portion of long-term borrowings			(162,367,289,423)		(154,567,544,880)
Repayment of long-term borrowing			(112,210,169,860)		(108,459,005,478)
Payment of dividends	25		(29,217,901,900)		(29,217,967,900)
Acquisition of treasury stock			-		(2,506,186,690)
Net cash flows provided by financing activities			**311,183,024,190**		**331,394,438,952**
Net increase in cash and cash equivalents			149,476,139,247		216,016,807,428
Cash and cash equivalents at January 1			799,263,907,582		584,538,238,883
Net foreign exchange difference			(19,275,200,572)		(1,291,138,729)
Net cash inflow from business combinations			1,870,305,609		-
Cash and cash equivalents at December 31		₩	**931,335,151,866**	₩	**799,263,907,582**

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

1. Corporate information

1.1. Summary of parent entity

Hyundai Wia Corporation (the "Company") and its subsidiaries (collectively, the "Group") have prepared the consolidated financial statements in accordance with Korean International Financial Reporting Standards ("K-IFRS") 1110, 'Consolidated financial statements.' The Company was established on March 29, 1976. The Company listed its shares on the Korea Exchange ("KRX") in 2011. The Company's main businesses are manufacturing and retail of parts of vehicles, machinery and industrial machinery. The Company's manufacturing factories are mainly located in Changwon-si, Gyeongsangnam-do, Ansan-si, Gyeonggi-do and Gwang Ju in Korea.

The Company's total paid-in capital is ₩135,975,415 thousand, made up of several capital increases and mergers. As of December 31, 2017, the details of shareholders are as follows:

	Number of shares	Ownership (%)
HYUNDAI MOTOR COMPANY	6,893,596	25.35
KIA MOTORS CORP.	3,654,004	13.44
Treasury Stocks	633,354	2.33
Eui Sun Chung	531,095	1.95
Employee Stock Ownership Associate	21,599	0.08
Others	15,461,435	56.85
Total	27,195,083	100.00

1.2. Overview of subsidiaries

1.2.1. Details of the Group's subsidiaries as of December 31, 2017 and 2016, are as follows:

Name of subsidiaries	Main business	Location	Ownership of the Group		End of reporting date
			2017	2016	
Jiangsu Hyundai Wia	Auto parts manufacturing	China	100%	100%	2017-12-31
Hyundai Wia Machine Tools Co., Ltd.	Machinery retail	China	100%	100%	2017-12-31
Beijing Wia Turbo Co., Ltd.	Auto parts manufacturing	China	100%	100%	2017-12-31
Hyundai Wia Machine America Corp.	Machinery retail	USA	100%	100%	2017-12-31
Hyundai Wia India Pvt Ltd.	Auto parts manufacturing	India	100%	100%	2017-12-31
Hyundai Wia Europe GmbH	Machinery retail	Germany	100%	100%	2017-12-31
HYUNDAI WIA MEXICO, S.DE R.L. DE C.V.	Auto parts manufacturing	Mexico	100%	100%	2017-12-31
Hyundai Wia Turbo Corporation	Auto parts manufacturing	Korea	100%	51%	2017-12-31

1. Corporate information (cont'd)

1.2. Overview of subsidiaries (cont'd)

1.2.2. Summarized financial position and results of operations of the Group's major consolidated subsidiaries as of and for the years ended December 31, 2017 and 2016, are as follows:

Name of subsidiaries	December 31, 2017				
	Assets	Liabilities	Sales	Profit (loss) for the year	Comprehensive income for the year
	(Korean won in thousands)				
Jiangsu Hyundai Wia	₩ 430,150,777	₩ 181,496,967	₩ 274,216,000	₩ 10,784,770	₩ (3,444,700)
Hyundai Wia Machine Tools Co., Ltd.	89,262,762	85,861,014	141,679,762	(1,286,686)	(1,530,852)
Beijing Wia Turbo Co., Ltd.	52,058,544	49,462,265	86,071,553	(2,523,744)	(2,419,303)
Hyundai Wia Machine America Corp.	57,293,181	58,949,190	40,204,118	(3,305,038)	(2,083,483)
Hyundai Wia India Pvt Ltd.	84,242,818	57,651,781	68,444,818	4,650,420	3,061,166
Hyundai Wia Europe GmbH	62,113,385	42,868,278	67,488,676	974,426	1,142,743
HYUNDAI WIA MEXICO, S.DE R.L. DE C.V.	859,518,637	708,401,210	461,550,493	(10,168,777)	(24,188,943)
Hyundai Wia Turbo Corporation	49,818,540	42,977,577	25,982,699	(2,639,669)	(2,639,669)

Name of subsidiaries	December 31, 2016				
	Assets	Liabilities	Sales	Profit (loss) for the year	Comprehensive income for the year
	(Korean won in thousands)				
Jiangsu Hyundai Wia	₩ 474,298,658	₩ 222,200,148	₩ 428,280,712	₩ 24,085,490	₩ 17,053,701
Hyundai Wia Machine Tools Co., Ltd.	102,492,284	97,559,684	145,465,800	112,186	(33,800)
Beijing Wia Turbo Co., Ltd.	51,048,611	52,619,429	118,824,712	(7,458,984)	(7,610,357)
Hyundai Wia Machine America Corp.	73,298,307	84,927,933	35,343,435	(7,749,724)	(8,177,767)
Hyundai Wia India Pvt Ltd.	79,106,442	55,576,571	67,722,809	1,575,275	1,819,736
Hyundai Wia Europe GmbH	55,058,569	36,956,205	56,962,420	575,670	389,776
HYUNDAI WIA MEXICO, S.DE R.L. DE C.V.	733,288,778	612,392,408	217,814,037	(48,847,420)	(45,680,074)

1.2.3. The following company has been included in the consolidated subsidiaries during the year ended December 31, 2017.

Name of subsidiaries	Ownership of the Group		Note
	2017	2016	
Hyundai Wia Turbo Corporation	100 %	51 %	The company acquires residual interests

1.2.4. There are no subsidiaries excluded from consolidation for the year ended December 31, 2017.

2. Summary of significant accounting policies

The Company maintains its official accounting records in Korean won and prepares its consolidated financial statements in conformity with Korean statutory requirements and K-IFRS, in Korean language (Hangul). Accordingly, these consolidated financial statements are intended for use by those who are informed about K-IFRS and Korean practices. The accompanying consolidated financial statements have been condensed, restructured and translated into English with certain expanded descriptions from Korean language consolidated financial statements. Certain information included in Korean language consolidated financial statements, but not required for a fair presentation of the Company's consolidated statements of financial position, income, comprehensive income, changes in shareholders' equity or cash flows, is not presented in the accompanying consolidated financial statements.

2.1. Basis of consolidated financial statements preparation

The consolidated financial statements have been prepared in accordance with K-IFRS, as prescribed in the *Act on External Audit of Stock Companies* in the Republic of Korea.

The principal accounting policies are set out below. Except for the effect of the amendments to K-IFRS and new interpretations set out below, the principal accounting policies used to prepare the consolidated financial statements as of and for the year ended December 31, 2017, are consistent with the accounting policies used to prepare the consolidated financial statements as of and for the year ended December 31, 2016.

The accompanying consolidated financial statements have been prepared on the historical cost basis except for certain non-current assets and financial instruments that are measured at fair values, as explained in the accounting policies below. Historical cost is based on the fair values of the consideration given.

2.1.1. New and revised standards that have been applied from the year beginning on January 1, 2017, are as follows:

- K-IFRS 1007 (Amendment): 'Statement of Cash Flows'

The amendments require an entity to provide disclosure that enable users of financial statements to evaluate changes in liabilities arising from financing activities.

- K-IFRS 1012 (Amendment): 'Income Taxes'

The amendment is based on the fact that if the carrying amount of a financial instrument with a fixed interest rate that is measured at fair value declines but the tax basis price is maintained at cost, temporary differences will be deducted irrespective of the expected recovery method, future taxable income for the purpose of reviewing the feasibility of temporary differences can be estimated as an amount exceeding the carrying amount of the asset. In evaluating whether sufficient future taxable profit are available, an entity should compare the deductible temporary differences with future taxable profits, excluding tax deductions resulting from the reversal of those deductible temporary differences.

Changes in the accounting policies listed above have no significant impact on the consolidated financial statements.

2.1.2. New and revised standards that have been issued but are not yet effective as of the authorization date for issue of financial statements, and that have not been applied earlier by the Group are as follows:

The following new standards and amendments to existing standards have been published and are mandatory for the Group for the year beginning after January 1, 2018, and the Group has not early adopted them.

2. Summary of significant accounting policies (cont'd)

- K-IFRS 1109: 'Financial Instruments'

K-IFRS 1109 'Financial Instruments' is effective for annual periods beginning on or after January 1, 2018, with early application permitted. This standard replaces K-IFRS 1039 'Financial Instruments: Recognition and Measurement.' The Group plans to adopt K-IFRS 1109 for the year beginning after January 1, 2018 and will not restate comparative information. Except for hedge accounting, retrospective application is required but providing comparative information is not compulsory. For hedge accounting, the requirements are generally applied prospectively, with some limited exceptions.

K-IFRS 1109 brings together all three aspects of the accounting for financial instruments: classification and measurement, impairment and hedge accounting. The Group has performed an impact assessment of all three aspects of K-IFRS 1109. This assessment is based on currently available information and could be subject to modifications arising from further reasonable and supportable information available to the Group in 2018 when the Group will adopt K-IFRS 1109. The Group expects no significant impact on its financial position and equity except for the effect of applying the classification requirements of K-IFRS 1109.

The general impact of the new standard on the consolidated financial statement is as follows:

A. Classification and measurement of financial assets

When the Group adopts new standard of K-IFRS 1109, the Group classifies financial assets as seen in the table below based on the entity's business model for managing the financial assets and the contractual cash flow characteristics of the financial asset: as measured at amortized cost, fair value through other comprehensive income ("FVOCI") or fair value through profit or loss ("FVTPL"). If the host contract is determined in a hybrid contract, an entity may classify the entire hybrid contract as a financial asset rather than separating the embedded derivative from the host contract.

	Contractual cash flow characteristic	
Business model	Solely payments of principal and interest	Otherwise
Objective is to hold financial assets in order to collect contractual cash flows	Measured at amortized cost (*1)	FVTPL (*2)
The financial asset is held within a business model whose objective is achieved by both collecting contractual cash flows and selling financial assets	FVOCI (*1)	
Objective is to sell financial assets and others	FVTPL	

(*1) An entity may designate as measured at FVTPL to eliminate or significantly reduce an accounting mismatch (irrevocable).
(*2) An entity may designate as FVOCI for investments in equity instruments that are not held for trading (irrevocable).

The Group has loans and receivables of ₩2,803,169 million and AFS financial assets of ₩73,688 million in the consolidated statements of financial position as of December 31, 2017.

B. Classification and measurement of financial liabilities

For financial liabilities designated as at FVTPL using the fair value option, K-IFRS 1109 requires the effects of changes in fair value attributable to an entity's credit risk to be recognized in other comprehensive income. The amounts presented in other comprehensive income are not subsequently transferred to profit or loss unless this treatment of the credit risk component creates or enlarges a measurement mismatch.

As of December 31, 2017, the Group has financial liabilities measured at amortized cost of ₩3,656,061 million.

2. Summary of significant accounting policies (cont'd)

C. Impairment: Financial assets and contract assets

Under K-IFRS 1039, the impairment is recognized only when there is an objective evidence of impairment based on incurred loss model, but under K-IFRS 1109, impairment is recognized based on expected credit loss model for debt instruments, lease receivables, contract assets, loan contracts and financial guarantee contracts that are measured at amortized cost or fair value through other comprehensive income.

In K-IFRS 1109, financial assets are classified into three stages depending on the extent of increase in the credit risk on financial instruments since initial recognition. The loss allowance is measured at an amount equal to 12-month expected credit losses or the lifetime expected credit losses and therefore credit losses will be recognized earlier than under the incurred loss model of K-IFRS 1039.

Stage	Case	The loss allowance
Stage 1	Non-significant increase in credit risk since initial recognition	12-month expected credit losses: The portion of lifetime expected credit losses that represent the expected credit losses that result from default events on a financial instrument that are possible within the 12 months after the reporting date.
Stage 2	Significant increase in credit risk since initial recognition	Lifetime expected credit losses: The expected credit losses that result from all possible default events over the expected life of a financial instrument.
Stage 3	Credit-impaired financial assets	

Under K-IFRS 1109, an entity shall only recognize the cumulative changes in lifetime expected credit losses since initial recognition as a loss allowance for purchased or originated credit-impaired financial assets.

As of December 31, 2017, the Group has loans, receivables and AFS financial assets and the loss allowance for these assets are ₩22,947 million.

D. Hedge Accounting

The new standard, K-IFRS 1109, retains the mechanics of hedge accounting in K-IFRS 1039. Under the new model, it is possible for an entity to reflect its risk management activities on the financial statements by focusing on principle-based hedge effectiveness assessment instead of simply complying with a rule-based approach under the K-IFRS 1039. The new model introduced greater flexibility to the types of transactions eligible for hedge accounting, specifically broadening the types of instruments that qualify as hedging instruments and overhauling the quantitative hedge effectiveness (80 – 125%) test.

In accordance with the transition requirements, entities with initial application may continue to retain the existing requirements under K-IFRS 1039 as their accounting policy.

As of December 31, 2017, the Group does not have assets, liabilities, firm commitments, and anticipated transactions for which hedge accounting is applied. Accordingly, the application of this standard does not have a significant impact the consolidated financial statements.

2. Summary of significant accounting policies (cont'd)

- K-IFRS 1115: *Revenue from Contracts with Customers*

K-IFRS 1115 'Revenue from Contracts with Customers' is effective for annual periods beginning on or after January 1, 2018, with early application permitted. This standard will supersede K-IFRS 1011 ' 'Construction Contracts', K-IFRS 1018 'Revenue', K-IFRS 2113 'Customer Loyalty Programs', K-IFRS 2115 'Agreements for the Construction of Real Estate', K-IFRS 2118 'Transfers of Assets from Customers' and K-IFRS 2031 'Revenue-Barter Transactions Involving Advertising Services'. The Group plans to adopt K-IFRS 1115 for the year beginning after January 1, 2018, but completed contracts as at December 31, 2017 are not going to be restated using the practical expedient provided in the standard.

The current K-IFRS 1018 presents revenue recognition standards based on transaction types such as sale of goods, provision of services, interest income, royalty income, dividend income and construction revenues, but the new standard introduces a 5-step approach to revenue recognition and measurement: 1) Identify the contract with a customer, 2) Identify the performance obligations in the contract, 3) Determine the transaction price, 4) Allocate the transaction price to the performance obligations in the contract, 5) Recognize revenue when (or as) the entity satisfies a performance obligation.

The Group has performed an impact assessment of K-IFRS 1115. This assessment is based on currently available information and may be subject to changes arising from further detailed analyses or additional reasonable and supportable information being made available to the Group in 2018.

The general impact of the new standard on the consolidated financial statements is as follows:

Warranty obligations

Most of the Group's existing warranties from contracts with customers will be assurance-type warranties under K-IFRS 1115, which will continue to be accounted for under K-IFRS 1037 'Provisions, Contingent Liabilities and Contingent Assets', consistent with its current practice. However, in certain non-standard contracts, the Group provides extended warranties. Under K-IFRS 1115, such warranties will be accounted for as service-type warranties and, therefore, will be accounted for as separate performance obligations to which the Group allocates a portion of the transaction price. Considerations received from customers will be separated into revenue to be allocated to sales of vehicles and service-type warranties, and the portion allocated to service-type warranties will be recognized as revenue over the period of warranties.

- Amendments to K-IFRS 1110 and K-IFRS 1028: *Sale or Contribution of Assets between an Investor and its Associate or Joint Venture*

The amendments address the conflict between K-IFRS 1110 and K-IFRS 1028 in dealing with the loss of control of a subsidiary that is sold or contributed to an associate or joint venture. The amendments clarify that the gain or loss resulting from the sale or contribution of assets that constitute a business, as defined in K-IFRS 1103, between an investor and its associate or joint venture, is recognized in full. Any gain or loss resulting from the sale or contribution of assets that do not constitute a business, however, is recognized only to the extent of unrelated investors' interests in the associate or joint venture. The IASB has deferred the effective date of these amendments indefinitely, but an entity that early adopts the amendments must apply them prospectively. The Group will apply these amendments when they become effective.

- Amendments to K-IFRS 1102: *Classification and Measurement of Share-based Payment Transactions*

The amendments to K-IFRS 1102 Share-based Payment address three main areas: the effects of vesting conditions on the measurement of a cash-settled share-based payment transaction; the classification of a share-based payment transaction with net settlement features for withholding tax obligations; and accounting where a modification to the terms and conditions of a share-based payment transaction changes its classification from cash settled to equity settled.

2. Summary of significant accounting policies (cont'd)

On adoption, entities are required to apply the amendments without restating prior periods, but retrospective application is permitted if elected for all three amendments and other criteria are met. The amendments are effective for annual periods beginning on or after January 1, 2018, with early application permitted. The Group is assessing the potential effect of the amendments on its consolidated financial statements and will apply these amendments on the required effective date.

- **K-IFRS 1116: *Leases***

K-IFRS 1116 replaces K-IFRS 1017 'Leases', K-IFRS 2104 'Determining whether an Arrangement contains a Lease', K-IFRS 2015 'Operating Leases: Incentives' and K-IFRS 2027 'Evaluating the Substance of Transactions Involving the Legal Form of a Lease'. K-IFRS 1116 sets out the principles for the recognition, measurement, presentation and disclosure of leases and requires lessees to account for all leases under a single on-balance sheet model similar to the accounting for finance leases under K-IFRS 1017. The standard includes two recognition exemptions for lessees – leases of 'low-value' assets (e.g., personal computers) and short-term leases (i.e., leases with a lease term of 12 months or less). At the commencement date of a lease, a lessee will recognize a liability to make lease payments (i.e., the lease liability) and an asset representing the right to use the underlying asset during the lease term (i.e., the right-of-use asset). Lessees will be required to separately recognize the interest expense on the lease liability and the depreciation expense on the right-of-use asset.

Lessees will be also required to remeasure the lease liability upon the occurrence of certain events (e.g., a change in the lease term, a change in future lease payments resulting from a change in an index or rate used to determine those payments). The lessee will generally recognize the amount of the remeasurement of the lease liability as an adjustment to the right-of-use asset. Lessor accounting under K-IFRS 1116 is substantially unchanged from current accounting under K-IFRS 1017. Lessors will continue to classify all leases using the same classification principle as in K-IFRS 1017 and distinguish between two types of leases: operating and finance leases.

K-IFRS 1116 also requires lessees and lessors to make more extensive disclosures than under K-IFRS 1017.

K-IFRS 1116 is effective for annual periods beginning on or after January 1, 2019. Early application is permitted, but not before an entity applies K-IFRS 1115. A lessee can choose to apply the standard using either a full retrospective or a modified retrospective approach. The standard's transition provisions permit certain reliefs.

The Group is assessing the potential effect of the amendments on its consolidated financial statements. The Group will apply these amendments on the required effective date.

- **Transfers of Investment Property — Amendments to K-IFRS 1040**

The amendments clarify when an entity should transfer property, including property under construction or development into, or out of investment property. The amendments state that a change in use occurs when the property meets, or ceases to meet, the definition of investment property and there is evidence of the change in use. Entities should apply the amendments prospectively to changes in use that occur on or after the beginning of the annual reporting period in which the entity first applies the amendments. An entity should reassess the classification of property held at that date and, if applicable, reclassify property to reflect the conditions that exist at that date. Retrospective application in accordance with K-IFRS 1008 is only permitted if it is possible without the use of hindsight. These amendments are effective for annual periods beginning on or after January 1, 2018. Early application of the amendments is permitted and must be disclosed. The Group will apply amendments when they become effective. However, the Group does not expect any significant effect on its consolidated financial statements.

2. Summary of significant accounting policies (cont'd)

Annual Improvements 2014-2016 Cycle

- **- K-IFRS 1101:** ***First-time Adoption of International Financial Reporting Standards - Deletion of short-term exemptions for first-time adopters***

Short-term exemptions in paragraphs E3–E7 of K-IFRS 1101 were deleted because they have now served their intended purpose. The amendment is effective from January 1, 2018. This amendment is not applicable to the Group.

- **K-IFRS 1028:** ***Investments in Associates and Joint Ventures - Clarification that measuring investees at fair value through profit or loss is an investment-by-investment choice***

The amendments clarify that:

• An entity that is a venture capital organization, or other qualifying entity, may elect, at initial recognition on an investment-by-investment basis, to measure its investments in associates and joint ventures at fair value through profit or loss.

• If an entity, that is not itself an investment entity, has an interest in an associate or joint venture that is an investment entity, the entity may, when applying the equity method, elect to retain the fair value measurement applied by that investment entity associate or joint venture to the investment entity associate's or joint venture's interests in subsidiaries. This election is made separately for each investment entity in associate or joint venture, at the later of the date on which: (a) the investment entity in associate or joint venture is initially recognized; (b) the associate or joint venture becomes an investment entity; and (c) the investment entity in associate or joint venture first becomes a parent.

The amendments should be applied retrospectively and are effective from January 1, 2018, with earlier application permitted. If an entity applies those amendments for an earlier period, it must disclose that fact. These amendments are not applicable to the Group.

- **K-IFRS 2122:** ***Foreign Currency Transactions and Advance Consideration***

The interpretation clarifies that, in determining the spot exchange rate to use on initial recognition of the related asset, expense or income (or part of it) on the derecognition of a non-monetary asset or non-monetary liability relating to advance consideration, the date of the transaction is the date on which an entity initially recognizes the non-monetary asset or non-monetary liability arising from the advance consideration. If there are multiple payments or receipts in advance, then the entity must determine the transaction date for each payment or receipt of advance consideration. Entities may apply the amendments on a fully retrospective basis. Alternatively, an entity may apply the interpretation prospectively to all assets, expenses and income in its scope that are initially recognized on or after:

(i) The beginning of the reporting period in which the entity first applies the interpretation, or
(ii) The beginning of a prior reporting period presented as comparative information in the financial statements of the reporting period in which the entity first applies the interpretation.

The Group will apply the interpretation for annual periods beginning on or after January 1, 2018. The Group does not expect any significant effect on its consolidated financial statements.

The consolidated financial statements of the Group for the year ended December 31, 2017 were approved by the Company's Board of Directors at their meeting on February 23, 2018 and will be presented at the annual shareholders' meeting on March 16, 2018.

2. Summary of significant accounting policies (cont'd)

2.2. Basis of Consolidation

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

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

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

Income and expenses of subsidiaries acquired or disposed of during the year are included in the consolidated statement of comprehensive income from the date the Company gains control until the date when the Company ceases to control the subsidiary. Profit or loss and each component of other comprehensive income are attributed to the owners of the Company and to the non-controlling interests. Total comprehensive income of subsidiaries is attributed to the owners of the Company and to the non-controlling interests even if this results in the non-controlling interests having a deficit balance.

When necessary, adjustments are made to the financial statement of subsidiaries to bring their accounting policies into line with the Group's accounting policies.

All intragroup transactions and related assets and liabilities, income and expenses are eliminated in full on consolidation.

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

When the Group loses control of a subsidiary, a gain or loss on disposal is calculated as the difference between (i) the aggregate of the fair value of the consideration received and the fair value of any retained interest and (ii) the previous carrying amount of the assets (including goodwill) and liabilities of the subsidiary and any non-controlling interests. When assets of the subsidiary are carried at revalued amounts or fair values and the related cumulative gain or loss has been recognized in other comprehensive income and accumulated in equity, the amounts previously recognized in other comprehensive income and accumulated in equity are accounted for as if the Company had directly disposed of the relevant assets (i.e., reclassified to profit or loss or transferred directly to retained earnings). The fair value of any investment retained in the former subsidiary at the date when control is lost is recognized as the fair value on initial recognition for subsequent accounting under K-IFRS 1039, Financial Instruments: Recognition and Measurement or, when applicable, the cost on initial recognition of an investment in an associate or a joint venture.

2. Summary of significant accounting policies (cont'd)

2.3. Financial Instruments

Financial assets and financial liabilities are recognized when a group entity becomes a party to the contractual provisions of the instruments. Financial assets and financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the acquisition or issue of financial assets and financial liabilities are added to or deducted from the fair value of the financial assets or financial liabilities, as appropriate, on initial recognition. Transaction costs directly attributable to the acquisition of financial assets or financial liabilities at fair FVTPL are recognized immediately in profit or loss.

All regular-way purchases or sales of financial assets are recognized and derecognized on a trade-date basis. Regular-way purchases or sales are purchases or sales of financial assets that require delivery of assets within the timeframe established by regulation or convention in the marketplace.

Financial assets are classified into the following specified categories: 'FVTPL', 'held-to-maturity investments,' 'AFS financial assets' and 'loans and receivables.' The classification depends on the nature and purpose of the financial assets and is determined at the time of initial recognition.

2.3.1. Effective interest method

The effective interest method is a method of calculating the amortized cost of a debt instrument and of allocating interest income over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash receipts (including all fees and points paid or received that form an integral part of the effective interest rate, transaction costs and other premiums or discounts) through the expected life of the debt instrument, or, where appropriate, a shorter period, to the net carrying amount on initial recognition.

Income is recognized on an effective interest basis for debt instruments other than those financial assets classified as at FVTPL.

2.3.2. Financial assets at FVTPL

Financial assets are classified as at FVTPL when the financial asset is contingent consideration that may be paid by an acquirer as part of business combination to which K-IFRS 1103 applies.

A financial asset is classified as held for trading if:

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

A financial asset other than a financial asset held for trading or contingent consideration that may be paid by an acquirer as part of a business combination may be designated as at FVTPL upon initial recognition if:

• such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise.
• the financial asset forms part of a group of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Group's documented risk management or investment strategy, and information about the grouping is provided internally on that basis.
• it forms part of a contract containing one or more embedded derivatives, and K-IFRS 1039 permits the entire combined contract (asset or liability) to be designated as at FVTPL.

Financial assets at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any dividend or interest earned on the financial asset and is included in the 'other income and expenses' line item in the consolidated statement of comprehensive income.

2. Summary of significant accounting policies (cont'd)

2.3.3. Held-to-maturity investments

Non-derivative financial assets with fixed or determinable payments and fixed-maturity dates that the Group has the positive intent and ability to hold to maturity are classified as held-to-maturity investments. Held-to-maturity investments are measured at amortized cost using the effective interest method less any impairment, with revenue recognized on an effective-yield basis.

2.3.4. AFS financial assets

AFS financial assets are non-derivatives that are either designated as AFS or are not classified as (a) loans and receivables, (b) held-to-maturity investments or (c) financial assets at FVTPL.

They are subsequently measured at fair value at the end of each reporting period. Changes in the carrying amount of AFS monetary financial assets relating to changes in foreign currency rates (see below), interest income calculated using the effective interest method and dividends on AFS equity investments are recognized in profit or loss. Other changes in the carrying amount of AFS financial assets are recognized in other comprehensive income as investments revaluation reserve. When the investment is disposed of or is determined to be impaired, the cumulative gain or loss previously accumulated in other comprehensive income is reclassified to profit or loss.

Dividends on AFS equity instruments are recognized in profit or loss when the Group's right to receive the dividends is established.

The fair value of AFS monetary financial assets denominated in a foreign currency is determined in that foreign currency and translated at the spot rate prevailing at the end of the reporting period. The foreign exchange gains and losses that are recognized in profit or loss are determined based on the amortized cost of the monetary asset. Other foreign exchange gains and losses are recognized in other comprehensive income.

AFS equity investments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured and derivatives that are linked to and must be settled by delivery of such unquoted equity investments are measured at cost, less any identified impairment losses at the end of each reporting period.

2.3.5. Loans and receivables

Trade receivables, loans, and other receivables that have fixed or determinable payments that are not quoted in an active market are classified as 'loans and receivables.' Loans and receivables are measured at amortized cost using the effective interest method, less any impairment. Interest income is recognized by applying the effective interest rate, except for short-term receivables when the effect of discounting is immaterial.

2.3.6. Impairment of financial assets

Financial assets, other than those at FVTPL, are assessed for indicators of impairment at the end of each reporting period. Financial assets are considered to be impaired when there is objective evidence that more events that occurred after the initial recognition of the financial asset, the estimated future cash flows of the investment have been affected.

For AFS equity investments, a significant or prolonged decline in the fair value of the security below its cost is considered to be objective evidence of impairment.

For all other financial assets, objective evidence of impairment includes:

- significant financial difficulty of the issuer or counterparty;
- default or delinquency in interest or principal payments;
- it becoming probable that the borrower will enter bankruptcy or financial reorganization;
- the disappearance of an active market for that financial asset because of financial difficulties.

2. Summary of significant accounting policies (cont'd)

2.3.6. Impairment of financial assets (cont'd)

For certain categories of financial asset, such as trade receivables, assets that are assessed not to be impaired individually are, in addition, assessed for impairment on a collective basis. Objective evidence of impairment for a portfolio of receivables could include the Group's past experience of collecting payments, an increase in the number of delayed payments in the portfolio past the average credit period of 90 days, as well as observable changes in national or local economic conditions that correlate with default on receivables.

For financial assets carried at amortized cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the financial asset's original effective interest rate.

For financial assets that are carried at cost, the amount of the impairment loss recognized is the difference between the asset's carrying amount and the present value of estimated future cash flows, discounted at the current market rate of return for a similar financial asset. Such impairment loss will not be reversed in subsequent periods.

The carrying amount of the financial asset is reduced by the impairment loss directly for all financial assets with the exception of trade receivables, where the carrying amount is reduced through the use of an allowance account. When a trade receivable is considered uncollectible, it is written off against the allowance account. Subsequent recoveries of amounts previously written off are credited against the allowance account. Changes in the carrying amount of the allowance account are recognized in profit or loss.

When an AFS financial asset is considered to be impaired, cumulative gains or losses previously recognized in other comprehensive income are reclassified to profit or loss in the period.

For financial assets measured at amortized cost, if, in a subsequent period, the amount of the impairment loss decreases and the decrease can be related objectively to an event occurring after the impairment was recognized, the previously recognized impairment loss is reversed through profit or loss to the extent that the carrying amount of the investment at the date the impairment is reversed does not exceed what the amortized cost would have been had the impairment not been recognized.

In respect of AFS equity securities, impairment losses previously recognized in profit or loss are not reversed through profit or loss. Any increase in fair value subsequent to an impairment loss is recognized in other comprehensive income. In respect of AFS debt securities, impairment losses are subsequently reversed through profit or loss if an increase in the fair value of the investment can be objectively related to an event occurring after the recognition of the impairment loss.

2.3.7. Derecognition of financial assets

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

On derecognition of a financial asset in its entirety, the difference between the asset's carrying amount and the sum of the consideration received and receivable and the cumulated gain or loss that had been recognized in other comprehensive income and accumulated in equity is recognized in profit or loss.

2. Summary of significant accounting policies (cont'd)

On derecognition of a financial asset other than in its entirety (e.g., when the Group retains an option to repurchase part of a transferred asset, or it retains a residual interest and such an retained interest indicates that the transferor has neither transferred nor retained substantially all the risks and rewards of ownership and has retained control of the transferred asset), the Group allocates the previous carrying amount of the financial asset between the part it continues to recognize under continuing involvement, and the part it no longer recognizes on the basis of the relative fair value of those parts on the date of the transfer. The difference between the carrying amount allocated to the part that is no longer recognized and the sum of the consideration received for the part that is no longer recognized and any cumulative gain or loss allocated to it that had been recognized in other comprehensive income is recognized in profit or loss. A cumulative gain or loss that had been recognized in other comprehensive income is allocated between the part that continues to be recognized and the part that is no longer recognized on the basis of the relative fair value of those parts.

2.4. Inventories

Inventories are stated at the lower of cost and net realizable value. Cost of inventories, except for those in in-transit, are measured under the weighted-average method and consists of the purchase price, cost of conversion and other costs incurred in bringing the inventories to their present location and condition. Net realizable value represents the estimated selling price for inventories, less all estimated costs of completion and costs necessary to make the sale.

When inventories are sold, the carrying amount of those inventories is recognized as an expense (cost of sales) in the period in which the related revenue is recognized. The amount of any write-down of inventories to net realizable value and all losses of inventories is recognized as an expense in the period the write-down or loss occurs. The amount of any reversal of any write-down of inventories, arising from an increase in net realizable value, is recognized as a reduction in the amount of inventories recognized as an expense in the period in which the reversal occurs.

2.5. Investments in associates and joint ventures

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

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

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

2. Summary of significant accounting policies (cont'd)

2.5. Investments in associates and joint ventures (cont'd)

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

Upon disposal of an associate or a joint venture that results in the Group losing significant influence over that associate or joint venture, any retained investment is measured at fair value at that date and the fair value is regarded as its fair value on initial recognition as a financial asset in accordance with K-IFRS 1039. The difference between the previous carrying amount of the associate or joint venture attributable to the retained interest and its fair value is included in the determination of the gain or loss on disposal of the associate or joint venture. In addition, the Group accounts for all amounts previously recognized in other comprehensive income in relation to that associate or joint venture on the same basis we would be required if that associate or joint venture had directly disposed of the related assets or liabilities. Therefore, if a gain or loss previously recognized in other comprehensive income by that associate or joint venture would be reclassified to profit or loss on the disposal of the related assets or liabilities, the Group reclassifies the gain or loss from equity to profit or loss (as reclassification adjustment) when it loses significant influence over that associate or joint venture.

When the Group reduces its ownership interest in an associate or a joint venture, but the Group continues to use the equity method, the Group reclassifies to profit or loss the proportion of the gain or loss that had previously been recognized in other comprehensive income relating to that reduction in ownership interest if that gain or loss would be reclassified to profit or loss on the disposal of the related assets or liabilities. In addition, the Group applies K-IFRS 5, Non-current Assets Held for Sale and Discontinued Operations, to a portion of investment in an associate or a joint venture that meets the criteria to be classified as held for sale.

The requirements of K-IFRS 1039, are applied to determine whether it is necessary to recognize any impairment loss with respect to the Group's investment in an associate or a joint venture. When necessary, the entire carrying amount of the investment (including goodwill) is tested for impairment in accordance with K-IFRS 1036, Impairment of Assets, by comparing its recoverable amount (higher of value in use and fair value, less costs to sell) with its carrying amount, any impairment loss recognized forms part of the carrying amount of the investment. Any reversal of that impairment loss is recognized in accordance with K-IFRS 1036 to the extent that the recoverable amount of the investment subsequently increases.

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

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

2.6. Interests in joint operations

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

When a group entity undertakes its activities under joint operations, the Group, as a joint operator, recognizes in relation to its interest in a joint operation:

- its assets, including its share of any assets held jointly;
- its liabilities, including its share of any liabilities incurred jointly;
- its revenue from the sale of its share of the output arising from the joint operation;
- its share of the revenue from the sale of the output by the joint operation;
- its expenses, including its share of any expenses incurred jointly.

2. Summary of significant accounting policies (cont'd)

The Group accounts for the assets, liabilities, revenues and expenses relating to its interest in a joint operation in accordance with the K-IFRS applicable to the particular assets, liabilities, revenues and expenses.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a sale or contribution of assets), the Group is considered to be conducting the transaction with the other parties to the joint operation, and gains and losses resulting from the transactions are recognized in the Group's consolidated financial statements only to the extent of other parties' interests in the joint operation.

When a group entity transacts with a joint operation in which a group entity is a joint operator (such as a purchase of assets), the Group does not recognize its share of the gains and losses until it resells those assets to a third party.

2.7. Goodwill

Goodwill resulting from an acquisition of a business is carried at cost as established at the date of acquisition of the business, less accumulated impairment losses, if any.

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

A cash-generating unit to which goodwill has been allocated is tested for impairment annually, or more frequently when there is an indication that the unit may be impaired. If the recoverable amount of the cash-generating unit is less than its carrying amount, the impairment loss is allocated first to reduce the carrying amount of any goodwill allocated to the unit and then to the other assets of the unit on a pro rata basis based on the carrying amount of each asset in the unit. Any impairment loss for goodwill is recognized directly in profit or loss. An impairment loss recognized for goodwill is not reversed in subsequent periods.

On disposal of the relevant cash-generating unit, the attributable amount of goodwill is included in the determination of the profit or loss on disposal.

2.8. Property, plant and equipment

Property, plant and equipment are to be recognized if, and only if, it is probable that future economic benefits associated with the asset will flow to the Group, and the cost of the asset can be measured reliably. After the initial recognition, property, plant and equipment are stated at cost, less subsequent accumulated depreciation and accumulated impairment losses. The cost of an item of property, plant and equipment is directly attributable to their purchase or construction, which includes any costs directly attributable to bringing the asset to the location and condition necessary for it to be capable of operating in the manner intended by management. It also includes the initial estimate of the costs of dismantling and removing the item and restoring the site on which it is located.

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

2. Summary of significant accounting policies (cont'd)

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

	Representative useful lives (years)
Buildings	10–50
Structures	8–25
Machinery and equipment	10–12
Vehicles	3–10
Tools	3–13
Office equipment's	3–12
Other tangible assets	3–12

The Group reviews the depreciation method, the estimated useful lives and residual values of property, plant and equipment at the end of each annual reporting period. If expectations differ from previous estimates, the changes are accounted for as a change in an accounting estimate. An item of property, plant and equipment is derecognized upon disposal or when no future economic benefits are expected to arise from the continued use of the asset. Any gain or loss arising on derecognition of the property (calculated as the difference between the net disposal proceeds and the carrying amount of the asset) is included in profit or loss in the period in which the property is derecognized.

2.9. Investment property

Investment property is property held to earn rentals or for capital appreciation or both. An investment property is measured initially at its cost and transaction costs are included in the initial measurement. After initial recognition, the book value of investment property is presented at the cost, less accumulated depreciation and accumulated impairment losses.

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

While land is not depreciated, all other investment property is depreciated based on the respective assets estimated useful lives ranging from years using the straight-line method. The estimated useful lives, residual values and depreciation method are reviewed at the end of each reporting period, with the effect of any changes in estimate accounted for on a prospective basis.

2.10. Intangible assets

2.10.1. Intangible assets acquired separately

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

2.10.2. Internally generated intangible assets - research and development expenditure

Expenditure on research activities is recognized as an expense in the period in which it is incurred.

2. Summary of significant accounting policies (cont'd)

Expenditure arising from development (or from the development phase of an internal project) is recognized as an intangible asset if, only if, the development project is designed to produce new or substantially improved products, and the Group can demonstrate the technical and economic feasibility and measure reliably the resources attributable to the intangible asset during its development.

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

Subsequent to initial recognition, internally generated intangible assets are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

2.10.3. Intangible assets acquired in a business combination

Intangible assets that are acquired in a business combination are recognized separately from goodwill and are initially recognized at their fair value at the acquisition date (which is regarded as their cost). Subsequent to initial recognition, intangible assets acquired in a business combination are reported at cost, less accumulated amortization and accumulated impairment losses, on the same basis as intangible assets that are acquired separately.

Amortization is computed using the straight-line method based on the estimated useful lives of the assets. The representative useful lives are as follows:

	Representative useful lives (years)
Development costs	5
Industrial property rights	10
Software	5
Customer relationship	15
Technologies	5

2.10.4. Derecognition of intangible assets

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

2.11. Non-current assets held for sale

Non-current assets and disposal groups are classified as held for sale if their carrying amount will be recovered principally through a sale transaction rather than through continuing use. This condition is regarded as met only when the sale is highly probable and the non-current asset (or disposal Group) is available for immediate sale in its present condition. Management must be committed to the sale, which should be expected to qualify for recognition as a completed sale within one year from the date of classification.

When the Group is committed to a sale plan involving loss of control of a subsidiary, all of the assets and liabilities of that subsidiary are classified as held for sale when the criteria described above are met, regardless of whether the Group will retain a non-controlling interest in its former subsidiary after the sale.

When the Group is committed to a sale plan involving disposal of an investment, or a portion of an investment, in an associate or joint venture, the investment or the portion of the investment that will be disposed of is classified as held for sale when the criteria described above are met, and the Group discontinues the use of the equity method in relation to the portion that is classified a held for sale. Any retained portion of an investment in an associate or a joint venture that has not been classified as held for sale continues to be accounted for using the equity method. The Group discontinues the use of the equity method at the time of disposal when the disposal results in the Group losing significant influence over the associate or joint venture.

2. Summary of significant accounting policies (cont'd)

After the disposal takes place, the Group accounts for any retained interest in the associate or joint venture in accordance with K-IFRS 1039, unless the retained interest continues to be an associate or a joint venture, in which case the Group uses the equity method.

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

2.12. Impairment of non-financial assets

Assets with indefinite useful lives such as goodwill or membership are not amortized but tested for impairment annually. Assets which are amortized or depreciated are tested for impairment to determine whether events and circumstances indicating those assets have suffered impairment exist. Impairment loss is the excess of the carrying amount over recoverable amount. Recoverable amount is the higher of fair value less costs to sell and value in use. When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. When a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified. Except for goodwill, all non-financial assets that have incurred impairment are tested for reversal of impairment at the end of each reporting period.

2.13. Borrowing costs

Borrowing costs directly attributable to the acquisition, construction or production of qualifying assets, which are assets that necessarily take a substantial period of time to get ready for their intended use or sale, are added to the cost of those assets, until such time as the assets are substantially ready for their intended use or sale.

Investment income earned on the temporary investment of specific borrowings pending their expenditure on qualifying assets is deducted from the borrowing costs eligible for capitalization. All other borrowing costs are recognized in profit or loss in the period in which they are incurred.

2.14. Financial liabilities and equity instruments

2.14.1. Classification as debt or equity

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

2.14.2. Equity instruments

An equity instrument is any contract that evidences a residual interest in the assets of an entity after deducting all of its liabilities. Equity instruments issued by the Group are recognized at the proceeds received, net of direct issue costs.

Repurchase of the Group's own equity instruments is recognized and deducted directly in equity. No gain or loss is recognized in profit or loss on the purchase, sale, issue or cancelation of the Group's own equity instruments.

2.14.3. Compound instruments

The component parts of compound instruments (convertible bonds) issued by the Group are classified separately as financial liabilities and equity in accordance with the substance of the contractual arrangements and the definitions of a financial liability and equity instrument. Conversion option that will be settled by the exchange of a fixed amount of cash or another financial asset for a fixed number of the Group's own equity instruments is an equity instrument.

2. Summary of significant accounting policies (cont'd)

At the date of issue, the fair value of the liability component is estimated using the prevailing market interest rate for a similar non-convertible instrument. This amount is recorded as a liability on an amortized cost basis using the effective interest method until extinguished upon conversion or at the instrument's maturity date.

The conversion option classified as equity is determined by deducting the amount of the liability component from the fair value of the compound instrument as a whole. This is recognized and included in equity, net of income tax effects, and is not subsequently remeasured. In addition, the conversion option classified as equity will remain in equity until the conversion option is exercised, in which case, the balance recognized in equity will be transferred to share premium. No gain or loss is recognized in profit or loss upon conversion or expiration of the conversion option.

Transaction costs that relate to the issue of the convertible notes are allocated to liability and equity components in proportion to the allocation of the gross proceeds. Transaction costs relating to equity component are recognized directly in equity. Transaction costs relating to the liability component are included in the carrying amount of the liability component and are amortized over the lives of the convertible notes using the effective interest method.

2.14.4. Financial liabilities

Financial liabilities are recognized when the Group becomes a party to the contractual provisions of the instruments. Financial liabilities are initially measured at fair value. Transaction costs that are directly attributable to the issue of financial liabilities are deducted from the fair value of the financial liabilities on initial recognition. Transaction costs directly attributable to acquisition of financial liabilities at FVTPL are recognized immediately in profit or loss.

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

2.14.5. Financial liabilities at FVTPL

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

A financial liability is classified as held for trading if:

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

A financial liability other than a financial liability held for trading or contingent consideration that may be paid by an acquirer as part of a business combination may be designated as at FVTPL upon initial recognition if:

- such designation eliminates or significantly reduces a measurement or recognition inconsistency that would otherwise arise; or
- the financial liability forms part of a group of financial assets or financial liabilities or both, which is managed and its performance is evaluated on a fair value basis, in accordance with the Group's documented risk management or investment strategy, and information about the grouping is provided internally on that basis; or
- it forms part of a contract containing one or more embedded derivatives, and K-IFRS 1039 Financial Instruments: Recognition and Measurement permits the entire combined contract (asset or liability) to be designated as at FVTPL.

Financial liabilities at FVTPL are stated at fair value, with any gains or losses arising on remeasurement recognized in profit or loss. The net gain or loss recognized in profit or loss incorporates any interest paid on the financial liability and is included in the 'other gains and losses' line item in the consolidated statement of comprehensive income.

2. Summary of significant accounting policies (cont'd)

2.14.6. Other financial liabilities

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

The effective interest method is a method of calculating the amortized cost of a financial liability and of allocating interest expense over the relevant period. The effective interest rate is the rate that exactly discounts estimated future cash payments, including all fees and points paid or received (that form an integral part of the effective interest rate) and transaction costs and other premiums or discounts through the expected life of the financial liability, or (where appropriate) a shorter period, to the net carrying amount on initial recognition.

2.14.7. Financial guarantee contracts

A financial guarantee contract is a contract that requires the issuer to make specified payments to reimburse the holder for a loss it incurs because a specified debtor fails to make payments when due in accordance with the terms of a debt instruments.

Financial guarantee contract liabilities are initially measured at their fair values and, if not designated as at FVTPL, are subsequently measured at the higher of:

- the amount of the obligation under the contract, as determined in accordance with K-IFRS 1037 Provisions, Contingent Liabilities and Contingent Assets; and
- the amount initially recognized less, cumulative amortization recognized in accordance with the K-IFRS 1018 Revenue

2.14.8. Derecognition of financial liabilities

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

2.15. Provisions

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

The amount recognized as a provision is the best estimate of the consideration required to settle the present obligation at the end of the reporting period, taking into account the risks and uncertainties surrounding the obligation. When a provision is measured using the cash flows estimated to settle the present obligation, its carrying amount is the present value of those cash flows (where the effect of the time value of money is material). The discount rate used is a pretax rate that reflects current market assessments of the time value of money and the risks specific to the liability. Where discounting is used, the increase in the provision due to the passage is recognized in profit or loss as borrowing cost.

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

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

Warranties

Provisions for the expected cost of warranty obligations under local sale of goods legislation are recognized at the date of sale of the relevant products, at the directors' best estimate of the expenditure required to settle the Group's obligation.

2. Summary of significant accounting policies (cont'd)

2.16. Retirement benefit costs and termination benefits

Contributions to defined contribution retirement benefit plans are recognized as an expense when employees have rendered service entitling them to the contributions.

For defined benefit retirement benefit plans, the cost of providing benefits is determined using the Projected Unit Credit Method, with actuarial valuations being carried out at the end of each reporting period. Remeasurement, comprising actuarial gains and losses, the effect of the changes to the asset ceiling (if applicable) and the return on plan assets (excluding interest), is reflected immediately in the statement of financial position with a charge or credit recognized in other comprehensive income in the period in which they occur. Remeasurement recognized in other comprehensive income is reflected immediately in retained earnings and will not be reclassified to profit or loss. Past service cost is recognized in profit or loss in the period of a plan amendment. Net interest is calculated by applying the discount rate at the beginning of the period to the net defined benefit liability or asset. Defined benefit costs are composed of service cost (including current service cost, past service cost, as well as gains and losses on curtailments and settlements), net interest expense (income), and remeasurement.

The Group presents the service cost and net interest expense (income) components in profit or loss, and the remeasurement component in other comprehensive income. Curtailment gains and losses are accounted for as past service costs.

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

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

Discretionary contributions made by employees or third parties reduce service cost upon payment of these contributions to the plan. When the formal terms of the plans specify that there will be contributions from employees or third parties, the accounting depends on whether the contributions are linked to service, as follows:

If the contributions are not linked to services (e.g., contributions are required to reduce a deficit arising from losses on plan assets or from actuarial losses), they are reflected in the remeasurement of the net defined benefit liability (asset).

If contributions are linked to services, they reduce service costs. For the amount of contribution that is dependent on the number of years of service, the entity reduces service cost by attributing the contributions to periods of service using the attribution method required by K-KFRS 1019 paragraph 70 for the gross benefits. For the amount of contribution that is independent of the number of years of service, the entity reduces service cost in the period in which the related service is rendered/reduces service cost by attributing contributions to the employees' periods of service in accordance with K-IFRS 1019 paragraph 70.

2.17. Derivative financial instruments

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

Derivatives are initially recognized at fair value at the date the derivative contract is entered into and are subsequently remeasured to their fair value at the end of each reporting period. The resulting gain or loss is recognized in profit or loss immediately, unless the derivative is designated and effective as a hedging instrument, in such case the timing of the recognition in profit or loss depends on the nature of the hedge relationship.

2. Summary of significant accounting policies (cont'd)

A derivative with a positive fair value is recognized as a financial asset; a derivative with a negative fair value is recognized as a financial liability. A derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the instrument is more than 12 months and it is not expected to be realized or settled within 12 months. Other derivatives are presented as current assets or current liabilities.

2.17.1. Embedded derivatives

Derivatives embedded in non-derivative host contracts are treated as separate derivatives when they meet the definition of a derivative, their risks and characteristics are closely related to those of the host contracts and the contracts are not measured at FVTPL.

An embedded derivative is presented as a non-current asset or a non-current liability if the remaining maturity of the hybrid instrument to which the embedded derivative relates is more than 12 months and it is not expected to be realized or settled within 12 months. Other embedded derivatives are presented as current assets or current liabilities.

2.17.2. Hedge accounting

The Group designates certain hedging instruments, which include derivatives, embedded derivatives and non-derivatives in respect of foreign currency risk, as either fair value hedges, cash flow hedges, or hedges of net investments in foreign operations. Hedges of foreign exchange risk on firm commitments are accounted for as cash flow hedges.

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

2.17.3. Fair value hedges

Changes in the fair value of derivatives that are designated and qualify as fair value hedges are recognized in profit or loss immediately, together with any changes in the fair value of the hedged asset or liability that are attributable to the hedged risk. The change in the fair value of the hedging instrument and the change in the hedged item attributable to the hedged risk are recognized in the line of the statement of comprehensive income relating to the hedged item.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated or exercised, or when it no longer qualifies for hedge accounting. The fair value adjustment to the carrying amount of the hedged item arising from the hedged risk is amortized to profit or loss from that date.

2.17.4. Cash flow hedges

The effective portion of changes in the fair value of derivatives that are designated and qualify as cash flow hedges is recognized in other comprehensive income. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the 'other income and expenses' line item.

Amounts previously recognized in other comprehensive income and accumulated in equity are reclassified to profit or loss in the periods when the hedged item is recognized in profit or loss, in the same line of the statement of comprehensive income as the recognized hedged item. However, when the forecast transaction that is hedged results in the recognition of a non-financial asset or a non-financial liability, the gains and losses previously accumulated in equity are transferred from equity and included in the initial measurement of the cost of the non-financial asset or non-financial liability.

Hedge accounting is discontinued when the Group revokes the hedging relationship, when the hedging instrument expires or is sold, terminated or exercised, or it no longer qualifies for hedge accounting. Any gain or loss accumulated in equity at that time remains in equity and is recognized when the forecast transaction is ultimately recognized in profit or loss. When a forecast transaction is no longer expected to occur, the gain or loss accumulated in equity is recognized immediately in profit or loss.

2. Summary of significant accounting policies (cont'd)

2.17.5. Hedges of net investments in foreign operations

Hedges of net investments in foreign operations are accounted for similar to cash flow hedges. Any gain or loss on the hedging instrument relating to the effective portion of the hedge is recognized in other comprehensive income and accumulated in the foreign currency translation reserve. The gain or loss relating to the ineffective portion is recognized immediately in profit or loss, and is included in the 'other income and expenses.'

Gains and losses on the hedging instrument relating to the effective portion of the hedge accumulated in the foreign currency translation reserve are reclassified to profit or loss in the same way as exchange differences relating to the foreign operation.

2.18. Revenue recognition

Revenue is measured at the fair value of the consideration received or receivable. Revenue is reduced for estimated customer returns, rebates and other similar allowances. The Group 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 Group's activities, as described below.

2.18.1. Sale of goods

Revenue from the sale of goods is recognized when the Group has transferred to the buyer the significant risks and rewards of ownership of the goods.

2.18.2. Rendering of services

Revenue from a contract to provide services is recognized by reference to the stage of completion of the contract. Depending on the nature of the transaction, the Group determines the stage of completion by reference to surveys of work performed, services performed to date as a percentage of total services to be performed or the proportion that costs incurred to date bear to the estimated total costs of the transaction, as applicable.

2.18.3. Royalties

Royalty revenue is recognized on an accrual basis in accordance with the substance of the relevant agreement (provided that it is probable that the economic benefits will flow to the Group and the amount of revenue can be measured reliably).

2.18.4. Dividend and interest income

Dividend income from investments is recognized when the shareholders' right to receive payment has been established (provided that it is probable that the economic benefits will flow to the Group and the amount of income can be measured reliably).

Interest income from a financial asset is recognized when it is probable that the economic benefits will flow to the Group and the amount of income can be measured reliably. Interest income is accrued on a time basis, by reference to the principal outstanding and at the effective interest rate applicable, which is the rate that exactly discounts estimated future cash receipts through the expected life of the financial asset to that asset's net carrying amount on initial recognition.

2.18.5. Rental income

The Group's policy for recognition of revenue from operating leases is described in Note 2 (24).

2.19. Long-term employee benefits

Long-term employee benefits include employee benefits that are settled beyond 12 months after the end of the period in which the employees render the related service, and are calculated at the present value of the amount of future benefit that employees have earned in return for their service in the current and prior periods, less the fair value of any related assets. The present value is determined by discounting the expected future cash flows using the interest rate of high-quality corporate bonds with similar maturing as the expected benefit payment date. Any actuarial gains and losses are recognized in profit or loss in the period in which they arise.

2. Summary of significant accounting policies (cont'd)

2.20. Taxation

Income tax expense represents the sum of the tax currently payable and deferred tax.

2.20.1. Current tax

The tax currently payable is based on taxable profit for the year. Taxable profit differs from profit as reported in the consolidated statement of profit or loss and consolidated statement of comprehensive income because of items of income or expense that are taxable or deductible in other years and items that are never taxable or deductible. The Group's liability for current tax is calculated using tax rates that have been enacted or substantively enacted by the end of the reporting period.

2.20.2. Deferred tax

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

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

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

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

Deferred tax assets and liabilities are offset if, and only if, the Group has a legally enforceable right to set off current tax assets against current tax liabilities, and the deferred tax assets and liabilities relate to income taxes levied by the same taxation authority on either the same taxable entity or different taxable entities which intend either to settle current tax liabilities and assets on a net basis, or to realize the assets and settle the liabilities simultaneously, in each future period in which significant amounts of deferred tax liabilities or assets are expected to be settled or recovered.

2.20.3. Current and deferred taxes for the year

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

2. Summary of significant accounting policies (cont'd)

2.21. Fair value

Fair value is the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between market participants at the measurement date, regardless of whether that price is directly observable or estimated using another valuation technique. In estimating the fair value of an asset or a liability, the Group takes into account the characteristics of the asset or liability if market participants would take those characteristics into account when pricing the asset or liability at the measurement date. Fair value for measurement and/or disclosure purposes in these consolidated financial statements is determined on such basis, except for share-based payment transactions that are within the scope of K-IFRS 1102 leasing transactions that are within the scope of K-IFRS 1017, Leases, and measurements that have some similarities to fair value but are not fair value, such as net r realizable value in K-IFRS 1002 or value in use in K-IFRS 1036.

In addition, for financial reporting purposes, fair value measurements are categorized into Level 1, 2 or 3 based on the degree to which the inputs to the fair value measurements are observable and the significance of the inputs to the fair value measurement in its entirety, which are described as follows:

- Level 1: inputs are quoted prices (unadjusted) in active markets for identical assets or liabilities that the entity can access at the measurement date;
- Level 2: inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly;
- Level 3: inputs are unobservable inputs for the asset or liability.

2.22. Business combination

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

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

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

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

2. Summary of significant accounting policies (cont'd)

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

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

The subsequent accounting for changes in the fair value of the contingent consideration that do not qualify as measurement-period adjustments depends on how the contingent consideration is classified. Contingent consideration that is classified as equity is not remeasured at subsequent reporting dates and its subsequent settlement is accounted for within equity. Contingent consideration that is classified as an asset or a liability is remeasured at subsequent reporting dates in accordance with K-IFRS 1039 or K-IFRS 1037, Provisions, Contingent Liabilities and Contingent Assets, as appropriate, with the corresponding gain or loss being recognized in profit or loss.

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

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

2.23. Construction contracts

Where the outcome of a construction contract can be estimated reliably, revenue and costs are recognized by reference to the stage of completion of the contract activity at the end of the reporting period, measured based on the proportion of contract costs incurred for work performed to date relative to the estimated total contract costs, except where this would not be representative of the stage of completion. Variations in contract work, claims and incentive payments are included to the extent that the amount can be measured reliably and its receipt is considered probable.

Where the outcome of a construction contract cannot be estimated reliably, contract revenue is recognized to the extent of contract costs incurred that it is probable will be recoverable. Contract costs are recognized as expenses in the period in which they are incurred.

When it is probable that total contract costs will exceed total contract revenue, the expected loss is recognized as an expense immediately.

2. Summary of significant accounting policies (cont'd)

When contract costs incurred to date, plus recognized profits less recognized losses exceed progress billing, the surplus is shown as amounts due from customers for contract work. For contracts where progress billings exceed contract costs incurred to date, plus recognized profits less recognized losses, the surplus is shown as the amounts due to customers for contract work. Amounts received before the related work is performed are included in the consolidated statement of financial position, as a liability, as advances received. Amounts billed for work performed but not yet paid by the customer are included in the consolidated statement of financial position under trade and other receivables.

2.24. Lease

Leases are classified as finance leases whenever the terms of the lease transfer substantially all the risks and rewards of ownership to the lessee. All other leases are classified as operating leases.

2.24.1. The Group as lessor

Amounts due from lessees under finance leases are recognized as receivables at the amount of the Group's net investment in the leases. Finance lease income is allocated to accounting periods so as to reflect a constant periodic rate of return on the Group's net investment outstanding in respect of the leases.

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

2.24.2. The Group as lessee

Assets held under finance leases are initially recognized as assets of the Group at their fair value at the inception of the lease or, if lower, at the present value of the minimum lease payments. The corresponding liability to the lessor is included in the consolidated statement of financial position as a finance lease obligation.

Lease payments are apportioned between finance expenses and reduction of the lease obligation so as to achieve a constant rate of interest on the remaining balance of the liability. Finance expenses are recognized immediately in profit or loss, unless they are directly attributable to qualifying assets, in which case they are capitalized in accordance with the Group's general policy on borrowing costs. Contingent rentals are recognized as expenses in the periods in which they are incurred.

Operating lease payments are recognized as an expense on a straight-line basis over the lease term, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed. Contingent rentals arising under operating leases are recognized as an expense in the period in which they are incurred.

In the event that lease incentives are received to enter into operating leases, such incentives are recognized as a liability. The aggregate benefit of incentives is recognized as a reduction of rental expense on a straight-line basis, except where another systematic basis is more representative of the time pattern in which economic benefits from the leased asset are consumed.

2.25. Foreign currencies

The individual financial statements of each group entity are presented in the currency of the primary economic environment in which the entity operates (its functional currency). For the purpose of the consolidated financial statements, the results and financial position of each group entity are expressed in Korean won, which is the functional currency of the entity and the presentation currency for the consolidated financial statements.

2. Summary of significant accounting policies (cont'd)

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

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

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

For the purpose of presenting consolidated financial statements, the assets and liabilities of the Group's foreign operations are expressed in Korean won using exchange rates prevailing at the end of the reporting period. Income and expense items are translated at the average exchange rates for the period, unless exchange rates fluctuated significantly during that period, in which case the exchange rates at the dates of the transactions are used. Exchange differences arising, if any, are recognized in other comprehensive income and accumulated in equity (attributed to non-controlling interests as appropriate). On the disposal of a foreign operation (i.e., a disposal of the Group's entire interest in a foreign operation, or a disposal involving loss of control over a subsidiary that includes a foreign operation, or partial disposal of an interest in a joint arrangement or an associate that includes a foreign operation of which the retained interest becomes a financial asset), all of the accumulated exchange differences in respect of that operation attributable to the owners of the Group are reclassified to profit or loss. Any exchange differences that have previously been attributed to non-controlling interests are derecognized, but they are not reclassified to profit or loss.

In the case of a partial disposal (i.e., no loss of control) of a subsidiary that includes a foreign operation, the proportionate share of accumulated exchange differences are reattributed to non-controlling interests in equity and are not recognized in profit or loss. For all other partial disposals (i.e., partial disposals of associates or joint arrangements that do not result in the Group losing significant influence or joint control), the proportionate share of the accumulated exchange differences is reclassified to profit or loss.

Goodwill and fair value adjustments arising on the acquisition of a foreign operation are treated as assets and liabilities of the foreign operation and translated at the closing rate. Exchange differences arising are recognized in other comprehensive income.

2.26. Government grants

Government grants are not recognized until there is a reasonable assurance that the Group will comply with the conditions attaching to them and that the grants will be received.

The benefit of a government loan at a below-market rate of interest is treated as a government grant, measured as the difference between proceeds received and the fair value of the loan based on prevailing market interest rates.

Government grants related to assets are presented in the consolidated statement of financial position by deducting the grant from the carrying amount of the asset. The related grant is recognized in profit or loss over the life of a depreciable asset as a reduced depreciation expense.

2. Summary of significant accounting policies (cont'd)

Government grants related to income are recognized in profit or loss on a systematic basis over the periods in which the Group recognizes as expenses the related costs for which the grants are intended to compensate. Government grants that are receivable as compensation for expenses or losses already incurred or for the purpose of giving immediate financial support to the Group with no future related costs are recognized in profit or loss in the period in which they become receivable.

2.27. Impairment of tangible and intangible assets other than goodwill

At the end of each reporting period, the Group reviews the carrying amounts of its tangible and intangible assets to determine whether there is any indication that those assets have suffered an impairment loss. If any such indication exists, the recoverable amount of the asset is estimated in order to determine the extent of the impairment loss (if any). When it is not possible to estimate the recoverable amount of an individual asset, the Group estimates the recoverable amount of the cash-generating unit to which the asset belongs. Where a reasonable and consistent basis of allocation can be identified, corporate assets are also allocated to individual cash-generating units, or otherwise they are allocated to the smallest group of cash-generating units for which a reasonable and consistent allocation basis can be identified. Intangible assets with indefinite useful lives and intangible assets not yet available for use are tested for impairment at least annually, and whenever there is an indication that the asset may be impaired.

Recoverable amount is the higher of fair value, less costs to sell and value in use. If the recoverable amount of an asset (or a cash-generating unit) is estimated to be less than its carrying amount, the carrying amount of the asset (or the cash-generating unit) is reduced to its recoverable amount and the reduced amount is recognized in profit or loss. Where an impairment loss subsequently reverses, the carrying amount of the asset (or a cash-generating unit) is increased to the revised estimate of its recoverable amount, but so that the increased carrying amount does not exceed the carrying amount that would have been determined had no impairment loss been recognized for the asset (or the cash-generating unit) in prior years. A reversal of an impairment loss is recognized immediately in profit or loss.

3. Critical accounting judgments and key sources of estimation uncertainty

In the application of the Group accounting policies, which are described in Note 2, management is required to make judgments, estimates and assumptions about the carrying amounts of assets and liabilities that are not readily apparent from other sources. The estimates and associated assumptions are based on historical experience and other factors that are considered to be relevant. Actual results may differ from these estimates.

The estimates and underlying assumptions are reviewed on an ongoing basis. Revisions to accounting estimates are recognized in the period in which the estimate is revised if the revision affects only that period or in the period of the revision and future periods if the revision affects both current and future periods.

3.1. Defined benefit plans

The Group operates defined retirement benefit plans. Defined benefit obligations are determined at the end of each reporting period using an actuarial valuation method that requires management assumptions on discount rates, rates of expected future salary increases and mortality rates. The characteristic of postemployment benefit plan that serves for the long-term period causes significant uncertainties when the postemployment benefit obligation is estimated. At the end of this year, defined benefit liability of the plan is ₩174,033 million (prior year ₩162,790 million), as detailed in Note 20.

3.2. Valuation of financial instruments

As described in Note 34, the Group uses valuation techniques that include inputs that are not based on observable market data to estimate the fair value of certain type of financial instruments. Note 34 provides detailed information about key assumptions used in the determination of the fair value of financial instruments, as well as the detailed sensitivity analysis for these assumptions. The directors believe that the chosen valuation techniques and assumptions used are appropriate in determining the fair value of financial instruments.

4. Segment information

4.1. Details of segment information as of December 31, 2017, are as follows:

Type	Classification criteria	Major business	Major customers
Auto parts	Business management purpose	Vehicles components and modules	HYUNDAI MOTOR COMPANY, KIA MOTORS CORP.
Machinery	Business management purpose	Machinery tools, Specialized aviation tools and Industrial machinery	Ministry of Defense, Defense Acquisition Program Administration and others

4.2. Sales and operating income by operating segments for the years ended December 31, 2017 and 2016, are as follows:

	2017					
	Auto parts		Machinery		Total	
	(Korean won in thousands)					
Total sales	₩	6,831,436,151	₩	1,299,734,752	₩	8,131,170,903
Intragroup sales		(389,185,928)		(254,593,228)		(643,779,156)
Net sales		6,442,250,223		1,045,141,524		7,487,391,747
Segment operating income (loss)	₩	68,401,235	₩	(51,683,395)	₩	16,717,840

	2016					
	Auto parts		Machinery		Total	
	(Korean won in thousands)					
Total sales	₩	6,818,239,484	₩	1,411,873,912	₩	8,230,113,396
Intragroup sales		(385,465,557)		(255,200,456)		(640,666,013)
Net sales		6,432,773,927		1,156,673,456		7,589,447,383
Segment operating income	₩	257,681,722	₩	5,050,489	₩	262,732,211

4.3. Assets by operating segments as of December 31, 2017 and 2016, are as follows:

	December 31, 2017					
	Auto parts		Machinery		Total	
	(Korean won in thousands)					
Inventories	₩	433,849,161	₩	457,090,698	₩	890,939,859
Property, plant and equipment		2,330,873,518		269,400,911		2,600,274,429
Intangible assets		155,595,944		88,144,020		243,739,964

	December 31, 2016					
	Auto parts		Machinery		Total	
	(Korean won in thousands)					
Inventories	₩	334,327,865	₩	437,260,435	₩	771,588,300
Property, plant and equipment		2,260,259,057		288,063,856		2,548,322,913
Intangible assets		138,418,635		107,235,178		245,653,813

4. Segment information (cont'd)

4.4. Liabilities by operating segments as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		
	Auto parts	Machinery	Total
	(Korean won in thousands)		
Trade and other payables	₩ 970,665,230	₩ 432,375,537	₩ 1,403,040,767

	December 31, 2016		
	Auto parts	Machinery	Total
	(Korean won in thousands)		
Trade and other payables	₩ 959,518,557	₩ 437,991,456	₩ 1,397,510,013

4.5. Sales and operating income by regional segments where the Group's entities are located in for the years ended December 31, 2017 and 2016, are as follows:

	2017					
	Korea	America	Europe	China	India	Total
	(Korean won in thousands)					
Total sales	₩ 6,991,515,484	₩ 501,754,611	₩ 67,488,676	₩ 501,967,314	₩ 68,444,818	₩ 8,131,170,903
Intragroup sales	(579,084,018)	(36,843)	(132,577)	(64,460,484)	(65,234)	(643,779,156)
Net sales	₩ 6,412,431,466	₩ 501,717,768	₩ 67,356,099	₩ 437,506,830	₩ 68,379,584	₩ 7,487,391,747
Total operating Income (loss)	₩ (2,629,366)	(15,961,066)	1,550,160	6,610,429	733,904	(9,695,939)
Unrealized gain	26,413,779	-	-	-	-	26,413,779
Net operating income (loss)	₩ 23,784,413	₩ (15,961,066)	₩ 1,550,160	₩ 6,610,429	₩ 733,904	₩ 16,717,840

	2016					
	Korea	America	Europe	China	India	Total
	(Korean won in thousands)					
Total sales	₩ 7,159,699,472	₩ 253,157,472	₩ 56,962,420	₩ 692,571,224	₩ 67,722,809	₩ 8,230,113,397
Intragroup sales	(572,833,589)	(241,490)	(461,448)	(66,855,126)	(274,361)	(640,666,014)
Net sales	₩ 6,586,865,883	₩ 252,915,982	₩ 56,500,972	₩ 625,716,098	₩ 67,448,448	₩ 7,589,447,383
Total operating Income (loss)	₩ 248,463,405	(34,084,224)	309,305	38,839,128	1,511,202	255,038,816
Unrealized gain	7,693,395	-	-	-	-	7,693,395
Net operating income (loss)	₩ 256,156,800	₩ (34,084,224)	₩ 309,305	₩ 38,839,128	₩ 1,511,202	₩ 262,732,211

4.6. Information of major customers

Sales of auto parts, which amount to ₩7,487,392 million (₩7,589,447 million in 2016) for the year ended December 31, 2017, include sales to KIA MOTORS CORP. amounting to ₩2,520,045 million (₩2,371,680 million in 2016), sales HYUNDAI MOTOR COMPANY amounting to ₩744,882 million (₩613,948 million in 2016) and Hyundai Powertec (Shandong) amounting to ₩553,826 million (₩873,358 million in 2016), respectively. There is no other single customer who accounts for 10% or more of the Group's sales revenue.

5. Trade receivables, loans and other receivables:

5.1. Details of trade receivables, loans and other receivables as of December 31, 2017 and 2016, are as follows:

	December 31, 2017	December 31, 2016
	(Korean won in thousands)	
Trade receivables	₩ 1,191,731,068	₩ 1,210,800,321
Allowances for doubtful accounts	(19,144,816)	(22,084,127)
Total	₩ 1,172,586,252	₩ 1,188,716,194

5.2. Details of loans and other receivables as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
		(Korean won in thousands)		
Other receivables	₩ 66,237,330	₩ 21,248,975	₩ 72,367,484	₩ 15,567,722
Allowances for doubtful accounts	(3,151,071)	-	(1,587,236)	-
Other receivables, net	63,086,259	21,248,975	70,780,248	15,567,722
Loans	-	148,504	-	56,060
Deposits	-	22,823,598	-	21,305,655
Assets for defined benefit plans	-	14,966,807	-	-
Total	₩ 63,086,259	₩ 59,187,884	₩ 70,780,248	₩ 36,929,437

5.3. Credit risk and allowances for doubtful accounts

Above trade receivables, loans and other receivables are measured at amortized cost.

The average credit period on sales of goods is 90 days. No interest is charged on trade receivables for the first 90 days from the date of the invoice. Thereafter, interest is charged at 9% per annum on the outstanding balance. The Group has recognized an allowance for doubtful debts against all trade receivables past due more than three years, considering the recoverable amounts, because those receivables past due more than three years have not been generally collected in the historical experience. Allowances for doubtful debts are recognized against trade receivables that are past due based on estimated irrecoverable amounts determined by reference to past default experience of the counterparty and an analysis of the counterparty's current financial position.

When entering into transactions with new customers, the Group used internal customer evaluation system to assess the potential customers' credit quality and to define credit rating of customers. The Group has secured the collectability of receivables through securities, collective surety, collateral securities and notarization. Machinery division uses credit rating system of external financial institutions to evaluate the potential customers and if the evaluated credit rates of potential customers are not satisfactory, the Group will not enter into any transactions with them.

5. Trade receivables, loans and other receivables (cont'd)

5.3.1. Aging analysis of receivables that are past due but not impaired, as of December 31, 2017 and 2016, are as follows:

	December 31, 2017			
	Trade receivables		Other receivables	
	(Korean won in thousands)			
Less than a year	₩	139,146,036	₩	2,209,918
One to three years		8,615,590		1,505,903
More than three years		32,158		1,607,166
Total	₩	147,793,784	₩	5,322,987

	December 31, 2016			
	Trade receivables		Other receivables	
	(Korean won in thousands)			
Less than a year	₩	37,878,318	₩	5,891,173
One to three years		4,860,308		1,414,794
More than three years		6,395,297		1,306,954
Total	₩	49,133,923	₩	8,612,921

5.3.2. Individually impaired receivables as of December 31, 2017 and 2016, are as follows:

	December 31, 2017			
Accounts	Trade receivables		Other receivables	
	(Korean won in thousands)			
Receivables	₩	29,874,787	₩	3,936,836
Allowance for doubtful accounts		(16,470,452)		(3,089,779)
Total	₩	13,404,335	₩	847,057

	December 31, 2016			
Accounts	Trade receivables		Other receivables	
	(Korean won in thousands)			
Receivables	₩	15,666,396	₩	2,359,477
Allowance for doubtful accounts		(15,387,489)		(1,532,615)
Total	₩	278,907	₩	826,862

The Group recognizes allowance for doubtful accounts against secured, disputed or dishonored receivables, by considering the value of securities and collaterals and past recovery experience rate. For the other receivables, the Group assesses collective impairment on the basis of past recovery experience rate.

5.3.3. Collectively impaired receivables

Aging details of the Group's collective impairment test of term structures of accounts receivable and other accounts receivable impaired as of December 31, 2017 and 2016, are as follows:

	December 31, 2017			
	Trade receivables		Other receivables	
	(Korean won in thousands)			
Less than a year	₩	71,657,025	₩	5,363,844
One to three years		15,747,801		766,456
Subtotal		87,404,826		6,130,300
Allowance for doubtful accounts		(2,674,364)		(61,292)
Total	₩	84,730,462	₩	6,069,008

5. Trade receivables, loans and other receivables (cont'd)

5.3.3. Collectively impaired receivables (cont'd)

	December 31, 2016			
	Trade receivables		Other receivables	
	(Korean won in thousands)			
Less than a year	₩	104,315,930	₩	4,913,508
One to three years		21,043,878		548,596
Subtotal		125,359,808		5,462,104
Allowance for doubtful accounts		(6,696,638)		(54,621)
Total	₩	118,663,170	₩	5,407,483

As of December 31, 2017, trade receivables and receivables not yet matured amounted to ₩926,657,672 thousand (₩1,020,640,194 thousand as of December 31, 2016) and ₩72,096,182 thousand (₩71,500,704 thousand as of December 31, 2016), respectively.

5.3.4. Movements in the allowance for the doubtful accounts change for the years ended December 31, 2017 and 2016, are as follows:

	2017		2016	
	Trade receivables	Other receivables	Trade receivables	Other receivables
	(Korean won in thousands)			
Beginning of the year	₩ 22,084,127	₩ 1,587,236	₩ 21,138,543	₩ 858,278
Impairment loss	682,526	1,576,584	1,071,667	728,958
Write-off	(3,066,926)	-	-	-
Amount recovered during the year	194,068	-	-	-
Others(*)	(748,979)	(12,749)	(126,083)	-
Ending balances	₩ 19,144,816	₩ 3,151,071	₩ 22,084,127	₩ 1,587,236

(*) Due to foreign exchange translation gains and losses.

6. Other assets

Details of other assets as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
	(Korean won in thousands)			
Accrued income	₩ 5,227,717	₩ -	₩ 5,373,482	₩ -
Advance payments	14,125,426	-	16,038,347	-
Prepaid expenses	2,231,002	288,914	2,580,900	1,951,110
Prepaid income taxes	12,973,483	-	9,792,202	-
Prepaid value added tax	26,975,724	-	9,620,342	-
Total	₩ 61,533,352	₩ 288,914	₩ 43,405,273	₩ 1,951,110

7. Inventories

Details of inventories as of December 31, 2017 and 2016, are as follows:

	December 31, 2017					
	Acquisition cost		Valuation allowance		Book value	
	(Korean won in thousands)					
Finished goods	₩	202,126,207	₩	(6,815,921)	₩	195,310,286
Merchandise		2,190,041		(69,816)		2,120,225
Half-manufactured goods		251,487,418		-		251,487,418
Work in progress		33,907,095		-		33,907,095
Raw materials		340,416,478		(1,108,469)		339,308,009
Sub-materials		1,737,476		-		1,737,476
Supplies		38,023		-		38,023
Goods in transit		67,031,327		-		67,031,327
Total	₩	898,934,065	₩	(7,994,206)	₩	890,939,859

	December 31, 2016					
	Acquisition cost		Valuation allowance		Book value	
	(Korean won in thousands)					
Finished goods	₩	153,176,045	₩	(4,415,727)	₩	148,760,318
Merchandise		2,551,988		(20,421)		2,531,567
Half-manufactured goods		232,487,938		-		232,487,938
Work in progress		22,283,172		-		22,283,172
Raw materials		250,927,015		(1,664,964)		249,262,051
Sub-materials		3,095,688		-		3,095,688
Supplies		53,773		-		53,773
Goods in transit		113,113,793		-		113,113,793
Total	₩	777,689,412	₩	(6,101,112)	₩	771,588,300

The loss on valuation amounting to ₩1,893 million has been added to the cost of inventories for the year ended December 31, 2017. The cost of inventories were deducted by the reversal of loss on valuation amounting ₩2,740 million for the year ended December 31, 2016.

8. AFS financial assets:

AFS financial assets as of December 31, 2017 and 2016, are as follows:

	Acquisition cost	Fair value	Book value 2017	Book value 2016	Cumulative valuation difference 2017	Cumulative valuation difference 2016
			(Korean won in thousands)			
Marketable equity securities						
SSANGYONG MOTOR Co., Ltd.	₩ 4,058,954	₩ 1,222,461	₩ 1,222,461	₩ 1,883,832	₩ (2,836,493)	₩ (2,175,122)
Corentec Co., Ltd.	9,809,975	8,448,250	8,448,250	10,173,850	(1,361,725)	363,875
STX Heavy Industries Co., Ltd. (*3)	700,000	128,945	128,945	-	58,945	-
Non-Marketable equity securities						
Acuon Capital Corporation (*2)	500,000	86,513	86,513	65,000	(413,487)	(435,000)
HYUNDAI DYMOS INC.	9,957,454	48,920,870	48,920,870	45,845,457	38,963,416	35,888,003
KYONGNAM SHINMAN	20,992	3,489	3,489	3,489	(17,503)	(17,503)
MJT&I Corp.	378,837	-	-	-	(378,837)	(378,837)
HAEVICHI HOTELS&RESORTS Co., Ltd.	-	11,955,522	11,955,522	9,875,980	11,955,522	9,875,980
MOTOR WIN Co. Ltd.	21,156	-	-	-	-	-
Investment Certificate						
Machinery Financial Cooperative	1,660,000	(*1)	1,660,000	1,660,000	-	-
Korea Defense Industry Association	1,250,000	(*1)	1,250,000	1,250,000	-	-
Korea Auto Industries Coop. Association	4,000	(*1)	4,000	4,000	-	-
Korea Die Mold Industry Cooperative	2,000	(*1)	2,000	2,000	-	-
Korea Forging Cooperative	4,000	(*1)	4,000	4,000	-	-
Beneficiary rights	2,040	2,040	2,040	2,040	-	-
Total	₩ 28,369,408		₩ 73,688,090	₩ 70,769,648	₩ 45,969,838	₩ 43,121,396

(*1) The AFS equity investments that do not have a quoted market price in an active market and whose fair value cannot be reliably measured and derivatives are recognized at acquisition costs.
(*2) Doosan Capital was merged into Acuon Capital Corporation for the year ended December 31, 2017.
(*3) The trade receivables were transferred to investments and reclassified to available-for-sale financial assets for the year ended December 31, 2017. The Group recognized impairment loss of \ 630 million.
(*4) Trade receivables were transferred to investments and reclassified to available-for-sale financial assets for the year ended December 31, 2017. The Group recognized impairment loss of \ 21 million.

9. Investment in associate:

9.1. Investments in associates as of December 31, 2017 and 2016, are as follows:

Investee	Main business	Location	Percentage of ownership	Acquisition cost	Book value 2017	Book value 2016
			(Korean won in thousands)			
Hyundai Wia Automotive Engine (Shandong) Company	Auto parts Manufacturing	China	30 %	₩ 115,180,603	₩ 201,213,840	₩ 223,021,406
Hyundai Special Steel Co., Ltd.	Steel wire Manufacturing	Korea	40 %	114,710,883	118,587,481	118,874,592
Hyundai Wia Motor Dies (Shandong) Company (*1)	Auto parts Manufacturing	China	20 %	8,194,598	6,980,462	7,109,963
	Total			₩ 238,086,084	₩ 326,781,783	₩ 349,005,961

(*1) It is a subsidiary of Jiangsu Hyundai Wia, a subsidiary of the Company.

9. Investment in associate (cont'd)

9.2. The changes in the Group's investments in associates for the years ended December 31, 2017, and 2016, are as follows:

	December 31, 2017					
Investee	Beginning of the year	Gain (loss) on equity method	Dividends received	Equity changes from equity method	Others(*)	End of the year
	(Korean won in thousands)					
Hyundai Wia Automotive Engine (Shandong) Company	₩ 223,021,406	₩ (7,262,961)	₩ (745,470)	₩ (13,799,135)	₩ -	₩ 201,213,840
Hyundai Special Steel Co., Ltd.	118,874,592	(468,745)	-	181,634	-	118,587,481
Hyundai Wia Motor Dies (Shandong) Company	7,109,963	1,075,660	(1,153,573)	(395,459)	343,871	6,980,462
	₩ 349,005,961	₩ (6,656,046)	₩ (1,889,043)	₩ (14,012,960)	₩ 343,871	₩ 326,781,783

(*) Others consist of exchange rate fluctuations.

	December 31, 2016					
Investee	Beginning of the year	Gain on equity method	Dividends received	Equity changes from equity method	Others(*)	End of the year
	(Korean won in thousands)					
Hyundai Wia Automotive Engine (Shandong) Company	₩ 220,352,715	₩ 10,153,906	₩ -	₩ (7,485,215)	₩ -	₩ 223,021,406
Hyundai Special Steel Co., Ltd.	116,815,399	3,474,502	-	(1,415,309)	-	118,874,592
Hyundai Wia Motor Dies (Shandong) Company	7,407,080	46,369	(18,835)	(189,104)	(135,547)	7,109,963
	₩ 344,575,194	₩ 13,674,777	₩ (18,835)	₩ (9,089,628)	₩ (135,547)	₩ 349,005,961

(*) Others consist of exchange rate fluctuations.

9. Investment in associate (cont'd)

9.3. The condensed financial information of the Group's associates is as follows:

Accounts		December 31, 2017 Hyundai Wia Automotive Engine (Shandong) Company		Hyundai Special Steel Co., Ltd.		Hyundai Wia Motor Dies (Shandong) Company
				(Korean won in thousands)		
Current assets	₩	753,485,073	₩	221,761,518	₩	94,567,066
Non-current assets		760,641,451		310,047,415		21,941,454
Total assets		1,514,126,524		531,808,933		116,508,520
Current liabilities		318,439,720		180,411,846		69,515,220
Non-current liabilities		432,938,762		134,214,257		12,273,750
Total liabilities		751,378,482		314,626,103		81,788,970
Total equity		762,748,042		217,182,830		34,719,550
Revenue		1,058,952,219		325,515,971		94,433,516
Operating income		(38,292,588)		4,751,762		4,609,739
Other comprehensive income		(45,997,118)		(293,650)		(1,977,295)
Total comprehensive income	₩	(84,289,706)	₩	4,458,112	₩	2,632,444

(*) The above condensed financial information is presented after adjustments of fair value and difference of accounting policy between the Group and the investees, but before elimination of internal transactions and goodwill.

Accounts		December 31, 2016 Hyundai Wia Automotive Engine (Shandong) Company		Hyundai Special Steel Co., Ltd.		Hyundai Wia Motor Dies (Shandong) Company
				(Korean won in thousands)		
Current assets	₩	799,333,285	₩	188,128,161	₩	73,475,521
Non-current assets		901,219,847		289,558,320		25,932,549
Total assets		1,700,553,132		477,686,481		99,408,070
Current liabilities		279,757,177		89,051,344		(3,118,148)
Non-current liabilities		571,118,471		170,734,529		67,571,400
Total liabilities		850,875,648		259,785,873		64,453,252
Total equity		849,677,484		217,900,608		34,954,818
Revenue		1,452,939,188		384,785,687		68,101,117
Operating income		27,719,121		11,159,521		4,693,761
Other comprehensive income		(24,950,720)		-		(945,518)
Total comprehensive income	₩	2,768,401	₩	11,159,521	₩	3,748,243

(*) The above condensed financial information is presented after adjustments of fair value and difference of accounting policy between the Group and the investees, but before elimination of internal transactions and goodwill.

9. Investment in associate (cont'd)

9.4. Reconciliations of the net assets of the associates to carrying amount of the interest in associates recognized in the consolidated financial statements as of and for the years ended December 31, 2017 and 2016, are as follows:

	December 31, 2017		
Accounts	Hyundai Wia Automotive Engine (Shandong) Company	Hyundai Special Steel Co., Ltd.	Hyundai Wia Motor Dies (Shandong) Company
	(Korean won in thousands)		
Net assets of the associates	₩ 762,748,042	₩ 217,182,830	₩ 34,719,550
Ownership interest	30%	40%	20%
Net assets attributable to the Group	228,824,413	86,873,132	6,943,910
Elimination of intragroup transactions	(27,610,573)	-	(1,069,241)
Goodwill	-	31,714,349	1,105,793
Book value	₩ 201,213,840	₩ 118,587,481	₩ 6,980,462

	December 31, 2016		
Accounts	Hyundai Wia Automotive Engine (Shandong) Company	Hyundai Special Steel Co., Ltd.	Hyundai Wia Motor Dies (Shandong) Company
	(Korean won in thousands)		
Net assets of the associates	₩ 849,677,484	₩ 217,900,608	₩ 34,954,818
Ownership interest	30%	40%	20%
Net assets attributable to the Group	254,903,245	87,160,243	6,990,964
Elimination of intragroup transactions	(31,881,839)	-	(1,222,954)
Goodwill	-	31,714,349	1,341,953
Book value	₩ 223,021,406	₩ 118,874,592	₩ 7,109,963

10.Investment in joint arrangements:

10.1. Details of the Group's investments in joint arrangements as of December 31, 2017 and 2016, are as follows:

Investee	Main business	Location	Percentage of ownership	Acquisition cost	Book Value 2017	Book Value 2016
				(Korean won in thousands)		
Wia Magna Powertrain Corp.	Auto parts Manufacturing	Korea	50 %	₩ 6,649,322	₩ 18,639,228	₩ 18,584,496
Hyundai Wia Turbo Corporation (*)	Auto parts Manufacturing	Korea	100 %	-	-	3,822,635
Total				₩ 6,649,322	₩ 18,639,228	₩ 22,407,131

(*) The Group purchased the rest of the shares of the investee during the year ended 31, 2017. Accordingly, the investee was included in consolidation (See Note 38).

10. Investment in joint arrangements (cont'd)

10.2. The changes in investment in joint arrangements for the years ended December 31, 2017, and 2016, are as follows:

	2017					
Investee	Beginning of year	Gain (loss) on equity method	Dividends received	Equity changes from equity method	Business combination	End of year
			(Korean won in thousands)			
Wia Magna Powertrain Corp.	₩ 18,584,496	₩ 3,025,839	₩ (3,000,000)	₩ 28,893	₩ -	₩ 18,639,228
Hyundai Wia Turbo Corporation	3,822,635	(1,547,716)	-	-	(2,274,919)	-
Total	₩ 22,407,131	₩ 1,478,123	₩ (3,000,000)	₩ 28,893	₩(2,274,919)	₩ 18,639,228

	2016					
Investee	Beginning of year	Acquisition	Gain (loss) on equity method	Dividends received	Equity changes from equity method	End of year
			(Korean won in thousands)			
Wia Magna Powertrain Corp.	₩ 17,356,463	₩ -	₩ 4,257,769	₩ (3,000,000)	₩ (29,736)	₩ 18,584,496
Hyundai Wia Turbo Corporation	1,847,481	5,100,000	(3,124,846)	-	-	3,822,635
Total	₩ 19,203,944	₩ 5,100,000	₩ 1,132,923	₩ (3,000,000)	₩ (29,736)	₩ 22,407,131

10.3. The summarized financial information of the joint arrangements of the Group as of December 31, 2017 and 2016, are as follows:

	December 31, 2017					
Investee	Assets	Liabilities	Net assets	Sales	Net income	Comprehensive income
			(Korean won in thousands)			
Wia Magna Powertrain Corp. (*)	₩ 65,020,302	₩ 27,741,846	₩ 37,278,456	₩ 124,267,920	₩ 6,009,056	₩ 6,009,056

(*) This financial information is adjusted by fair value adjustments at the acquisition and differences from accounting policies with the Company. But goodwill and intra-transactions have not been eliminated from the financial information.

	December 31, 2016					
Investee	Assets	Liabilities	Net assets	Sales	Net income (loss)	Comprehensive income (loss)
			(Korean won in thousands)			
Wia Magna Powertrain Corp. (*)	₩ 65,022,213	₩ 27,853,220	₩ 37,168,993	₩ 146,981,108	₩ 8,054,512	₩ 8,054,512
Hyundai Wia Turbo Corporation (*)	₩ 44,725,212	₩ 37,207,015	₩ 7,518,197	₩ 12,252,722	₩ (6,109,289)	₩ (6,109,289)

(*) This financial information is adjusted by fair value adjustments at the acquisition and differences from accounting policies with the Company. However, goodwill and intra-transactions have not been eliminated from the financial information.

10. Investment in joint arrangements (cont'd)

10.4. Summarized additional financial information of the joint arrangements of the Group as of and for the years ended December 31, 2017 and 2016, are as follows:

	December 31, 2017			
Investee	Cash and cash equivalents	Non-current financial liabilities	Interest income	Interest expenses
	(Korean won in thousands)			
Wia Magna Powertrain Corp.	₩ 15,299,190	₩ -	₩ 146,629	₩ 4,242

	December 31, 2016			
Investee	Cash and cash equivalents	Non-current financial liabilities	Interest income	Interest expenses
	(Korean won in thousands)			
Wia Magna Powertrain Corp.	₩ 23,100,030	₩ -	₩ 182,319	₩ 354,723
Hyundai Wia Turbo Corporation	1,535	23,000,000	21,809	700,158

10.5. Reconciliation of the net assets of the joint arrangement to carrying amount of the interest in the joint arrangement recognized in the joint arrangement financial statements is as follows:

	December 31, 2017
	Wia Magna Powertrain Corp.
	(Korean won in thousands)
Net assets	₩ 37,278,456
Ownership interest	50%
Net assets attributable to the group	18,639,228
Adjustments	-
Book value	₩ 18,639,228

	December 31, 2016	
	Wia Magna Powertrain Corp.	Hyundai Wia Turbo Corporation
	(Korean won in thousands)	
Net assets	₩ 37,168,993	₩ 7,518,197
Ownership interest	50%	51%
Net assets attributable to the group	18,584,496	3,834,281
Adjustments	-	(11,646)
Book value	₩ 18,584,496	₩ 3,822,635

11. Property, plant and equipment

11.1. Details of property, plant and equipment as of December 31, 2017 and 2016, are as follows:

	December 31, 2017				
	Acquisition cost	Accumulated depreciation	Cumulative impairment	Government grants	Book value
	(Korean won in thousands)				
Land	₩ 619,373,720	₩ -	₩ -	₩ -	₩ 619,373,720
Building	709,671,510	(85,999,191)	-	(5,101,461)	618,570,858
Structures	58,248,378	(18,772,837)	-	-	39,475,541
Machinery	1,892,063,887	(776,650,361)	(2,039,263)	-	1,113,374,263
Vehicles	7,828,102	(4,532,615)	-	-	3,295,487
Fixtures and tools	243,822,869	(155,958,280)	-	-	87,864,589
Office equipment	99,239,658	(68,434,860)	-	-	30,804,798
Other P.P.E.	36,691,388	(23,710,793)	-	-	12,980,595
Construction in progress	74,625,948	-	(91,370)	-	74,534,578
Total	₩ 3,741,565,460	₩ (1,134,058,937)	₩ (2,130,633)	₩ (5,101,461)	₩ 2,600,274,429

	December 31, 2016				
	Acquisition cost	Accumulated depreciation	Cumulative impairment	Government grants	Book value
	(Korean won in thousands)				
Land	₩ 619,345,103	₩ -	₩ -	₩ -	₩ 619,345,103
Building	668,932,263	(68,666,202)	-	(6,029,933)	594,236,128
Structures	57,403,305	(16,378,888)	-	-	41,024,417
Machinery	1,717,015,085	(656,225,751)	(2,378,452)	-	1,058,410,882
Vehicles	7,766,166	(3,747,476)	-	-	4,018,690
Fixtures and tools	221,135,651	(131,219,858)	-	-	89,915,793
Office equipment	93,579,666	(58,813,020)	-	-	34,766,646
Other P.P.E.	36,286,829	(20,909,970)	-	-	15,376,859
Construction in progress	91,228,395	-	-	-	91,228,395
Total	₩ 3,512,692,463	₩ (955,961,165)	₩ (2,378,452)	₩ (6,029,933)	₩ 2,548,322,913

11. Property, plant and equipment (cont'd)

11.2. The changes in property, plant and equipment for the years ended December 31, 2017 and 2016, are as follows:

	December 31, 2017							
	Beginning of year	Acquisition	Transfer	Disposal	Depreciation	Impairment	Others(*)	End of year
	(Korean won in thousands)							
Land	₩ 619,345,103	₩ 203,814	₩ -	₩ -	₩ -	₩ -	₩ (175,197)	₩ 619,373,720
Building	600,266,061	42,949,129	9,424,094	-	(18,707,660)	-	(10,259,305)	623,672,319
Deduct: Government grants	(6,029,933)	821,362	-	-	107,110	-	-	(5,101,461)
Structures	41,024,417	733,637	59,944	-	(2,434,295)	-	91,838	39,475,541
Machinery	1,058,410,882	117,017,822	113,976,475	(288,189)	(134,684,816)	231,312	(41,289,223)	1,113,374,263
Vehicles	4,018,690	587,211	149,212	(80,990)	(1,287,519)	-	(91,117)	3,295,487
Fixtures and tools	89,915,793	15,277,066	11,092,882	(261,923)	(26,744,481)	-	(1,414,748)	87,864,589
Office equipment	34,766,646	5,293,962	2,169,774	(8,026)	(11,192,708)	-	(224,850)	30,804,798
Other P.P.E.	15,376,859	501,923	426,816	(7,430)	(3,133,106)	-	(184,467)	12,980,595
Construction in progress	91,228,395	136,784,667	(137,299,197)	-	-	(91,370)	(16,087,917)	74,534,578
Total	₩ 2,548,322,913	₩ 320,170,593	₩ -	₩ (646,558)	₩ (198,077,475)	₩ 139,942	₩ (69,634,986)	₩ 2,600,274,429

(*) Others include the effect of foreign exchange differences.

	December 31, 2016							
	Beginning of year	Acquisition	Transfer	Disposal	Depreciation	Impairment	Others(*)	End of year
	(Korean won in thousands)							
Land	₩ 552,348,648	₩ 66,982,577	₩ -	₩ -	₩ -	₩ -	₩ 13,878	₩ 619,345,103
Building	412,599,340	77,912,964	123,225,142	(2,165,214)	(15,436,761)	-	4,130,590	600,266,061
Deduct: Government grants	-	(6,040,000)	-	-	10,067	-	-	(6,029,933)
Structures	42,077,368	963,717	517,320	(21,847)	(2,380,403)	-	(131,738)	41,024,417
Machinery	644,542,386	59,910,308	491,110,359	(31,265,921)	(118,551,934)	(19,704)	12,685,388	1,058,410,882
Vehicles	3,670,214	921,243	744,776	(138,851)	(1,204,387)	-	25,695	4,018,690
Fixtures and tools	81,485,344	27,769,342	13,287,306	(8,812,329)	(24,164,039)	-	350,169	89,915,793
Office equipment	38,616,425	5,801,446	1,667,424	(117,423)	(11,323,118)	-	121,892	34,766,646
Other P.P.E.	17,360,814	610,914	496,174	(1,333)	(3,094,158)	-	4,448	15,376,859
Construction in progress	530,079,343	197,412,702	(631,048,501)	-	-	-	(5,215,149)	91,228,395
Total	₩ 2,322,779,882	₩ 432,245,213	₩ -	₩ (42,522,918)	₩ (176,144,733)	₩ (19,704)	₩ 11,985,173	₩ 2,548,322,913

(*) Others include the effect of foreign exchange differences.

11.3. Assets pledged as security:

Land with a carrying amount of approximately ₩57,254 million, has been pledged for government grant up to ₩6,644 million. The Group is not allowed to pledge these assets as security for other borrowings or to sell them to another entity.

12. Investment property

12.1. The book value of land, classified as investment property, is ₩1,522,714 thousand, and there is no movement for the years ended December 31 2017 and 2016.

12.2. The officially announced price of land classified as investment property with book value of ₩1,522,714 thousand amounts to ₩1,827,616 thousand and ₩1,733,899 thousand as of December 31, 2017 and 2016, respectively.

12.3. There was no revenue generated from this investment property.

13. Intangible assets

13.1. Details of intangible assets as of December 31, 2017 and 2016, are as follows:

	December 31, 2017			
	Acquisition cost	Accumulated amortization	Accumulated impairment loss	Book value
	(Korean won in thousands)			
Development cost	₩ 381,396,573	₩ (192,328,525)	₩ (5,524,052)	₩ 183,543,996
Deduct: Government grants	(2,104,363)	-	-	(2,104,363)
Industrial property	4,779,333	(3,154,929)	-	1,624,404
Software	96,538,300	(66,747,147)	-	29,791,153
Royalties	25,912,758	(21,823,990)	(1,206,358)	2,882,410
Membership	17,678,033	-	-	17,678,033
Customer relationship	8,345,240	(1,761,772)	-	6,583,468
Technologies	4,524,975	(859,882)	-	3,665,093
Other intangible assets	223,506	(147,736)	-	75,770
Total	₩ 537,294,355	₩ (286,823,981)	₩ (6,730,410)	₩ 243,739,964

	December 31, 2016		
	Acquisition cost	Accumulated amortization	Book value
	(Korean won in thousands)		
Development cost	\ 336,665,339	\ (154,861,769)	\ 181,803,570
Deduct: Government grants	(2,440,775)	-	(2,440,775)
Industrial property	4,215,943	(2,857,024)	1,358,919
Software	93,551,339	(56,282,013)	37,269,326
Royalties	23,458,294	(20,680,397)	2,777,897
Membership	17,351,730	-	17,351,730
Customer relationship	8,345,240	(1,205,423)	7,139,817
Technologies	513,106	(222,346)	290,760
Other intangible assets	223,506	(120,937)	102,569
Total	\ 481,883,722	\ (236,229,909)	\ 245,653,813

13. Intangible assets (cont'd)

13.2. Details of changes in intangible assets for the years ended December 31, 2017 and 2016, are as follows:

	December 31, 2017						
	Beginning of year	Acquisition	Depreciation	Impairment	Business combination	Others (*)	End of year
	(Korean won in thousands)						
Development cost	₩ 181,803,570	₩ 36,852,597	₩ (37,487,433)	₩ (5,524,052)	₩ 7,878,636	₩ 20,678	₩ 183,543,996
Deduct: Government grants	(2,440,775)	(391,976)	728,388	-	-	-	(2,104,363)
Industrial property	1,358,919	718,660	(430,960)	-	-	(22,215)	1,624,404
Software	37,269,326	3,889,278	(10,908,492)	-	498,498	(957,457)	29,791,153
Royalties	2,777,897	2,543,729	(1,150,288)	(1,206,358)	-	(82,570)	2,882,410
Membership	17,351,730	326,303	-	-	-	-	17,678,033
Customer relationship	7,139,817	-	(556,349)	-	-	-	6,583,468
Technology	290,760	-	(637,536)	-	4,011,869	-	3,665,093
Other intangible assets	102,569	-	(21,605)	-	-	(5,194)	75,770
Total	₩ 245,653,813	₩ 43,938,591	₩ (50,464,275)	₩ (6,730,410)	₩ 12,389,003	₩ (1,046,758)	₩ 243,739,964

(*) Others include the effect of foreign exchange differences.

	December 31, 2016						
	Beginning of year	Acquisition	Depreciation	Disposal	Impairment	Others (*)	End of year
	(Korean won in thousands)						
Development cost	₩ 174,187,322	₩ 40,217,522	₩ (30,509,219)	₩ (2,327,818)	₩ 235,763	₩ -	₩ 181,803,570
Deduct: Government grants	(3,161,253)	(1,132)	622,427	99,183	-	-	(2,440,775)
Industrial property	1,624,179	158,826	(400,841)	(1,226)	-	(22,019)	1,358,919
Software	42,426,448	6,520,313	(11,715,350)	-	-	37,915	37,269,326
Royalties	2,900,219	892,552	(1,014,874)	-	-	-	2,777,897
Membership	17,064,198	287,532	-	-	-	-	17,351,730
Customer relationship	7,696,166	-	(556,349)	-	-	-	7,139,817
Technology	393,381	-	(102,621)	-	-	-	290,760
Other intangible assets	128,685	-	(22,498)	-	-	(3,618)	102,569
Total	₩ 243,259,345	₩ 48,075,613	₩ (43,699,325)	₩ (2,229,861)	₩ 235,763	₩ 12,278	₩ 245,653,813

(*) Others include the effect of foreign exchange differences.

13.3. Details of research and development expenditures for the years ended December 31, 2017 and 2016, are summarized as follows:

	2017	2016
	(Korean won in thousands)	
Selling and administrative expenses	₩ 20,991,480	₩ 19,289,749
Cost of sales (manufacturing costs)	1,563,210	1,525,218
Total	₩ 22,554,690	₩ 20,814,967

13. Intangible assets (cont'd)

13.4. Details of impairment loss recognized for intangible assets for the year ended December 31, 2017 are as follows:

	Book value	Impairment loss (*1)	Reversal of impairment loss (*2)	Accumulated amounts
	(Korean won in thousands)			
Auto parts	₩ 106,165,271	₩ (1,622,963)	₩ 54,795	₩ (1,568,168)
Machinery	78,156,772	(5,290,274)	128,032	(5,162,242)
Total	₩ 184,322,043	₩ (6,913,237)	₩ 182,827	₩ (6,730,410)

(*1) The Group carried out impairment tests for each development project and eliminated the entire carrying amount of the projects whose mass production plans are not fixed. The impairment loss was recognized as other non-operating expenses.

(*2) The Group recognized the impairment loss for projects, whose mass production plans are not fixed, but reversed the impairment loss after the projects started mass production. The reversal of impairment loss was recognized as other non-operating income.

13.5. Details of development costs as of December 31, 2017 are summarized as follows:

	Depreciable assets	Construction in progress assets	Book value	Residual depreciation period
	(Korean won in thousands)			
Auto parts (*1)	₩ 66,630,079	₩ 38,048,624	₩ 104,678,703	1~5 years
Machinery (*2)	59,740,450	17,020,480	76,760,930	1~5 years
Total	₩ 126,370,529	₩ 55,069,104	₩ 181,439,633	

As of December 31, 2017, there is no significant development cost for which the carrying amount of an individual project exceeds 10% of the total development cost.

(*1) Module, constant speed, engine, shift and others
(*2) Machine tools (lathe / machining center), special business and others

14. Other financial assets

14.1. Details of other financial assets as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
	(Korean won in thousands)			
Short-term financial instruments	₩ 576,752,000	₩ -	₩ 691,466,174	₩ -
Long-term financial instruments	-	221,014	-	191,827
Total	₩ 576,752,000	₩ 221,014	₩ 691,466,174	₩ 191,827

14. Other financial assets (cont'd)

14.2. Details of restricted financial assets as of December 31, 2017 and 2016, are as follows:

	Description	December 31, 2017	December 31, 2016	Restrictions
		(Korean won in thousands)		
Short-term financial instruments	Deposits	₩ -	₩ 40,000	Guarantee deposits for licenses
	Deposits	36,800,000	36,800,000	Restrictions for growth together fund
	Free deposits	62,667	-	Seize
Long-term financial instruments	Guarantee deposits	5,000	5,000	Guarantee deposits for checking accounts
	Deposits	130,000	90,000	Guarantee deposits for licenses
Total		₩ 36,997,667	₩ 36,935,000	

15. Construction contract

15.1. Details of the gross amount due from customers under contract work as an asset and the gross amount due to customers under contract work as an liability for the years ended December 31, 2017 and 2016, are as follows:

	2017	2016
	(Korean won in thousands)	
Cumulative cost	₩ 1,334,569,511	₩ 1,591,896,550
Cumulative profit	202,967,218	290,412,443
Cumulative income	1,537,536,729	1,882,308,993
Cumulative construction in progress	1,433,852,800	1,758,739,023
The gross amount due from customers under contract work as an asset	155,183,690	178,124,016
The gross amount due to customers under contract work as an liability	51,499,761	54,554,046

There is no amount of retention related to above construction contract as of December 31, 2017 and 2016. Also, advance receipts from customers as of December 31, 2017 and 2016, amount to ₩3,245,139 thousand and ₩924,032 thousand, respectively.

15.2. Of the contracts that have been accounted for as the revenue in accordance with the percentage of completion using the cost input method and were in progress at the end of the previous year, the changes in the total contract amount and estimated total contract costs, and the effect of such changes on the profit and loss of the current and future periods are as follows.

	Machinery
	(Korean won in thousands)
Changes in total contract amount and estimated total contract costs	₩ (45,749,006)
Effect on income before tax in current period	(35,294,858)
Effect on income before tax in the future period	(10,454,148)
Effect on due from customers for contract work	(35,294,858)
Provision for construction loss	-

16. Trade and non-trade payables

Details of trade and non-trade payables as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
	(Korean won in thousands)			
Trade payables	₩ 1,246,031,503	₩ -	₩ 1,307,622,735	₩ -
Subtotal	1,246,031,503	-	1,307,622,735	-
Account payables	125,280,536	1,054,313	56,986,377	833,849
Accrued expenses	27,372,986	-	28,681,703	
Long-term deposits received	-	3,301,430	-	3,385,349
Subtotal	152,653,522	4,355,743	85,668,080	4,219,198
Total	₩ 1,398,685,025	₩ 4,355,743	₩ 1,393,290,815	₩ 4,219,198

17. Borrowings and debentures

17.1. Details of borrowings as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
	(Korean won in thousands)			
Short-term borrowings	₩ 14,889,777	₩ -	₩ -	₩ -
Current portion of long-term borrowings	182,823,879	-	154,939,044	-
Long-term borrowings	-	858,204,697	-	849,336,082
Debentures	-	1,196,919,414	-	957,322,625
Total	₩ 197,713,656	₩ 2,055,124,111	₩ 154,939,044	₩ 1,806,658,707

17.2. As of December 31, 2017, short-term borrowings amounting to ₩4,890 million provided to the financial institutions did not meet the derecognition criteria of financial assets. Accordingly, the Group recognized the amount equivalent to the nominal amount of trade receivables as borrowings.

17. Borrowings and debentures (cont'd)

17.3. Details of long-term borrowings as of December 31, 2017 and 2016, are as follows:

	Lender	Interest rate (%)	December 31, 2017	December 31, 2016
		(Korean won in thousands)		
Funds for equipment	Shinhan Bank	2.33	₩ 50,000,000	₩ 50,000,000
General loans	Kookmin Bank	3.09~4.28	48,895,700	18,331,000
General loans	Standard Chartered Bank Korea limited	3.09~3.29	31,196,030	35,227,469
General loans	Export-import Bank of Korea	3.05~3.12	214,280,000	265,738,092
General loans	Korea Developement Bank	2.79~4.28	74,345,146	21,094,520
General loans	China Bank	2.99	7,499,800	18,613,842
General loans	Shinhan Bank	0.62~4.75	52,501,380	62,145,580
General loans	KEB Hana Bank	1.1~4.23	80,029,771	80,964,092
General loans	Industrial Bank of Korea	4.28	19,638,000	29,204,532
General loans	Construction Bank Corporation	4.28	-	8,663,000
General loans	Bank of Rizhao	2.99~4.28	18,896,500	-
General loans	Mizuho Bank	0.95~3.30	112,322,250	103,018,000
General loans	BTMU Bank	2.94	53,570,000	60,425,000
General loans	BBVA Bank	2.39	107,140,000	120,850,000
General loans	SMBC	2.72~2.83	5,000,000	-
General loans	JP MORGAN	3.09	10,714,000	-
General loans	NH Bank	3.18	5,000,000	-
Subtotal			891,028,577	874,275,127
Deduct: Current portion of long-term borrowing			(32,823,880)	(24,939,045)
Total			₩ 858,204,697	₩ 849,336,082

17.4. Details of debentures as of December 31, 2017 and 2016, are as follows:

No. of public offered debentures	Issued date	Maturity	Interest rate (%)	December 31, 2017	December 31, 2016
				(Korean won in thousands)	
71-2nd	2012-02-17	2017-02-17	4.26	-	100,000,000
72-2nd	2012-12-05	2018-12-05	3.39	80,000,000	80,000,000
73-2nd	2013-04-09	2018-04-09	2.86	70,000,000	70,000,000
74-1st	2014-04-08	2017-04-08	3.04	-	30,000,000
74-2nd	2014-04-08	2019-04-08	3.45	120,000,000	120,000,000
75-1st	2014-11-27	2019-11-27	2.47	60,000,000	60,000,000
75-2nd	2014-11-27	2021-11-27	2.73	100,000,000	100,000,000
76-1st	2015-02-10	2020-02-10	2.28	100,000,000	100,000,000
76-2nd	2015-02-10	2022-02-10	2.44	100,000,000	100,000,000
77-1st	2015-05-13	2020-05-13	2.44	100,000,000	100,000,000
77-2nd	2015-05-13	2022-05-13	2.66	100,000,000	100,000,000
78-1st	2016-04-11	2021-04-11	1.93	100,000,000	100,000,000
78-2nd	2016-04-11	2023-04-11	2.17	30,000,000	30,000,000
79-1st	2017-02-21	2020-02-21	1.92	140,000,000	-
79-2nd	2017-02-21	2022-02-21	2.26	60,000,000	-
80-1st	2017-07-24	2020-07-24	2.13	90,000,000	-
80-2nd	2017-07-24	2022-07-24	2.58	100,000,000	-
Subtotal				1,350,000,000	1,090,000,000
Less current maturities				(150,000,000)	(130,000,000)
Less discounts on debentures				(3,080,586)	(2,677,375)
Total				₩ 1,196,919,414	₩ 957,322,625

18. Provisions

18.1. Details of provisions as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
	(Korean won in thousands)			
Provision for warranty	₩ 20,098,363	₩ 29,541,568	₩ 17,334,283	₩ 22,591,977
Other provision	-	146,798,202	-	103,921,043
Total	₩ 20,098,363	₩ 176,339,770	₩ 17,334,283	₩ 126,513,020

(*) Provision related to lawsuits (Note 36).

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

	Provision for warranty		Other provision	
	2017	2016	2017	2016
	(Korean won in thousands)			
Beginning of year	₩ 39,926,260	₩ 41,294,426	₩ 103,921,043	₩ 88,554,809
Additional provisions recognized	20,271,215	12,788,777	49,903,352	15,366,234
Reductions arising from payments	(11,654,797)	(14,139,828)	(7,026,193)	-
Others(*)	1,097,253	(17,115)	-	-
End of year	₩ 49,639,931	₩ 39,926,260	₩ 146,798,202	₩ 103,921,043

(*) Others include the effect of foreign exchange differences and others.

19. Other financial liabilities

Details of other financial liabilities as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Current	Non-current	Current	Non-current
	(Korean won in thousands)			
Derivative liabilities	₩ -	₩ -	₩ 317,198	₩ -
Financial guarantee liabilities	61,295	121,582	124,528	4,519
Total	₩ 61,295	₩ 121,582	₩ 441,726	₩ 4,519

20. Retirement benefit plans:

The Group operates a defined benefit plan for qualified employees. Employees receive defined benefit that is calculated by average wages of the final three months at the time of retirement under the defined benefit plan. The valuation of related plan assets and the defined benefit liability are performed by independent actuary. Also, the present value of defined benefit obligation, current service cost and past service cost are determined using the projected unit credit method.

20.1. As of December 31, 2017 and 2016, amounts recognized in the consolidated statements of financial position related to retirement benefit obligations are as follows:

	December 31, 2017		December 31, 2016	
	(Korean won in thousands)			
Present value of defined benefit obligation	₩	174,032,988	₩	162,789,966
Fair value of plan assets		(188,999,795)		(159,152,503)
Retirement benefit obligation	₩	(14,966,807)	₩	3,637,463

20.2. Details of changes in retirement benefit obligation for the years ended December 31, 2017 and 2016, are as follows:

	2017					
	Defined benefit obligations		Plan assets		Retirement benefit obligation	
	(Korean won in thousands)					
Beginning of year	\	162,789,965	\	(159,152,502)	\	3,637,463
Current service cost		25,617,057		-		25,617,057
Interest cost (income)		4,757,258		(4,644,667)		112,591
Past service cost		7,649,488		-		7,649,488
Other		476,130		-		476,130
Subtotal		201,289,898		(163,797,169)		37,492,729
Remeasurements:						
Return on plan assets (excluding interest income above)		-		2,309,993		2,309,993
Actuarial gains and losses arising from changes in demographic assumptions		178,952		-		178,952
Actuarial gains arising from changes in financial assumptions		(5,407,186)		-		(5,407,186)
Actuarial losses arising from experience adjustments		(9,391,653)		-		(9,391,653)
Subtotal		(14,619,887)		2,309,993		(12,309,894)
Employer's contribution		-		(38,536,188)		(38,536,188)
Benefit paid from assets:						
Benefit paid		(12,637,023)		11,023,569		(1,613,454)
End of year	\	174,032,988	\	(188,999,795)	\	(14,966,807)

20. Retirement benefit plans (cont'd)

20.2. Details of changes in retirement benefit obligation for the years ended December 31, 2017 and 2016, are as follows: (cont'd)

	2016		
	Defined benefit obligations	Plan assets	Retirement benefit obligation
	(Korean won in thousands)		
Beginning of year	\ 148,846,146	\ (142,317,876)	\ 6,528,270
Current service cost	25,855,899	-	25,855,899
Interest cost (income)	4,199,493	(4,025,318)	174,175
Past service cost	283,767	-	283,767
Subtotal	179,185,305	(146,343,194)	32,842,111
Remeasurements:			
Return on plan assets (excluding interest income above)	-	1,336,776	1,336,776
Actuarial gains arising from changes in financial assumptions	(1,539,090)	-	(1,539,090)
Actuarial losses arising from experience adjustments	(4,279,579)	-	(4,279,579)
Subtotal	(5,818,669)	1,336,776	(4,481,893)
Employer's contribution	-	(20,000,000)	(20,000,000)
Benefit paid from assets:			
Benefit paid	(10,576,670)	5,853,915	(4,722,755)
End of year	\ 162,789,966	\ (159,152,503)	\ 3,637,463

20.3. The principal assumptions used for actuarial valuation as of December 31, 2017 and 2016, are as follows:

	December 31, 2017	December 31, 2016
Discount rate	1.90%~3.23%	2.96%
Expected salary increase rate	0.92%~4.39%	4.40%

20.4. Details of plan assets as of December 31, 2017 and 2016, are as follows:

	December 31, 2017	December 31, 2016
	(Korean won in thousands)	
Financial assets	₩ 188,897,645	₩ 159,103,711
Cash and cash equivalents	53,930	571
Others	48,220	48,221
Total	₩ 188,999,795	₩ 159,152,503

20.5. The sensitivity analyses below have been determined based on reasonably possible changes of the significant assumptions as of December 31, 2017 and 2016, while holding all other assumptions constant.

	December 31, 2017	
	Increase	Decrease
	(Korean won in thousands)	
100 basis point change in discount rate	₩ (18,459,744)	₩ 22,255,027
1% change in future salary increase rate	22,248,131	(18,786,954)

20. Retirement benefit plans (cont'd)

20.5. The sensitivity analyses below have been determined based on reasonably possible changes of the significant assumptions as of December 31, 2017 and 2016, while holding all other assumptions constant. (cont'd)

	December 31, 2016			
	Increase		Decrease	
	(Korean won in thousands)			
100 basis point change in discount rate	₩	(17,641,211)	₩	21,393,538
1% change in future salary increase rate		21,321,885		(17,907,855)

Above sensitivity analysis indicates how the defined benefit obligation would have been affected by changes in the relevant actuarial assumptions that were reasonably possible as of the end of the reporting period. Because of the correlation between actuarial assumptions, the changes in rate would not occur independently. Therefore, the above sensitivity analysis is not representative of actual changes in defined benefit obligation. Sensitivity analysis also is determined using the projected unit credit method.

21. Other current liabilities

Details of other current liabilities as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	(Korean won in thousands)			
Advance received	₩	46,514,783	₩	30,703,549
Withholdings		10,277,880		17,944,469
Total	₩	56,792,663	₩	48,648,018

22. Capital stock

Details of capital stock as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	(Korean won in thousands)			
Authorized shares		40,000,000		40,000,000
Issued shares		27,195,083		27,195,083
Price per shares		5,000 won		5,000 won
Capital stock	₩	135,975,415	₩	135,975,415

23. Other contributed capital

Details of other contributed capital as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	(Korean won in thousands)			
Additional paid-up capital	₩	499,045,123	₩	499,045,123
Other additional capital		1,490,959		1,490,959
Treasury stock		(113,208,381)		(113,208,381)
Total	₩	387,327,701	₩	387,327,701

24. Other capital components

24.1. Details of other capital components as of December 31, 2017 and 2016, are as follows:

		2017		2016
		(Korean won in thousands)		
Gain on valuation of AFS financial assets	₩	34,895,705	₩	32,733,453
Equity changes of equity method		(13,726,583)		(3,126,660)
Exchange differences on translations of foreign operations		(22,740,785)		4,435,777
Gain result from merger of a subsidiary		11,698,685		11,698,685
	₩	10,127,022	₩	45,741,255

24.2. Changes in other capital components for the years ended December 31, 2017 and 2016, are as follows:

	2017					
		Beginning of year		Changes		End of year
	(Korean won in thousands)					
Gain on valuation of AFS financial assets	₩	43,121,396	₩	2,848,442	₩	45,969,838
Less: Income tax effect		(10,387,943)		(686,190)		(11,074,133)
Equity changes of equity method		(4,114,068)		(13,984,068)		(18,098,136)
Less income tax effect		987,409		3,384,144		4,371,553
Exchange differences on translations of foreign operations		4,435,776		(27,176,561)		(22,740,785)
Gain result from merger of a subsidiary		11,698,685		-		11,698,685
Total	₩	45,741,255	₩	(35,614,233)	₩	10,127,022

	2016					
		Beginning of year		Changes		End of year
	(Korean won in thousands)					
Gain on valuation of AFS financial assets	₩	41,556,285	₩	1,565,111	₩	43,121,396
Less: Income tax effect		(10,010,909)		(377,034)		(10,387,943)
Equity changes of equity method		5,005,296		(9,119,364)		(4,114,068)
Less income tax effect		(1,212,281)		2,199,690		987,409
Exchange differences on translations of foreign operations		8,212,054		(3,776,278)		4,435,776
Gain result from merger of a subsidiary		11,698,685		-		11,698,685
Total	₩	55,249,130	₩	(9,507,875)	₩	45,741,255

25. Retained earnings and dividends

25.1. Details of retained earnings as of December 31, 2017 and 2016, are as follows:

		December 31, 2017		December 31, 2016
		(Korean won in thousands)		
Business rationalization reserve	₩	215,117	₩	215,117
Other legal reserve		76,849		76,849
Legal earned surplus reserve		11,828,048		8,906,258
Reserve for research and manpower development		179,000,000		179,000,000
Voluntary reserve		2,320,092,389		2,190,117,322
Unappropriated retained earnings		95,455,453		311,229,400
Total	₩	2,606,667,856	₩	2,689,544,946

25. Retained earnings and dividends (cont'd)

25.2. Details of changes in retained earnings for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
		(Korean won in thousands)		
Beginning of year	₩	2,689,544,946	₩	2,584,633,901
Dividend paid		(29,217,902)		(29,217,968)
Profit (loss) for the year		(63,003,630)		130,726,808
Actuarial gain or losses		12,309,895		4,481,893
Income tax effect		(2,965,453)		(1,079,688)
End of year	₩	2,606,667,856	₩	2,689,544,946

25.3. Dividends for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
		(Korean won)		
Dividends per share	₩	600	₩	1,100
Outstanding shares		27,195,083		27,195,083
Treasury shares		(633,354)		(633,354)
Dividends received shares		26,561,729		26,561,729
Total dividends	₩	15,937,037,400	₩	29,217,901,900
Dividends rate		12.00%		22.00%

The Company's dividend payout ratios are as follows:

		2017		2016
		(In thousands Korean won)		
Total dividends	₩	15,937,037	₩	29,217,902
Profit (loss) for the year		(63,003,630)		130,726,808
Payout ratio		(-)25.30%		22.35%

The Company's dividend yield rates are as follows:

		2017		2016
		(Korean won)		
Dividends per shares	₩	600	₩	1,100
Shares' closing price at dividends date		65,000		73,000
Dividends yield rates		0.92%		1.51%

26. Sales

Details of sales for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
		(Korean won in thousands)		
Sales of goods (*)	₩	7,487,391,747	₩	7,589,447,383

(*) The sales under construction contract are included in the above sales, which amounts to ₩467,934,648 thousand and ₩603,204,169 thousand for the years ended December 31, 2017 and 2016, respectively.

27. Selling and administrative expenses:

27.1. Details of selling expenses for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
		(Korean won in thousands)		
Export expenses	₩	26,383,423	₩	27,555,251
Advertisement expenses		11,874,414		10,766,608
Product warranty expenses		20,271,215		12,788,777
Transportation expenses		30,819,958		65,357,335
Sales promotion costs		11,566,915		12,084,699
Total	₩	100,915,925	₩	128,552,670

27.2. Details of administrative expenses for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
		(Korean won in thousands)		
Salaries	₩	70,813,024	₩	76,190,339
Retirement benefits		7,821,683		7,848,137
Employee benefits		18,776,019		18,355,395
Communication expense		1,224,765		1,313,475
Rental fees		7,437,984		6,307,862
Entertainment expenses		1,061,496		1,101,475
Travel and transportation expenses		5,156,877		5,379,821
Vehicles expenses		629,318		674,031
Commission expenses		15,170,718		17,704,778
Supplies expenses		346,579		456,364
Office supplies expenses		291,052		403,322
Repair expenses		332,025		327,579
Publication expenses		2,099,103		6,066,271
Current research and development expenses		20,991,479		19,289,749
Depreciation		3,373,115		1,417,214
Bad debt expenses		1,793,618		1,071,667
Amortization of intangible assets		11,443,478		12,273,272
Insurance expenses		1,846,540		1,931,135
Taxes and public charges		1,262,088		2,374,076
Others		4,537,840		4,943,446
Total	₩	176,408,801	₩	185,429,408

28. Other non-operating income and expenses

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

	2017	2016
	(Korean won in thousands)	
Gain on foreign currency exchange	₩ 30,497,151	₩ 58,272,944
Gain on foreign currency translation	16,731,988	23,412,260
Gain on derivative transactions	361,972	343,456
Gain on disposal of P.P.E.	212,383	5,828,683
Gain on disposal of intangible assets.	-	198,819
Reversal of impairment loss on P.P.E	231,312	350,375
Reversal of impairment loss on intangible assets	107,329	245,441
Reversal of other allowance for doubtful accounts	581,185	-
Royalty income	5,708,764	7,696,004
Miscellaneous income	23,832,207	26,187,192
Financial guaranteed income	66,516	458,193
Dividend	1,272	-
Total	₩ 78,332,079	₩ 122,993,367

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

	2017	2016
	(Korean won in thousands)	
Loss on foreign currency exchange	₩ 62,318,340	₩ 71,386,384
Loss on foreign currency translation	48,442,162	16,902,669
Loss on derivative transactions	-	39,523
Loss on derivative valuations	-	110,065
Loss on disposal of P.P.E	205,873	4,051,062
Impairment loss on P.P.E	91,370	370,079
Loss on disposal of intangible assets	-	451,548
Impairment loss on intangible assets	6,913,237	9,678
Other allowance for doubtful accounts	1,055,974	728,958
Donation	518,245	666,217
Miscellaneous expense	29,033,739	38,652,689
Total	₩ 148,578,940	₩ 133,368,872

29. Financial income and expenses

29.1. Details of financial income for the years ended December 31, 2017 and 2016, are as follows:

	2017	2016
	(Korean won in thousands)	
Interest income:		
Cash and cash equivalent	₩ 15,898,451	₩ 17,862,286
Trade and other receivables	7,180	22,506
Others	925	181,316
Total	₩ 15,906,556	₩ 18,066,108

29. Financial income and expenses (cont'd)

29.2. Details of financial income by the categories for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
	(Korean won in thousands)			
Loans and receivables	₩	15,906,556	₩	18,066,108
Total	₩	15,906,556	₩	18,066,108

29.3. Details of financial expenses for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
	(Korean won in thousands)			
Interest expenses of short-term borrowing	₩	459,328	₩	-
Interest expenses of long-term borrowing		23,549,752		15,922,479
Interest expenses of corporate bond		32,966,151		33,314,079
Other interest expenses		1,803,939		2,407,978
Subtotal		58,779,170		51,644,536
Less capitalization of borrowing costs (*)		(5,438,276)		(6,376,632)
Subtotal		53,340,894		45,267,904
Other financial expenses		3,840,525		7,197,045
Impairment loss on AFS		651,156		-
Total	₩	57,832,575	₩	52,464,949

(*) The interest rates of borrowing cost for the years ended December 31, 2017 and 2016, are 2.61% and 3.06%, respectively.

All of interest expenses incurred from liabilities measured at amortized cost.

30. Expenses by nature

Expenses classified by nature for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
	(Korean won in thousands)			
Raw materials and merchandise purchased	₩	6,294,926,880	₩	6,005,656,353
Changes in inventories		(119,351,559)		11,063,491
Employees' salaries		341,312,239		337,596,271
Depreciation and amortization		248,541,750		219,844,057
Others		705,244,598		752,555,000
Total	₩	7,470,673,908	₩	7,326,715,172

31. Income tax expenses

31.1. Income tax expenses for the years ended December 31, 2017 and 2016, are computed as follows:

		2017		2016
		(Korean won in thousands)		
Current tax:				
In respect of current year	₩	13,392,758	₩	69,652,515
Adjustments for prior years		(4,469,694)		32,788,460
Changes in deferred taxes due to:				
Temporary differences		(42,952,029)		11,668,228
Carry forward of tax credits		(24,130)		(12,070,446)
Income tax expense (income)	₩	(34,053,095)	₩	102,038,757

31.2. The reconciliations from income before income tax to income tax expense pursuant to the *Corporate Tax Act* Korea for the years ended December 31, 2017 and 2016, are as follows:

		2017	`	2016
		(Korean won in thousands)		
Profit (loss) before income tax expense	₩	(97,056,724)	₩	232,765,565
Income tax expenses calculated at current applicable tax rate		(36,282,008)		56,073,225
Adjustments:				
Non-deductible expenses		618,647		80,291
Non-taxable income		(1,457,878)		(2,023,935)
Effects of different tax rate of subsidiaries operating in other jurisdictions		6,900,156		10,832,409
Other		637,682		4,288,307
Subtotal		6,698,608		13,177,072
Adjustments recognized in current period in relation to the tax of prior periods		(4,469,694)		32,788,460
Income tax expense (income)	₩	(34,053,095)	₩	102,038,757
Effective tax rate (*)		-		43.8%

(*) Effective tax rate for the year ended December 31, 2017 was not calculated due to loss before income tax.

31. Income tax expenses (cont'd)

31.3. Changes in deferred tax assets (liabilities) for the years ended December 31, 2017 and 2016, are as follows:

	2017			
	Beginning of year	Recognized in net income	Recognized in other comprehensive income	End of year
	(Korean won in thousands)			
Temporary differences:				
Allowance account	₩ 12,395,033	₩ 1,317,692	₩ (295,754)	₩ 13,416,971
AFS financial assets	(11,641,396)	96,828	(686,189)	(12,230,757)
Inventories	(1,694,259)	1,949,422	(13,720)	241,443
Subsidiaries, associates and joint ventures	(31,275,155)	(4,618,010)	3,368,762	(32,524,403)
Property, plant and equipment	(98,757,528)	17,396,031	289,022	(81,072,475)
Intangible assets	(85,015)	1,661,962	-	1,576,947
Other assets	(271,327)	(1,204,058)	-	(1,475,385)
Other liabilities	4,112,781	(329,909)	-	3,782,872
Provision liabilities	34,591,199	13,019,080	(24,419)	47,585,860
Retirement benefits obligations	(1,244,749)	(1,071,576)	(2,965,454)	(5,281,779)
Employee benefits obligations	2,234,855	(44,603)	-	2,190,252
Reserve for research and manpower development	(14,646,720)	9,796,600	-	(4,850,120)
Treasury stock	(24,579,152)	-	-	(24,579,152)
Other	(665,938)	4,893,044	1,197,634	5,424,740
Deferred tax on unused tax losses:				
Tax credit	19,218,114	89,526	(2,184,073)	17,123,567
Total	₩ (112,309,257)	₩ 42,952,029	₩ (1,314,191)	₩ (70,671,419)

	2016			
	Beginning of year	Recognized in net income	Recognized in other comprehensive income	End of year
	(Korean won in thousands)			
Temporary differences:				
Allowance account	₩ 12,752,285	₩ (317,917)	₩ (39,335)	₩ 12,395,033
AFS financial assets	(10,522,938)	(741,423)	(377,035)	(11,641,396)
Inventories	1,439,545	(3,116,140)	(17,664)	(1,694,259)
Subsidiaries, associates and joint ventures	(29,633,511)	(3,841,334)	2,199,690	(31,275,155)
Property, plant and equipment	(74,297,640)	(23,248,076)	(1,211,812)	(98,757,528)
Intangible assets	485,743	(570,758)	-	(85,015)
Other assets	(321,479)	50,152	-	(271,327)
Other liabilities	4,598,167	(485,386)	-	4,112,781
Provision liabilities	31,254,493	3,339,230	(2,524)	34,591,199
Retirement benefits obligations	1,563,123	(1,728,184)	(1,079,688)	(1,244,749)
Employee benefits obligations	1,982,395	252,460	-	2,234,855
Reserve for research and manpower development	(29,020,420)	14,373,700	-	(14,646,720)
Treasury stock	(25,912,359)	1,333,207	-	(24,579,152)
Other	(4,844,421)	4,111,929	66,554	(665,938)
Deferred tax on unused tax losses:				
Tax credit	6,440,986	12,070,446	706,682	19,218,114
Total	₩ (114,036,031)	₩ 1,481,906	₩ 244,868	₩ (112,309,257)

31. Income tax expenses (cont'd)

31.4. Unrecognized temporary differences in relation to deferred tax assets (liabilities) are as follows:

	Taxable temporary differences			
	December 31, 2017		December 31, 2016	
	(Korean won in thousands)			
Deductible temporary differences	₩	63,081,836	₩	72,403,405

31.5. Unrecognized temporary differences in relation to subsidiaries, investment in associates and joint ventures are as follows:

	Taxable temporary differences				Deferred tax effects			
	December 31, 2017		December 31, 2016		December 31, 2017		December 31, 2016	
	(Korean won in thousands)							
Subsidiaries	₩	-	₩	208,334,005	₩	-	₩	50,965,773

32. Earnings per share

32.1. Basic earnings per common share for the years ended December 31, 2017 and 2016, are calculated as follows:

	2017		2016	
	(Korean won in thousands, except per share amounts)			
Profit (loss) for the year	₩	(63,003,630)	₩	130,726,808
Number of common shares outstanding (*)		26,561,729		26,560,464
Basic earnings (loss) per common share (won)	₩	(2,372)	₩	4,922

(*) Weighted-average number of shares outstanding.

32.2. The Company does not compute diluted earnings per common share for the years ended December 31, 2017 and 2016, because the Company has no dilutive items during the years.

33. Financial instruments

33.1. Capital risk management

The Group manages its capital to ensure that entities in the Group will be able to continue as going concerns while maximizing the return to stakeholders through optimization of the debt and equity balance. The Group's overall capital risk management strategy remains unchanged from that of the prior periods.

Debt-to-equity ratio calculated as total liabilities divided by total equity is used as an index to manage the Group's capital. The debt-to-equity ratio as of December 31, 2017 and 2016, is as follows:

	December 31, 2017		December 31, 2016	
	(Korean won in thousands)			
Liabilities	\	4,053,583,984	\	3,763,489,826
Equity		3,140,097,994		3,258,589,317
Debt ratio		129.1%		115.5%

33.2. The significant accounting policies adopted by the Group of the financial assets, financial liabilities, and equity by the category are described in Note 2 of these financial statements specific in detail.

33. Financial instruments (cont'd)

33.3. Categories of financial instruments as of December 31, 2017 and 2016, are as follows:

33.3.1. Financial assets as of December 31, 2017.

	Loans and receivables	AFS financial assets	Total
	(Korean won in thousands)		
Cash and cash equivalents	\ 931,335,152	\ -	\ 931,335,152
Accounts receivable	1,172,586,252	-	1,172,586,252
Loans and other accounts receivable	122,274,143	-	122,274,143
Short-term financial instruments	576,752,000	-	576,752,000
Long-term financial instruments	221,014	-	221,014
AFS financial assets	-	73,688,090	73,688,090
Total	\ 2,803,168,561	\ 73,688,090	\ 2,876,856,651

Financial liabilities as of December 31, 2017.

	Financial liabilities carried at amortized cost	Total
	(Korean won in thousands)	
Trade payables	\ 1,246,031,503	\ 1,246,031,503
Other payables	157,009,264	157,009,264
Borrowings	873,094,474	873,094,474
Current portion of long-term borrowings	182,823,879	182,823,879
Debentures	1,196,919,414	1,196,919,414
Financial guarantee liabilities	182,877	182,877
Total	\ 3,656,061,411	\ 3,656,061,411

33.3.2. Financial assets as of December 31, 2016.

	Loans and receivables	AFS financial assets	Total
	(Korean won in thousands)		
Cash and cash equivalents	\ 799,263,908	\ -	\ 799,263,908
Accounts receivable	1,188,716,194	-	1,188,716,194
Loans and other accounts receivable	107,709,685	-	107,709,685
Short-term financial instruments	691,466,174	-	691,466,174
Long-term financial instruments	191,827	-	191,827
AFS financial assets	-	70,769,648	70,769,648
Total	\ 2,787,347,788	\ 70,769,648	\ 2,858,117,436

33. Financial instruments (cont'd)

33.3.2 Financial liabilities as of December 31, 2016. (cont'd)

	Financial liabilities recognized as net income	Financial liabilities carried at amortized cost	Total
	(Korean won in thousands)		
Trade payables	\ -	\ 1,307,622,735	\ 1,307,622,735
Other payables	-	89,887,278	89,887,278
Borrowings	-	849,336,082	849,336,082
Current portion of long-term borrowings	-	154,939,044	154,939,044
Debentures	-	957,322,625	957,322,625
Financial guarantee liabilities	-	129,047	129,047
Derivative liabilities	317,198	-	317,198
Total	\ 317,198	\ 3,359,236,811	\ 3,359,554,009

33.4. Financial risk management

33.4.1. Financial risk management objectives

The Group's Finance function monitors and manages the financial risks relating to the operations of the Group through internal risk reports, which analyze exposures by degree and magnitude of risks. These risks include market risk (including currency risk, interest rate risk and other price risk), credit risk and liquidity risk.

The Group seeks to minimize the effects of these risks by using derivative financial instruments to hedge risk exposures. The use of financial derivatives is governed by the Group's policies approved by the management of the Group, which provide on foreign exchange risk, interest risk, the use of financial derivatives and non-derivative financial instruments, and the investment of excess liquidity. Internal audit function review compliance with policies and exposure on a continuous basis. The Group does not enter into or trade financial instruments, including derivative financial instruments, for speculative purposes.

33.4.2. Market risk

The Group's risk is mainly exposed to foreign exchange rate in foreign currency fluctuation and interest rate risk. Therefore, the Group uses various derivative financial instruments to manage its exposure to foreign currency risk and interest rate risk.

The supplemental exposure to market risk is measured using value-at-risk by sensitivity analysis. The Group's overall market risk management strategy remains unchanged from that of the prior periods.

A. Foreign currency risk

The Group undertakes transactions denominated in foreign currencies, consequently, exposures to exchange rate fluctuation arise. Exchange rate exposures are managed within the limits of approved Group policy parameters utilizing forward foreign exchange contracts.

The Group's sensitivity to a 5% change in exchange rate of the functional currency against each foreign currency on profit before income tax expense as of December 31, 2017, would be as follows:

	December 31, 2017	
	5% increase	5% decrease
	(Korean won in thousands)	
CHF	\ (3,690)	\ 3,690
EUR	1,147,221	(1,147,221)
GBP	(287)	287
JPY	106,508	(106,508)
USD	39,263,377	(39,263,377)
CNY	3,015,438	(3,015,438)

33. Financial instruments (cont'd)

33.4.2 Market risk (cont'd)

B. Interest rate risk

The Group has borrowings at fixed or variable interest rates. Also, the Group is exposed to interest rate risk arising from financial instruments with variable interest rates. To manage the interest rate risk, the Group maintains an appropriate balance between borrowings with fixed and variable interest rates and by the use of interest rate swap and forward interest rate contracts. The Group manages its interest rate risk through regular assessments of the change in markets conditions and the adjustments in nature of its interest rates.

The Group's sensitivity to a 1% change in interest rates on profit before income tax expenses as of December 31, 2017, would be as follows:

	December 31, 2017	
	1% increase	1% decrease
	(Korean won in thousands)	
Cash and cash equivalents	\ 8,652,995	\ (8,652,995)
Long-term financial instruments	2,064	(2,064)
Short-term borrowings	(74,449)	74,449
Current portion of long-term borrowings	(1,688,815)	1,688,815
Long-term borrowings	(8,537,704)	8,537,704
Debentures	(10,771,210)	10,771,210

C. Other price risk

The Group is exposed to equity price risks arising from equity investments. The Group holds equity instruments for strategic rather than trading purposes and so the Group does not actively trade these investments.

The Group is exposed to equity price risks arising from AFS financial assets. As of December 31, 2017, there are equity AFS financial assets of \ 70,766,050 thousand measured at fair value.

33.4.3. Credit risk

Credit risks refer to the risk that a counterparty will default on its contractual obligations resulting in financial loss to the Group. The Group has adopted a policy of only dealing with creditworthy counterparties and obtaining sufficient collateral to mitigate the risk of financial loss from defaults. The Group only transacts with entities with credit ratings above a certain level. This information can be supplied by independent financial institutions or rating agencies where available and, if not available, the Group uses other publicly available financial information and its own trading records to rate its major customers. The Group reviews the risk exposure and credit ratings of its counterparties continuously and aggregate value of transactions concluded is spread amongst approved counterparties.

The accounts receivable consist of a large number of customers, and spread across various industries and regions. The credit ratings are remeasured continuously and if necessary, the Group made contract with credit guarantee insurance company.

The Group is not exposed to significant credit risk from trades with a single party or similar group of party. The Group is defined as similar characteristics if those companies are related to each other.

The credit risk on derivative financial instruments is limited because the counterparties are banks with highly credit ratings assigned by international credit-rating agencies.

The financial guarantees, which amount to \ 40,863 million, given to banks provided by the Group and financial instruments in the financial statements represent the maximum amounts of exposure to credit risk.

33. Financial instruments (cont'd)

33.4.4. Liquidity risk

The ultimate responsibility for liquidity risk management rests with the Board of Directors, who has established an appropriate liquidity risk management framework for the management of the Group's short-term, medium-term and long-term funding and liquidity management requirements. The Group manages liquidity risk by maintaining adequate reserves, banking facilities and reserve borrowing facilities, by continuously monitoring forecast and actual cash flows, and by matching the maturity profiles of financial assets and liabilities.

The Group's maturity analysis of financial liabilities according to their remaining contract period before expiration as of December 31, 2017, is as follows:

	December 31, 2017			
	Less than one year	One year–five years	More than five years	Book value
	(Korean won in thousands)			
Accounts receivable and others	\ 1,398,685,024	\ 4,355,743	\ -	\ 1,403,040,767
Borrowings	41,620,234	886,298,983	-	873,094,474
Current portion of long-term borrowings	191,550,018	-	-	182,823,879
Debentures	29,287,500	1,229,274,691	30,178,356	1,196,919,414
Financial guarantee contracts	61,295	121,582	-	182,877
	\ 1,661,204,071	\ 2,120,050,999	\ 30,178,356	\ 3,656,061,411

33.5. Offsetting of financial assets and liabilities

The Group holds the accounts payable and accounts receivable, which meet the offset criteria under K-IFRS 1032 that are incurred from HYUNDAI MOTOR COMPANY, KIA MOTORS CORP. and many suppliers.

Financial assets subject to offset as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		
	Financial assets	Offsetting financial liabilities	Net amount
	(Korean won in thousands)		
Trade and other receivables	\ 337,427,908	\ (84,559,902)	\ 252,868,006

	December 31, 2016		
	Financial assets	Offsetting financial liabilities	Net amount
	(Korean won in thousands)		
Trade and other receivables	\ 561,100,033	\ (143,256,331)	\ 417,843,702

Financial liabilities subject to offset as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		
	Financial liabilities	Offsetting financial assets	Net amount
	(Korean won in thousands)		
Trade and other payables	\ 143,057,697	\ (84,559,902)	\ 58,497,795

	December 31, 2016		
	Financial liabilities	Offsetting financial assets	Net amount
	(Korean won in thousands)		
Trade and other payables	\ 177,205,169	\ (143,256,331)	\ 33,948,838

34. Fair value of financial instruments

34.1. Fair values of financial instruments by hierarchy level as of December 31, 2017 and 2016, are as follows:

	December 31, 2017			
	Level 1	Level 2	Level 3	Total
	(Korean won in thousands)			
AFS financial assets:				
Listed stocks	\ 9,799,656	\ -	\ -	\ 9,799,656
Unlisted stocks	-	-	60,966,394	60,966,394
Beneficiary certificate	-	2,040	-	2,040
Other financial assets:				
Financial instruments	-	576,973,014	-	576,973,014
Total	\ 9,799,656	\ 576,975,054	\ 60,966,394	\ 647,741,104
Other financial liabilities:				
Financial guarantee liabilities	\ -	\ 182,877	\ -	\ 182,877
Total	\ -	\ 182,877	\ -	\ 182,877

	December 31, 2016			
	Level 1	Level 2	Level 3	Total
	(Korean won in thousands)			
AFS financial assets:				
Listed stocks	\ 12,057,682	\ -	\ -	\ 12,057,682
Unlisted stocks	-	-	55,789,926	55,789,926
Beneficiary certificate	-	2,040	-	2,040
Other financial assets:				
Financial instruments	-	691,658,001	-	691,658,001
Total	\ 12,057,682	\ 691,660,041	\ 55,789,926	\ 759,507,649
Other financial liabilities:				
Financial guarantee liabilities	\ -	\ 129,047	\ -	\ 129,047
Derivative liabilities	-	317,198	-	317,198
Total	\ -	\ 446,245	\ -	\ 446,245

The significant transfers between Level 1 and Level 2 have not occurred for the years ended December 31, 2017.

34.2. Except as detailed in the above table, management considered that the carrying amounts of financial assets and financial liabilities recognized in the consolidated financial statements approximate their fair values.

34. Fair value of financial instruments (cont'd)

34.3. The following table gives the information about the quantitative information of fair value valuation technique using significant unobservable inputs and the relationship between unobservable inputs and fair value valuation.

The instruments measured at fair value of financial statements	Fair value 2017	Fair value 2016	Fair value hierarchy level
	(Korean won in thousands)		
Unlisted stocks	\ 60,966,394	\ 55,789,926	3

	Sales growth rate	Operating income rate before tax	WACC
Significant unobservable inputs and range	0–4.2%	0–5.2%	7.95-10.71%

	Description
The relationship between unobservable inputs and fair value valuation	The fair value of unlisted stocks will increase (decrease) when sales growth rate and operating income rate before tax increase (decrease) and WACC decrease (increase).
Valuation technique	Discount cash flows. In order to forecast future cash flows, the Group uses unobservable prices and ratios in certain parts such as sales growth rate, operating income rate before tax and WACC.

34.4. Reconciliations of Level 3 fair value measurements for the years ended December 31, 2017 and 2016, are as follows:

2017	Beginning of year	Gain (loss) for the year	Other comprehensive income	Purchase (disposal)	Reclassified from Level 3 to Level 1	End of year
	(Korean won in thousands)					
Unlisted stocks	\ 55,789,926	\ -	\ 5,176,468	\ -	\ -	\ 60,966,394

2016	Beginning of year	Gain (loss) for the year	Other comprehensive income	Purchase (disposal)	Reclassified from Level 3 to Level 1	End of year
	(Korean won in thousands)					
Unlisted stocks	\ 53,718,991	\ -	\ 2,070,935	\ -	\ -	\ 55,789,926

Gross gains and losses recognized in other comprehensive income are related to unlisted stocks held at the end of the reporting period and reported as changes in the gain or loss on AFS financial assets.

34.5. The Group recognizes transfers between levels at the point when events or conditions change, and there is no change in valuation techniques used in evaluating fair value of financial instruments that are categorized into Level 2 and Level 3.

34. Fair value of financial instruments (cont'd)

34.6. The details of financial assets and liabilities recognized as book value due to the inexistent reliable information are as follows:

	Description	December 31, 2017	December 31, 2016
		(Korean won in thousands)	
AFS financial assets	Investment in capital (*1)	\ 2,920,000	\ 2,920,000

(*1) Investment is recognized at cost because the Group believes that it is difficult to obtain the reliable financial information to measure fair value or it is mostly impossible to evaluate the probabilities of occurrence about significant and diverse estimates reliably.

35. Related-party and affiliates transactions

35.1. Details of related parties and affiliates under the *Monopoly Regulation and Fair Trade Act* of the Republic of Korea ("Affiliates by the Act") as of December 31, 2017 and 2016, are as follows:

	Name of related parties
Equity investment company	HYUNDAI MOTOR COMPANY
Joint venture	Wia Magna Powertrain Corp.
Associates	Hyundai Wia Automotive Engine (Shandong) Company
	Hyundai Special Steel Co., Ltd.
	Hyundai Wia Motor Dies (Shandong) Company
Affiliates by the Act	Hyundai-Rotem Corp.
	Hyundai Kefico
	Hyundai Capital Services Inc.
	Hyundai Card Co., Ltd.
	KIA MOTORS CORP.
	Hyundai Mobis
	Hyundai Glovis
	Hyundai Dymos and others

35.2. Transactions between the Group and related parties or affiliates by the Act for the years ended December 31, 2017 and 2016, are as follows:

	Companies	2017			
		Sales/proceeds		Purchases/expenses	
		Sales	Others	Purchases	Others
		(Korean won in thousands)			
Equity investment company	HYUNDAI MOTOR COMPANY	₩ 744,882,435	₩ 2,411,325	₩ 186,097,515	₩ 7,665,221
Joint venture	Wia Magna Powertrain Corp.	-	-	124,555,582	-
Associates	Hyundai Wia Automotive Engine (Shandong) Company	323,695,506	12,390,621	407,362,188	-
	Hyundai Wia Motor Dies (Shandong) Company	12,020,204	-	-	188,430
Affiliates by the Act	KIA MOTORS CORP.	2,520,045,211	46,239	75,276,842	7,690,469
	Hyundai-Rotem Corp.	11,068,573	-	-	861,454
	Hyundai Motor Manufacturing Rus LLC	357,026,886	-	-	984,031
	Others	2,254,587,524	6,100,116	614,014,168	93,780,491

35. Related-party and affiliates transactions (cont'd)

35.2. Transactions between the Group and related parties or affiliates by the Act for the years ended December 31, 2017 and 2016, are as follows: (cont'd)

		2016			
		Sales/proceeds		Purchases/expenses	
	Companies	Sales	Others	Purchases	Others
		(Korean won in thousands)			
Equity investment company	HYUNDAI MOTOR COMPANY	₩ 613,948,285	₩ 1,501,199	₩ 134,637,587	₩ 10,683,458
Joint venture	Wia Magna Powertrain Corp.	-	-	148,389,951	89,536
	Hyundai Wia Turbo Corporation	-	46,080	10,665,064	1,587,658
Associates	Hyundai Wia Automotive Engine (Shandong) Company	403,718,946	19,155,241	381,572,801	12,061
	Hyundai Wia Motor Dies (Shandong) Company	2,708,275	-	-	323,117
Affiliates by the Act	KIA MOTORS CORP.	2,371,679,662	8,294	68,069,185	8,568,943
	Hyundai-Rotem Corp.	14,757,127	-	-	1,949,439
	Hyundai Motor Manufacturing Rus LLC	317,667,823	-	-	-
	Others	2,253,284,079	32,082,486	609,084,425	125,660,039

35.3. As of December 31, 2017, significant balances related to the transactions between the Group and related parties or affiliates by the Act are as follows:

		December 31, 2017			
	Companies	Receivables		Payables	
		Trade receivables	Other receivables	Trade payables	Other payables
		(Korean won in thousands)			
Equity investment company	HYUNDAI MOTOR COMPANY	₩ 78,185,494	₩ 11,919,851	₩ 53,914,850	₩ 10,112,465
Joint venture	Wia Magna Powertrain Corp.	-	-	16,273,013	-
Associates	Hyundai Wia Automotive Engine (Shandong) Company	66,494,337	4,901,215	31,025,785	2,665,608
	Hyundai Wia Motor Dies (Shandong) Company	5,988,792	5,728,547	-	-
Affiliates by the Act	KIA MOTORS CORP.	171,518,936	4,467,963	-	7,856,493
	Hyundai-Rotem Corp.	3,686,506	807,302	-	546,365
	Hyundai Motor Manufacturing Rus LLC	30,961,652	-	-	107,045
	Others	373,854,000	12,258,468	146,702,953	34,999,987

35. Related-party and affiliates transactions (cont'd)

35.3. As of December 31, 2017, significant balances related to the transactions between the Group and related parties or affiliates by the Act are as follows: (cont'd)

		December 31, 2016			
		Receivables		Payables	
	Companies	Trade receivables	Other receivables	Trade payables	Other payables
		(Korean won in thousands)			
Equity investment company	HYUNDAI MOTOR COMPANY	₩ 123,528,895	₩ 11,011,099	₩ 23,863,314	₩ 10,513,827
Joint venture	Wia Magna Powertrain Corp.	-	-	32,702,444	98,489
	Hyundai Wia Turbo Corporation	-	-	3,685,184	76,560
Associates	Hyundai Wia Automotive Engine (Shandong) Company	38,799,750	5,245,071	47,421,705	304,280
	Hyundai Wia Motor Dies (Shandong) Company	163,181	-	-	369,279
Affiliates by the Act	KIA MOTORS CORP.	292,647,447	8,583,728	400,503	14,168,398
	Hyundai-Rotem Corp.	2,765,939	8,008,552	39,454,700	64,940,070
	Hyundai Motor Manufacturing Rus LLC	34,812,102	-	2,054	-
	Others	380,880,933	16,637,427	130,803,263	33,398,623

35.4. The equity transactions to related parties for the year ended December 31, 2016, are as follows:

	Name of related parties	Capital increase by cash (Korean won in thousands)
Joint venture	Hyundai Wia Turbo Corporation	₩ 5,100,000

35.5. There are no fund transactions to related parties for the years ended December 31, 2017 and 2016.

35.6. There are no guarantees provided from the related parties to the Group for the year ended December 31, 2017.

35.7. The guarantees provided to the related parties or affiliates by the Act by the Group are as follows:

		December 31, 2017		December 31, 2016	
Company	Secured party	Guarantees	Guarantees amount	Guarantees	Guarantees amount
Hyundai Wia Automotive Engine (Shandong) Company	SMBC	Local borrowing guarantees	USD 38,140,000	Local borrowing guarantees	USD 97,424,000

35. Related-party and affiliates transactions (cont'd)

35.8. The compensation for key management personnel for the years ended December 31, 2017 and 2016, are as follows:

		2017		2016
	(Korean won in thousands)			
Short-term benefits	\	11,253,981	\	15,377,263
Postemployment benefits		2,609,986		2,479,660
Other long-term benefits		5,460		5,484
Total	\	13,869,427	\	17,862,407

36. Commitments and contingencies:

36.1. Performance guarantees provided by unrelated parties as of December 31, 2017 and 2016, are as follows:

	December 31, 2017		December 31, 2016	
	Currency	Amount	Currency	Amount
	(Korean won in thousands, USD)			
Woori Bank	USD	565,835	USD	565,835
KEB Hana Bank	-	-	USD	114,200
Kookmin Bank	USD	2,561,713	USD	7,361,498
Machinery Financial Cooperative	KRW	72,348,876	KRW	49,194,289
Korea Defense Industry Association	KRW	40,700,233	KRW	91,927,456
Seoul Guarantee Insurance	KRW	48,882,770	KRW	26,417,421
Korean Fire Protection Association	KRW	3,711,220	-	-
Dongbu Insurance Co., Ltd.	-	-	USD	50,000,000

36.2. Detail of notes provided by the Group for guarantees and other purposes as of December 31, 2017, are as follows:

	December 31, 2017			
	Provided to	Count	Amount	Purpose of provision
Note	Korea Defense Industry Association	1	Blank	Contract performance

36.3. For promotion of machinery, the Group has entered into comprehensive financing agreements, and the limits under these agreements are as follows:

Leasing company	Number of customers	Limits	
	(Korean won in thousands, CNY)		
Hyundai Commercial Inc.	472	\	100,000,000
Hyundai Financial Leasing Co., Ltd.	41	CNY	200,000,000

36.4. The Group maintains the guarantee contracts amounting to USD190,000,000 related to the Group's usance transactions.

36.5. The Group set discount limits of notes issued by the Group with Shinhan Bank and six other banks, which amount to \ 415 billion, for the Group's suppliers.

36.6. The Group maintains receivables discount agreements with Shinhan bank and five other banks, which amount to \ 704.7 billion. For the year ended December 31, 2017, the Group has discounted receivables of \ 404.2 billion and there are no receivables discounted with recourse.

36. Commitments and contingencies (cont'd)

36.7. As of December 31, 2017, the Group is involved in domestic and foreign lawsuits. The Group expects that it is currently unable to estimate the outcomes or the potential financial impacts of such lawsuits. Meanwhile, the Group accounted for some of the above lawsuits in relation to the ordinary wage, amounting \ 146,798 million, as litigation provision for the year ended December 31, 2017.

37. Cash flow

37.1. Addition items not involving cash outflows for the years ended December 31, 2017 and 2016, are as follows:

	2017	2016
	(Korean won in thousands)	
Retirement benefits	\ 33,379,136	\ 26,313,841
Depreciation	198,077,475	176,144,733
Bad debt expense	1,793,618	1,071,667
Loss on disposal of trade receivables	3,840,525	6,834,189
Tax expense	(34,053,095)	102,038,757
Interest expense	53,340,895	45,267,905
Warranty	20,271,215	12,788,777
Amortization	50,464,275	43,699,325
Loss on foreign currency translation	48,442,162	16,902,669
Impairment loss on intangible assets	6,913,237	9,678
Impairment loss on P.P.E.	91,370	370,079
Other bad debt expense	1,055,974	728,958
Loss on disposal of property and equipment	205,873	4,051,062
Loss on disposal of intangible assets	-	451,548
Loss on trading of derivatives	-	39,523
Loss on valuation of derivatives	-	110,065
Impairment loss on AFS	651,156	-
Total	\ 384,473,816	\ 436,822,776

37.2. Deduction items not involving cash inflows for the years ended December 31, 2017 and 2016, are as follows:

	2017	2016
	(Korean won in thousands)	
Interest income	\ 15,906,556	\ 18,066,108
Gain on foreign currency translation	16,731,988	23,412,260
Gain on trading of derivatives	361,972	343,457
Gain on disposal of property and equipment	212,383	5,828,683
Gain on disposal of intangible assets	-	198,819
Reversal of impairment loss on P.P.E.	231,312	350,375
Reversal of impairment loss on intangible assets	107,329	245,441
Other allowance for doubtful accounts	581,185	-
Dividend	1,272	-
Miscellaneous income	1,029,644	-
Gain (loss) on equity method	(5,177,922)	14,807,700
Gain on disposal of joint arrangements	3,327,431	-
Bargain purchase	248,807	-
Total	\ 33,561,957	\ 63,252,843

37. Cash flow (cont'd)

37.3. The details of changes in assets and liabilities resulting from operating activities are as follows:

	2017	2016
	(Korean won in thousands)	
Decrease (increase) in trade receivables	\ (31,905,702)	\ 90,685,397
Decrease (increase) in inventories	(132,676,425)	10,144,125
Decrease (increase) in loans and other receivables	4,591,389	(8,153,517)
Decrease (increase) in other current assets	(18,017,579)	2,054,575
Decrease in the gross amount due from customers for contract work as an asset	22,940,327	51,434,328
Increase in non-current loans and other receivables	(7,105,173)	(3,439,788)
Increase (decrease) in trade payables	(40,674,841)	42,239,745
Increase (decrease) in other payables	73,288,468	(67,838,583)
Increase (decrease) in other current liabilities	1,064,364	(938,613)
Decrease in other current financial liabilities	(63,233)	(703,638)
Decrease in the gross amount due to customers for contract work as a liability	(3,054,285)	(36,996,370)
Increase in other non-current financial liabilities	117,063	292,948
Increase in provision	32,325,320	1,226,406
Increase (decrease) in employee benefits obligations	(185,150)	1,047,984
Payment of retirement benefits	(12,637,023)	(10,576,670)
Increase in plan assets	(27,512,619)	(14,146,086)
Increase (decrease) in other assets and liabilities	-	(654,235)
Total	\ (139,505,099)	\ 55,678,008

37.4. Significant non-cash transactions for the years ended December 31, 2017 and 2016, are described as follows:

	2017	2016
	(Korean won in thousands)	
Reclassification from construction in progress	\ 137,299,197	\ 631,048,501
Reclassification of the current portion of debenture	150,000,000	130,000,000

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

	2017					
	Beginning of year	Change in cash flow	Effect on exchange	Amortized	Other	End of year
	(Korean won in thousands)					
Short-term borrowings	\ -	\ 8,000,000	\ -	\ -	\ 6,889,777	\ 14,889,777
Current portion of long-term borrowings	154,939,044	(162,367,289)	(3,071,755)	-	193,323,879	182,823,879
Long-term borrowings	849,336,082	106,439,696	(80,247,201)	-	(17,323,879)	858,204,697
Debentures	957,322,625	388,328,520	-	1,268,269	(150,000,000)	1,196,919,414

38. Business combinations (Acquisition of interest)

38.1. Business combination occurred in 2017 is as follows:

	Operating activity	Acquisition date
Hyundai Wia Turbo Corporation	Auto parts manufacturing	May 10, 2017

38.2. Purpose of business combination

The Group aims to enhance the corporate value and increase shareholders' profits by establishing a foundation for strengthening turbocharger manufacturing capabilities through the business combination and to strengthen its competitiveness by maximizing the synergy effect through increasing the management efficiency.

38.3. Purchase consideration arising from the business combinations is as follows:

		Amount (Korean won in thousands)
a. Shares transferred to non-controlling shareholders at fair value	₩	-
b. Shared held at the combination:		
Book value		2,274,919
Gain from fair value valuation (*)		3,327,431
c. Consideration paid to existing shareholders, at fair value	₩	5,602,350

(*) The valuation gain of \ 3,327 million, which is the difference between the book value and the fair value of the shares, and the bargain purchase gain of \ 249 million are presented in the business combination gain.

38.4. Fair value of the identifiable assets and liabilities arising from the business combination are as follows:

		Amount (Korean won in thousands)
Fair value of identifiable assets:		
Current assets	₩	10,609,366
Non-current assets (*)		30,986,190
		41,595,556
Fair value of identifiable liabilities:		
Current liabilities		19,329,508
Non-current liabilities		16,414,891
		35,744,399
Fair value of identifiable net assets	₩	5,851,157

(*) Identifiable intangible assets include technologies of \ 4,012 million recognized in the business combination with Hyundai Wia Turbo Corporation.

38.5. The bargain purchase gain arising from business combination for the year ended December 31, 2017 is as follows:

		Amount (Korean won in thousands)
a. Consideration paid to existing shareholders, at fair value	₩	5,602,350
b. Fair value of identifiable net assets		5,851,157
c. Bargain purchase gain (a-b) (*)	₩	(248,807)

(*) The valuation gain of \ 3,327 million, which is the difference between the book value and the fair value of the shares, and the bargain purchase gain of \ 249 million are presented in the business combination gain.